

# **Appendix G**

## **OEHHA Synthetic Turf Study**

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## Appendix G. Calculation Examples, Results of Non-Cancer Hazard and Lifetime Incremental Cancer Risk

### G.1. Calculation Examples

This section presents step-by-step sample calculations for hazard and risk as described in the Main Report. For simplicity, hazard calculations are shown for a single receptor group, combined gender athletes ages 16<30 years, except where hazard calculations are independent of age or receptor group. Risk calculations are shown in detail for a single receptor group, combined gender athletes ages 16<30 years, and the lifetime summation is shown for all athlete age groups. Three chemicals were selected as examples for the reasons listed as follows.

Styrene (CASRN 100-42-5), the only field-related chemical with available toxicity criterion for acute exposure (Acute  $TC_{inh}$ ), is used as an example for acute inhalation hazard quotient (Acute  $HQ_{inh}$ ) calculation. Styrene is also a sensory irritant and is used as a calculation example of chronic inhalation hazard quotient for sensory irritants (Chronic  $HQ_{inh-sensory}$ ).

Benzo[a]pyrene (CASRN 50-32-8), a field-related developmental and reproductive toxicant (DART), was present in air and crumb rubber samples extracted with GI biofluids and artificial sweat. It is used for example calculations of hazard quotients for one-day inhalation, dermal, and ingestion exposures (One-Day  $HQ_{inh-DART}$ , One-day  $HQ_{der-DART}$ , and One-Day  $HQ_{ing-DART}$ ). Also a carcinogen, this chemical is used for example inhalation, dermal, and ingestion risk ( $Risk_{inh}$ ,  $Risk_{der}$ , and  $Risk_{ing}$ ) calculations.

Acenaphthylene (CASRN 208-96-8), a field-related general chemical, was present in air and crumb rubber samples extracted with GI biofluids and artificial sweat. It is used an example for chronic inhalation, dermal, and ingestion hazard quotients (Chronic  $HQ_{inh}$ , Chronic  $HQ_{der}$ , and Chronic  $HQ_{ing}$ ) calculations.

#### G.1.1. Non-Cancer Hazard Calculation Examples

##### G.1.1.1. Inhalation

###### G.1.1.1.1. Acute Inhalation Hazard Quotient Example: Styrene

To calculate the acute on-field inhalation hazard quotient (Acute  $HQ_{inh}$ ) of styrene for all receptor groups, combined gender, and all age groups, Equation 5-1 from Main Report Section 5.4.1 and Equation B-26 from Appendix Section B.6.1.1 are used with the following parameters:



$$\text{Acute } C_{\text{inh}} = C_{\text{air-max}}$$

Main Report Section 5.4.1  
Equation 5-1

$$\text{Acute HQ}_{\text{inh}} = \frac{\text{Acute } C_{\text{inh}}}{\text{Acute TC}_{\text{inh}}}$$

Appendix Section B.6.1.1  
Equation B-26

where,

Acute  $C_{\text{inh}} = C_{\text{air-max}} = 1600$  nanograms per cubic meter (Appendix Section F.4.1, Table F-96)

Acute  $\text{TC}_{\text{inh}} = 21000000$  nanograms per cubic meter (Main Report Section 4.4.1, Table 4-3)

Therefore,

$$\text{Acute HQ}_{\text{inh}} = \frac{1600 \text{ nanograms per cubic meter}}{21000000 \text{ nanograms per cubic meter}} = 0.000077 \text{ or } 7.7 \times 10^{-5} \text{ (unitless)}$$

#### **G.1.1.1.2. Developmental and Reproductive Toxicant One-Day Inhalation Hazard Quotient Example: Benzo[a]pyrene**

To calculate the field-specific one-day inhalation hazard quotient (One-Day  $\text{HQ}_{\text{inh-DART-field}}$ ) of benzo[a]pyrene, a chemical with DART endpoints, for combined gender athletes ages 16<30 years, Equation 5-2 from Main Report Section 5.4.2.1 and Equation B-28 from Appendix Section B.6.1.3.1 are used with the following parameters:

$$C_{\text{inh-DART-field}} = C_{\text{air-field}} \times \text{AF}_{\text{inh-DART}}$$

Main Report Section 5.4.2.1  
Equation 5-2

$$\text{One - Day HQ}_{\text{inh-DART-field}} = \frac{C_{\text{air-field}}}{\text{DART TC}_{\text{inh}}}$$

Appendix Section B.6.1.3.1  
Equation B-28

where,

$C_{\text{air-field}} = 4.7$  nanograms per cubic meter (Appendix Section D.4.2.3, Tables D-47 and D-48)

$\text{AF}_{\text{inh-DART}} = 0.68$  (Appendix Section F.4.2, Table F-97)

$\text{DART TC}_{\text{inh}} = 400$  nanograms per cubic meter (Main Report Tables 4-4 and 4-5)

Therefore,

$$C_{\text{inh-DART-field}} = 4.7 \text{ nanograms per cubic meter} \times 0.68 = 3.2 \text{ nanograms per cubic meter}$$



$$\begin{aligned}\text{One - Day HQ}_{\text{inh-DART-field}} &= \frac{3.2 \text{ nanograms per cubic meter}}{400 \text{ nanograms per cubic meter}} \\ &= 0.008 \text{ or } 8.0 \times 10^{-3} \text{ (unitless)}\end{aligned}$$

#### G.1.1.1.3. Sensory Irritant Chronic Inhalation Hazard Quotient Example: Styrene

To calculate the chronic inhalation hazard quotient (Chronic  $\text{HQ}_{\text{inh-sensory}}$ ) of styrene for all receptor groups, combined gender, and all age groups, a sensory irritant with central nervous system endpoints, Equation 5-5 from Chapter 5 of the Main Report and Equation B-29 from Appendix Section B.6.1.3.2 are used with the following parameters:

$$\text{Chronic } C_{\text{inh-sensory}} = C_{\text{air-avg}} \quad \begin{array}{l} \text{Chapter 5} \\ \text{Equation 5-5} \end{array}$$

$$\text{Chronic HQ}_{\text{inh-sensory}} = \frac{\text{Chronic } C_{\text{inh-sensory}}}{\text{Sensory TC}_{\text{inh}}} \quad \begin{array}{l} \text{Appendix Section B.6.1.3.2} \\ \text{Equation B-29} \end{array}$$

where,

$$\text{Chronic } C_{\text{inh-sensory}} = C_{\text{air-avg}} = 59 \text{ nanograms per cubic meter (Appendix Section F.4.5, Table F-140)}$$

$$\text{Sensory TC}_{\text{inh}} = 900000 \text{ nanograms per cubic meter (Main Report Section 4.4.2, Table 4-6)}$$

Therefore,

$$\begin{aligned}\text{Chronic HQ}_{\text{inh-sensory}} &= \frac{59 \text{ nanograms per cubic meter}}{900000 \text{ nanograms per cubic meter}} \\ &= 0.000065 \text{ or } 6.5 \times 10^{-5} \text{ (unitless)}\end{aligned}$$

#### G.1.1.1.4. General Chemical Chronic Inhalation Hazard Quotient Example: Acenaphthylene

To calculate the chronic inhalation hazard quotient (Chronic  $\text{HQ}_{\text{inh}}$ ) of acenaphthylene (CASRN 534-22-5) for combined gender athletes, ages 16<30 years, Equation 5-6 from Chapter 5 of the Main Report and Equation B-30 from Appendix B of the Main Report are used with the following parameters:

$$\text{Chronic } C_{\text{inh}} = C_{\text{air-avg}} \times \text{AF}_{\text{inh}} \quad \begin{array}{l} \text{Main Report Chapter 5} \\ \text{Equation 5-5/6} \end{array}$$

$$\text{Chronic HQ}_{\text{inh}} = \frac{\text{Chronic } C_{\text{inh}}}{\text{Chronic TC}_{\text{inh}}} \quad \begin{array}{l} \text{Appendix Section B.6.1.3.3} \\ \text{Equation B-30} \end{array}$$

where,



$C_{air-avg} = 1.0$  nanograms per cubic meter (Main Report Section 3.4.6, Table 3-10)

$AF_{inh} = 0.37$  (Appendix Section F.4.3, Table F-102)

Chronic  $TC_{inh} = 210000$  nanograms per cubic meter (Main Report Section 4.4.4, Tables 4-7 and 4-8)

Therefore,

Chronic  $C_{inh} = 1.0$  nanograms per cubic meter  $\times 0.37 = 0.37$  or  $3.7 \times 10^{-1}$

$$\text{Chronic } HQ_{inh} = \frac{0.37 \text{ nanograms per cubic meter}}{210000 \text{ nanograms per cubic meter}} = 0.0000018 \text{ or } 1.8 \times 10^{-6} \text{ (unitless)}$$

### G.1.1.2. Dermal

#### G.1.1.2.1. DART One-Day Dermal Hazard Quotient Example: Benzo[a]pyrene

To calculate the field-specific dermal average one-day dose ( $AD_{der-DART-field}$ ) for benzo[a]pyrene for combined gender athletes ages 16<30 years, OEHHA used, Equation 5-3 from Main Report Section 5.4.2.2, with the  $C_{der-crumb\ rubber-field}$  and  $EV_{DART}$  discussed in Appendix Section B.4.4, and the following parameters:

$$AD_{der-DART-field} = \frac{DL \times C_{der-crumb\ rubber-field} \times ABS \times EV_{DART} \times CF}{BW}$$

where,

$DL = 0.168$  grams crumb rubber per event (Appendix Section B.4.1, Tables B-82 to B-85)

$C_{der-crumb\ rubber-field} = 0.76$  nanograms per gram crumb rubber (Appendix Section D.4.1.3.3, Table D-32)

$ABS =$  default value of 1 (Appendix Section B.4.3)

$EV_{DART} = 1$  event per day (Appendix Section B.4.4)

$CF = 1$  milligram per 1000000 nanograms

$BW = 65.8$  kilograms (Main Report Table 5-5)

Therefore,

$$\begin{aligned} AD_{der-DART-field} &= \frac{0.168 \text{ grams crumb rubber per event} \times 0.76 \text{ nanograms per gram crumb rubber} \times 1 \times 1 \text{ event per day}}{65.8 \text{ kilograms}} \\ &\quad \times 1 \text{ milligram per } 1000000 \text{ nanograms} \\ &= 0.0000000019 \text{ milligram per kilogram bodyweight per day} \\ &\quad \text{or } 1.9 \times 10^{-9} \text{ milligram per kilogram bodyweight per day} \end{aligned}$$

To calculate the field-specific dermal one-day hazard quotient (One-Day  $HQ_{der-DART}$ ) for



benzo[a]pyrene for combined gender athletes ages 16<30 years, Equation B-34 from Appendix Section B.6.1.4.1 is used with the following parameters:

$$\text{One - Day HQ}_{\text{der-DART-field}} = \frac{\text{AD}_{\text{der-DART-field}}}{\text{DART TC}_{\text{oral}}}$$

where,

$\text{AD}_{\text{der-DART-field}} = 1.9\text{E-}09$  milligram per kilograms bodyweight per day

$\text{DART TC}_{\text{oral}} = 0.0003$  milligrams per kilogram bodyweight per day (Main Report Tables 4-10 and 4-11)

Therefore,

$$\begin{aligned} \text{One - Day HQ}_{\text{der-DART-field}} &= \frac{1.9 \times 10^{-9} \text{ milligrams per kilogram bodyweight per day}}{0.0003 \text{ milligrams per kilogram bodyweight per day}} \\ &= 0.0000064 \text{ or } 6.4 \times 10^{-6} \text{ (unitless)} \end{aligned}$$

### G.1.1.2.2. General Chemical Chronic Dermal Hazard Quotient Example: Acenaphthylene

To calculate the dermal average daily dose ( $\text{ADD}_{\text{der}}$ ) of acenaphthylene for combined gender athletes ages 16<30 years, Equation 5-7 from Main Report Section 5.4.4.2 is used with following parameters:

$$\text{ADD}_{\text{der}} = \frac{\text{DL} \times \text{C}_{\text{der-crumb rubber}} \times \text{ABS} \times \text{EV} \times \text{CF1} \times \text{CF2}}{\text{BW}}$$

where,

$\text{DL} = 0.168$  grams crumb rubber per event (Appendix Section B.4.1, Tables B-82 to B-85)

$\text{C}_{\text{der-crumb rubber}} = 0.01$  nanograms per gram crumb rubber (Main Report Table 3-3)

$\text{ABS} =$  default value of 1 (Appendix Section B.4.3)

$\text{EV} = 215$  events per year (Appendix Section B.2.3, Tables B-8 to B-17)

$\text{CF1} = 1$  milligram per 1000000 nanograms

$\text{CF2} = 1$  year per 365 days

$\text{BW} = 65.8$  kilograms (Main Report Table 5-5)

Therefore,

$$\begin{aligned} \text{ADD}_{\text{der}} &= \frac{0.168 \text{ grams crumb rubber per event} \times 0.01 \text{ nanogram per grams crumb rubber} \times 1 \times 215 \text{ events per year} \times 1 \text{ milligram per } 1000000 \text{ nanograms} \times 1 \text{ year per } 365 \text{ days}}{65.8 \text{ kilograms}} \\ &= 0.000000000084 \text{ milligrams per kilogram bodyweight per day} \\ &\text{ or } 8.4 \times 10^{-12} \text{ milligrams per kilogram bodyweight per day} \end{aligned}$$



To calculate the dermal chronic hazard quotient (Chronic HQ<sub>der</sub>) for acenaphthylene for combined gender athletes, ages 16<30 years, Equation B-35 from Appendix Section B.6.1.4.2 is used with the following parameters:

$$\text{Chronic HQ}_{\text{der}} = \frac{\text{ADD}_{\text{der}}}{\text{Chronic TC}_{\text{oral}}}$$

where,

ADD<sub>der</sub> = 8.4E-12 milligrams per kilogram bodyweight per day

Chronic TC<sub>oral</sub> = 0.06 milligrams per kilogram bodyweight per day (Main Report Tables 4-12 and 4-13)

Therefore,

$$\begin{aligned} \text{Chronic HQ}_{\text{der}} &= \frac{8.4 \times 10^{-12} \text{ milligrams per kilogram bodyweight per day}}{0.06 \text{ milligrams per kilogram bodyweight per day}} \\ &= 0.00000000014 \text{ or } 1.4 \times 10^{-10} \text{ (unitless)} \end{aligned}$$

### G.1.1.3. Ingestion

#### G.1.1.3.1. DART One-Day Ingestion Hazard Quotient Example: Benzo[a]pyrene

To calculate the field-specific ingestion average one-day dose (AD<sub>ing-DART-field</sub>) for benzo[a]pyrene, for combined gender athletes ages 16<30 years, Equation 5-4 from Main Report Section 5.4.2.3 and Equation B-38 from Appendix Section B.6.1.5.1 are used with the following parameters:

$$\text{AD}_{\text{ing-DART-field}} = \frac{C_{\text{GI-crumb rubber-field}} \times \text{GRAF} \times \text{IR}_{\text{DART}} \times \text{CF}}{\text{BW}}$$

where,

C<sub>GI-crumb rubber-field</sub> = 7 nanograms per gram crumb rubber (Main Report Table 3-2)

GRAF = default value of 1 (unitless, Appendix Section B.5.2)

IR<sub>DART</sub> = 0.32 grams crumb rubber per day (Main Report Table 5-8)

CF = 1 milligram per 1000000 nanograms

BW = 65.8 kilograms (Main Report Table 5-7)

Therefore,



$$\begin{aligned}AD_{\text{ing-DART-field}} &= 7 \text{ nanograms per gram crumb rubber} \times 1 \\ &\times 0.32 \text{ grams crumb rubber per day} \times 1 \text{ milligram per } 1000000 \text{ nanograms} \\ &\div 65.8 \text{ kilograms} \\ &= 0.000000033 \text{ milligrams per kilogram bodyweight per day or } 3.3 \\ &\times 10^{-8} \text{ milligrams per kilogram bodyweight per day}\end{aligned}$$

To calculate the field-specific ingestion hazard quotient (One-Day  $HQ_{\text{ing-DART-field}}$ ) for benzo[a]pyrene, for combined gender athletes ages 16<30 years, Equation 5-14 from Section 5 of the Main Report is used with the following parameters:

$$\text{One - Day } HQ_{\text{ing-DART-field}} = \frac{AD_{\text{ing-DART-field}}}{\text{DART } TC_{\text{oral}}}$$

where,

$$\begin{aligned}AD_{\text{ing-DART-field}} &= 3.3\text{E-}08 \text{ milligrams per kilogram bodyweight per day} \\ \text{DART } TC_{\text{oral}} &= 0.0003 \text{ milligrams per kilogram bodyweight per day (Main Report} \\ &\text{Tables 4-10 and 4-11)}\end{aligned}$$

Therefore,

$$\begin{aligned}\text{One - Day } HQ_{\text{ing-DART-field}} &= 3.3 \times 10^{-8} \text{ milligrams per kilogram bodyweight per day} \div \\ &0.0003 \text{ milligrams per kilogram bodyweight per day} \\ &= 0.00011 \text{ or } 1.1 \times 10^{-4} \text{ (unitless)}\end{aligned}$$

### G.1.1.3.2. General Chemical Chronic Ingestion Hazard Quotient Example: Acenaphthylene

To calculate the ingestion average daily dose ( $ADD_{\text{ing-general}}$ ) of acenaphthylene, for combined gender athletes ages 16<30 years, Equation 5-8 from Main Report Section 5.4.4.3 with the following parameters:

$$ADD_{\text{ing}} = \frac{C_{\text{GI-crumb rubber}} \times \text{GRAF} \times IR_{\text{daily}} \times \text{CF}}{\text{BW}}$$

where,

$$\begin{aligned}C_{\text{GI-crumb rubber}} &= 0.32 \text{ ng per grams crumb rubber (Main Report Table 3-2)} \\ \text{GRAF} &= \text{default value of } 1 \text{ (unitless, Appendix Section B.5.2)} \\ IR_{\text{daily}} &= 0.18 \text{ grams crumb rubber per day (Main Report Table 5-13)} \\ \text{CF} &= 1 \text{ milligram per } 1000000 \text{ nanograms} \\ \text{BW} &= 65.8 \text{ kilograms (Main Report Table 5-7)}\end{aligned}$$



Therefore,

$$\begin{aligned} \text{ADD}_{\text{ing}} &= 0.32 \text{ ng per grams crumb rubber} \times 1 \times 0.18 \text{ grams crumb rubber per day} \times \text{CF} \\ &\div 65.8 \text{ kilograms} \\ &= 0.00000000085 \text{ milligrams per kilogram bodyweight per day or } 8.5 \\ &\times 10^{-10} \text{ milligrams per kilogram bodyweight per day} \end{aligned}$$

To calculate the ingestion chronic hazard quotient (Chronic  $\text{HQ}_{\text{ing}}$ ) for acenaphthylene, for combined gender athletes ages 16<30 years, Equation B-39 from Appendix Section B.6.5.1.2 is used with the following parameters:

$$\text{Chronic HQ}_{\text{ing}} = \frac{\text{ADD}_{\text{ing}}}{\text{Chronic TC}_{\text{oral}}}$$

where,

$$\text{ADD}_{\text{ing}} = 8.5\text{E-}10 \text{ milligrams per kilogram bodyweight per day}$$

$$\text{Chronic TC}_{\text{oral}} = 0.06 \text{ milligrams per kilogram bodyweight per day (Main Report Tables 4-12 and 4-13)}$$

Therefore,

$$\begin{aligned} \text{Chronic HQ}_{\text{ing}} &= \frac{8.5 \times 10^{-10} \text{ milligrams per kilogram kg bodyweight per day}}{0.06 \text{ milligrams per kilogram bodyweight per day}} \\ &= 0.000000014 = 1.4 \times 10^{-8} \end{aligned}$$

## G.1.2. Lifetime Cancer Risk Calculation Examples

### G.1.2.1. Inhalation Lifetime Cancer Risk Example: Benzo[a]pyrene

To calculate the inhalation lifetime cancer risk ( $\text{Risk}_{\text{inh}}$ ) of benzo[a]pyrene for the athlete receptor category, the inhalation average daily dose ( $\text{ADD}_{\text{inh}}$ ) is first calculated for each age group using Equations 5-9 and 5-10 from Main Report Section 5.4.5.1 with the parameters in Table G-1 as shown below.

$$\text{ADD}_{\text{inh}} = \frac{C_{\text{air-avg}} \times \sum_{\text{event type}} (\text{BR}_{\text{TW}} \times \text{AET}) \times A_{\text{chem}} \times \text{CF1} \times \text{CF2}}{\text{BW}}$$



Table G-1. Parameter Values for the Calculation of the Average Daily Dose of Benzo[a]pyrene for Athletes Exposed Through the Inhalation Route ( $ADD_{inh}$ , milligrams per kilogram bodyweight per day)

| Parameter   | 2<6 years   | 6<11 years  | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| $C_{air-avg}$ (nanograms per cubic meter, Main Report Table 3-10)     | 1.1         | 1.1         | 1.1         | 1.1         | 1.1         | 1.1         | 1.1         |
| $BR_{TW-practice}$ (cubic meters per hour, Main Report Table 5-12)    | 1.4         | 2.3         | 2.8         | 4.2         | 3.6         | 3.9         | 4.1         |
| $AET_{practice}$ (hours per year, Appendix Section B.2.5, Table B-28) | 126         | 156         | 223         | 354         | 343         | 256         | 187         |
| $BR_{TW-game}$ (cubic meters per hour, Main Report Table 5-12)        | 1.5         | 2.3         | 2.9         | 4.4         | 4.0         | 4.0         | 4.4         |
| $AET_{game}$ (hours per year, Appendix Section B.2.5, Table B-32)     | 104         | 137         | 129         | 241         | 167         | 214         | 239         |
| $A_{chem}$ (unitless, Appendix Section B.3.3)                         | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| CF1 (milligram per nanograms)   | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 |
| CF2 (year per days)   | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     |
| BW (kilograms, Main Report Table 5-5)                                 | 20.5        | 32.0        | 48.7        | 65.8        | 75.3        | 74.5        | 74.3        |
| $ADD_{inh}$ (milligrams per kilogram bodyweight per day)              | 5.1E-08     | 6.6E-08     | 6.4E-08     | 1.2E-07     | 7.9E-08     | 7.8E-08     | 7.6E-08     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:



$$\begin{aligned}
 & \text{ADD}_{\text{inh}-16<30 \text{ years}} \\
 &= 1.1 \text{ nanograms per cubic meter} \times \left[ (4.2 \text{ cubic meters per hour} \times 354 \text{ hours per year}) \right. \\
 & \quad \left. + (4.4 \text{ cubic meters per hour} \times 241 \text{ hours per year}) \right] \\
 & \quad \times 1 \times 1 \text{ year per 365 days} \times 1 \text{ milligram per } 1000000 \text{ nanograms} \div 65.8 \text{ kilograms} \\
 & \\
 &= 1.1 \text{ nanograms per cubic meter} \times \left[ 1486.8 \text{ cubic meters per year} \right. \\
 & \quad \left. + 1060.4 \text{ cubic meters per year} \right] \\
 & \quad \times 1 \times 1 \text{ year per 365 days} \times 1 \text{ milligram per } 1000000 \text{ nanograms} \div 65.8 \text{ kilograms} \\
 & \\
 &= 1.1 \text{ nanograms per cubic meter} \times 2547.2 \text{ cubic meters per year} \times 1 \\
 & \quad \times 1 \text{ year per 365 days} \times 1 \text{ milligram per } 1000000 \text{ nanograms} \div 65.8 \text{ kilograms} \\
 & \\
 &= 0.00000012 \text{ milligrams per kilogram bodyweight per day} \\
 & \quad \text{or } 1.2 \times 10^{-7} \text{ milligrams per kilogram bodyweight per day}
 \end{aligned}$$

Next, the inhalation lifetime average daily dose ( $\text{LADD}_{\text{inh}}$ ) of benzo[a]pyrene is calculated using Equation 5-11 from Main Report Section 5.4.5.1 with the parameters in Table G-2 for each age group as shown below.

$$\text{LADD}_{\text{inh}} = \sum_{\text{age}} \frac{\text{ADD}_{\text{inh}} \times \text{ASF} \times \text{ED}}{\text{AT}}$$

Table G-2. Parameter Values for the Calculation of the Lifetime Average Daily Dose of Benzo[a]pyrene for Athletes Exposed Through the Inhalation Route ( $\text{LADD}_{\text{inh}}$ , milligrams per kilogram bodyweight per day)

| Parameter   | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|---|-----------|------------|-------------|-------------|-------------|-------------|-------------|
| $\text{ADD}_{\text{inh}}$ (milligrams per kilogram bodyweight per day)  | 5.1E-08   | 6.6E-08    | 6.4E-08     | 1.2E-07     | 7.9E-08     | 7.8E-08     | 7.6E-08     |
| ASF (unitless, Main Report Table 5-14)                                  | 3         | 3          | 3           | 1           | 1           | 1           | 1           |
| ED (years, Main Report Table 5-14)                                      | 4         | 5          | 5           | 14          | 10          | 10          | 20          |
| AT (years)  | 70        | 70         | 70          | 70          | 70          | 70          | 70          |
| $\text{LADD}_{\text{inh}}$ (milligrams per kilogram bodyweight per day) | 8.7E-09   | 1.4E-08    | 1.4E-08     | 2.4E-08     | 1.1E-08     | 1.1E-08     | 2.2E-08     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:



$$\begin{aligned} \text{LADD}_{\text{inh}-16<30 \text{ years}} &= \frac{1.2 \times 10^{-7} \text{ milligrams per kilogram bodyweight per day} \times 1 \times 14 \text{ years}}{70 \text{ years}} \\ &= 2.4 \times 10^{-8} \text{ milligrams per kilogram bodyweight per day} \end{aligned}$$

Lastly, to calculate the inhalation lifetime risk ( $\text{Risk}_{\text{inh}}$ ) for benzo[a]pyrene, Equation B-45 from Appendix Section B.6.2.1 is used with the parameters in Table G-3 for each age group.

$$\text{Risk}_{\text{inh-sum}} = \sum_{\text{chem}} [\text{LADD}_{\text{inh}} \times \text{CSF}_{\text{inh}}]$$

Table G-3. Parameter Values For The Calculation Of the Risk Of Benzo[a]pyrene Exposed Through the Inhalation Route ( $\text{Risk}_{\text{inh}}$ , unitless)

| Parameter  | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|--|-----------|------------|-------------|-------------|-------------|-------------|-------------|
| $\text{LADD}_{\text{inh}}$ (milligrams per kilogram bodyweight per day)  | 8.7E-09   | 1.4E-08    | 1.4E-08     | 2.4E-08     | 1.1E-08     | 1.1E-08     | 2.2E-08     |
| $\text{CSF}_{\text{inh}}$ ((milligrams per kilogram bodyweight per day) <sup>-1</sup> , Main Report Table 4-9) | 3.9       | 3.9        | 3.9         | 3.9         | 3.9         | 3.9         | 3.9         |
| $\text{Risk}_{\text{inh}}$ (unitless)  | 3.4E-08   | 5.5E-08    | 5.4E-08     | 9.4E-08     | 4.4E-08     | 4.3E-08     | 8.5E-08     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:

$$\begin{aligned} \text{Risk}_{\text{inh}-16<30 \text{ years}} &= 2.4 \times 10^{-8} \text{ milligrams per kilogram bodyweight per day} \\ &\quad \times 3.9 \text{ (milligrams per kilogram bodyweight per day)}^{-1} \\ &= 9.4 \times 10^{-8} \text{ (unitless)} \end{aligned}$$

### G.1.2.2. Dermal Lifetime Cancer Risk Example: Benzo[a]pyrene

To calculate the dermal lifetime cancer risk ( $\text{Risk}_{\text{der}}$ ) of benzo[a]pyrene for the athlete receptor category, the dermal average daily dose ( $\text{ADD}_{\text{der}}$ ), is first calculated for each age group using Equation 5-7 from Main Report Section 5.4.4.2 with the parameters in Table G-4 for each age group as shown below.

$$\text{ADD}_{\text{der}} = \frac{\text{DL} \times \text{C}_{\text{der-crumb rubber}} \times \text{ABS} \times \text{EV} \times \text{CF1} \times \text{CF2}}{\text{BW}}$$



Table G-1. Parameter Values for The Calculation Of The Average Daily Dose Of Benzo[a]pyrene for Athletes Exposed Through The Dermal Route (ADD<sub>der</sub>, milligrams per kilogram bodyweight per day)

| Parameter  | 2<6 years   | 6<11 years  | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| DL (grams crumb rubber per event, Appendix Section B.4.1, Table B-82)                  | 0.077       | 0.109       | 0.142       | 0.168       | 0.180       | 0.179       | 0.179       |
| C <sub>der</sub> -crumb rubber (nanogram per gram crumb rubber, Main Report Table 3-3) | 0.19        | 0.19        | 0.19        | 0.19        | 0.19        | 0.19        | 0.19        |
| ABS (unitless, Appendix B, Section B.4.3)  | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| EV (events per year, Appendix Section B.2.3.1, Table B-8)                              | 139         | 121         | 149         | 215         | 163         | 137         | 138         |
| CF1 (milligram per nanograms)  | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 |
| CF2 (year per days)  | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     | 1 / 365     |
| BW (kilograms, Main Report Table 5-5)  | 20.5        | 32.0        | 48.7        | 65.8        | 75.3        | 74.5        | 74.3        |
| ADD <sub>der</sub> (milligrams per kilogram bodyweight per day)                        | 2.6E-10     | 2.1E-10     | 2.2E-10     | 2.8E-10     | 2.0E-10     | 1.7E-10     | 1.7E-10     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:

$$\begin{aligned}
 & \text{ADD}_{\text{der},16<30} \\
 &= 0.168 \text{ grams crumb rubber per event} \times 0.19 \text{ nanograms per gram crumb rubber} \times 1 \times 215 \text{ events per year} \\
 & \quad \times 1 \text{ year per 365 days} \times 1 \text{ milligram per 1000000 nanograms} \div 65.8 \text{ kilograms} \\
 &= 0.00000000028 \text{ milligrams per kilogram bodyweight per day} \\
 & \text{or } 2.8 \times 10^{-10} \text{ milligrams per kilogram bodyweight per day}
 \end{aligned}$$

Next, the dermal lifetime average daily dose (LADD<sub>der</sub>) of benzo[a]pyrene is calculated using Equation 5-12 from Main Report Section 5.4.5.2 with the parameters in Table G-5 for each age group as shown below.

$$\text{LADD}_{\text{der}} = \sum_{\text{age}} \frac{\text{ADD}_{\text{der}} \times \text{ASF} \times \text{ED}}{\text{AT}}$$



Table G-2. Parameter Values for the Calculation of the Lifetime Average Daily Dose of Benzo[a]pyrene for Athletes Exposed Through the Dermal Route ( $LADD_{der}$ , milligrams per kilogram bodyweight per day)

| Parameter   | 2<6<br>years | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
|---|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| $ADD_{der}$ (milligrams per kilogram bodyweight per day)  | 2.6E-10      | 2.1E-10       | 2.2E-10        | 2.8E-10        | 2.0E-10        | 1.7E-10        | 1.7E-10        |
| ASF (unitless, Table 5-14)                                | 3            | 3             | 3              | 1              | 1              | 1              | 1              |
| ED (years, Table 5-14)                                    | 4            | 5             | 5              | 14             | 10             | 10             | 20             |
| AT (years)  | 70           | 70            | 70             | 70             | 70             | 70             | 70             |
| $LADD_{der}$ (milligrams per kilogram bodyweight per day) | 4.5E-11      | 4.5E-11       | 4.7E-11        | 5.6E-11        | 2.8E-11        | 2.4E-11        | 4.8E-11        |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:

$$\begin{aligned}
 &LADD_{der-16<30 \text{ years}} \\
 &= \frac{2.8 \times 10^{-10} \text{ milligrams per kilogram bodyweight per day} \times 1 \times 14 \text{ years}}{70 \text{ years}} \\
 &= 5.6 \times 10^{-11} \text{ milligrams per kilogram bodyweight per day}
 \end{aligned}$$

Lastly, to calculate the dermal lifetime risk ( $Risk_{der}$ ) of benzo[a]pyrene, Equation B-47 from Appendix Section B.6.2.2 is used with the parameters in Table G-6 for each age group as shown below.

$$Risk_{der-sum} = \sum_{chem} [LADD_{der} \times CSF_{oral}]$$

Table G-3. Parameter Values for the Calculation Of the Risk Of Benzo[a]pyrene for Athletes Exposed Through the Dermal Route ( $Risk_{der}$ , unitless)

| Parameter   | 2<6<br>years | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
|---|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
| $LADD_{der}$ (milligrams per kilogram bodyweight per day)   | 4.5E-11      | 4.5E-11       | 4.7E-11        | 5.6E-11        | 2.8E-11        | 2.4E-11        | 4.8E-11        |
| $CSF_{oral}$ ((milligrams per kilogram bodyweight per day) <sup>-1</sup> , Main Report Section 4.5.3, Table 4-14) | 12           | 12            | 12             | 12             | 12             | 12             | 12             |
| $Risk_{der}$ (unitless)   | 5.4E-10      | 5.4E-10       | 5.7E-10        | 6.7E-10        | 3.4E-10        | 2.9E-10        | 5.8E-10        |



For a single age group (combined gender athletes, ages 16<30 years), the following equation and parameters are used:

$$\begin{aligned} \text{Risk}_{\text{der}-16<30 \text{ years}} &= 5.6 \times 10^{-11} \text{ milligrams per kilogram bodyweight per day} \\ &\times 12 \text{ (milligrams per kilogram bodyweight per day)}^{-1} \\ &= 9.0 \times 10^{-10} \text{ (unitless)} \end{aligned}$$

### G.1.2.3. Ingestion Lifetime Cancer Risk Example: Benzo[a]pyrene

To calculate the ingestion lifetime cancer risk ( $\text{Risk}_{\text{ing}}$ ) of benzo[a]pyrene for the athlete receptor category, the ingestion average daily dose ( $\text{ADD}_{\text{ing}}$ ) is first calculated for each age group within the athlete receptor category using Equation 5-8 from Main Report Section 5.4.4.3 with the parameters in Table G-7 for each age group.

$$\text{ADD}_{\text{ing}} = \frac{C_{\text{GI-crumb rubber}} \times \text{GRAF} \times \text{IR}_{\text{daily}} \times \text{CF1}}{\text{BW}}$$

Table G-1. Parameter Values for the Calculation of the Average Daily Dose of Benzo[a]pyrene for Athletes Exposed Through the Ingestion Route ( $\text{ADD}_{\text{ing}}$ , milligrams per kilogram bodyweight per day)

| Parameter   | 2<6 years   | 6<11 years  | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| $C_{\text{GI-crumb rubber}}$ (nanograms per gram crumb rubber, Main Report Table 3-2) | 2.4         | 2.4         | 2.4         | 2.4         | 2.4         | 2.4         | 2.4         |
| GRAF (unitless, Appendix Section B.5.2)   | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| $\text{IR}_{\text{daily}}$ (grams crumb rubber per day, Main Report Table 5-10)       | 0.095       | 0.099       | 0.117       | 0.176       | 0.135       | 0.113       | 0.115       |
| CF1 (milligram per nanograms)   | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 | 1 / 1000000 |
| BW (kilograms, Main Report Table 5-5)   | 20.5        | 32.0        | 48.7        | 65.8        | 75.3        | 74.5        | 74.3        |
| $\text{ADD}_{\text{ing}}$ (milligrams per kilogram bodyweight per day)                | 1.1E-08     | 7.4E-09     | 5.7E-09     | 6.4E-09     | 4.3E-09     | 3.6E-09     | 3.7E-09     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:



$$\begin{aligned}
 \text{ADD}_{\text{ing},16<30} &= 2.4 \text{ nanograms per gram crumb rubber} \times 1 \\
 &\times 0.176 \text{ gram crumb rubber per day} \\
 &\times 1 \text{ milligram per } 1000000 \text{ nanograms} \div 65.8 \text{ kilograms} \\
 &= 0.0000000064 \text{ milligrams per kilogram bodyweight per day} \\
 &= 6.4 \times 10^{-9} \text{ milligrams per kilogram bodyweight per day}
 \end{aligned}$$

Next, to calculate the ingestion lifetime average daily dose ( $\text{LADD}_{\text{ing}}$ ) of benzo[a]pyrene, Equation 5-13 from Main Report Section 5.4.5.3 is used with the parameters in Table G-8 for each age group as shown below.

$$\text{LADD}_{\text{ing}} = \sum_{\text{age}} \frac{\text{ADD}_{\text{ing}} \times \text{ASF} \times \text{ED}}{\text{AT}}$$

Table G-2. Parameter Values for the Calculation of the Lifetime Average Daily Dose of Benzo[a]pyrene for Athletes Exposed Through the Ingestion Route ( $\text{LADD}_{\text{ing}}$ , milligrams per kilogram bodyweight per day)

| Parameter   | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|---|-----------|------------|-------------|-------------|-------------|-------------|-------------|
| $\text{ADD}_{\text{ing}}$ (milligrams per kilogram bodyweight per day)  | 1.1E-08   | 7.4E-09    | 5.7E-09     | 6.4E-09     | 4.3E-09     | 3.6E-09     | 3.7E-09     |
| ASF (unitless, Main Report Table 5-14)                                  | 3         | 3          | 3           | 1           | 1           | 1           | 1           |
| ED (years, Main Report Table 5-14)                                      | 4         | 5          | 5           | 14          | 10          | 10          | 20          |
| AT (years)  | 70        | 70         | 70          | 70          | 70          | 70          | 70          |
| $\text{LADD}_{\text{ing}}$ (milligrams per kilogram bodyweight per day) | 1.9E-09   | 1.6E-09    | 1.2E-09     | 1.3E-09     | 6.1E-10     | 5.2E-10     | 1.1E-09     |

For a single age group (e.g., combined gender athletes, ages 16<30 years), a sample calculation is:

$$\begin{aligned}
 \text{LADD}_{\text{ing}-16<30 \text{ years}} &= \frac{6.4 \times 10^{-9} \text{ milligrams per kilogram per day} \times 1 \times 14 \text{ years}}{70 \text{ years}} \\
 &= 1.3 \times 10^{-9} \text{ milligrams per kilogram per day}
 \end{aligned}$$

Lastly, to calculate the ingestion lifetime risk ( $\text{Risk}_{\text{ing}}$ ) of benzo[a]pyrene, Equation B-49 from Appendix Section B.6.2.3 is used with the parameters in Table G-9 for each age group as shown below.



$$\text{Risk}_{\text{ing-sum}} = \sum_{\text{chem}} [\text{LADD}_{\text{ing}} \times \text{CSF}_{\text{oral}}]$$

Table G-3. Parameter Values For The Calculation Of The Risk Of Benzo[a]pyrene for Athletes Exposed Through The Ingestion Route ( $\text{Risk}_{\text{ing}}$ , unitless)

| Parameter   | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
|---|-----------|------------|-------------|-------------|-------------|-------------|-------------|
| LADD <sub>ing</sub> (mg per kg bodyweight per day)  | 1.9E-09   | 1.6E-09    | 1.2E-09     | 1.3E-09     | 6.1E-10     | 5.2E-10     | 1.1E-09     |
| CSF <sub>oral</sub> ((milligrams per kilogram bodyweight per day) <sup>-1</sup> , Main Report Table 4-14) | 12        | 12         | 12          | 12          | 12          | 12          | 12          |
| Risk <sub>ing</sub> (unitless)  | 2.3E-08   | 1.9E-08    | 1.5E-08     | 1.5E-08     | 7.3E-09     | 6.2E-09     | 1.3E-08     |

For a single age group (e.g. combined gender athletes, ages 16<30 years), the following equation and parameters are used:

$$\begin{aligned} \text{Risk}_{\text{ing-16<30 years}} &= 1.3 \times 10^{-9} \text{ milligrams per kilogram bodyweight per day} \\ &\times 12 \text{ (milligrams per kilogram bodyweight per day)}^{-1} \\ &= 1.5 \times 10^{-8} \text{ (unitless)} \end{aligned}$$

## G.2. Non-Cancer Hazard Quotient (HQ) and Hazard Index (HI)

This section presents the hazard quotient (HQ) of all detected chemicals on synthetic turf fields for the inhalation, dermal, and ingestion routes when toxicity criteria (TC) are available and the multi-route non-cancer hazard index (HI). Both acute and chronic HQs are calculated for the inhalation route. Based on the chemical type, HQs are calculated for chemicals with regular endpoints (general chemicals), chemicals with developmental and/or reproductive endpoints (DARTs), and chemicals that cause sensory irritation (sensory irritants). Details of each exposure route and how to calculate the HQ are presented in Main Report Chapter 5. An example calculation hazards each for acute and chronic inhalation (acute, one-day, and chronic exposures) and ingestion (one-day exposure and chronic) and dermal (one-day and chronic exposures) is presented in Section G.1.1.

### G.2.1. Acute Inhalation Hazard Quotient (Acute HQ<sub>inh</sub>) and Acute Inhalation Hazard Index (Acute HI)

Acute exposure to chemicals via inhalation is the only acute exposure route assessed in the Study. Acute exposures of chemicals via dermal or oral route are not included



because Acute TCs of the detected chemicals for these two routes are not available. More importantly, toxicity of chemicals exposed chronically via these non-inhalation routes usually occurred at lower levels than acute exposures that the chronic hazard assessment (or one-day exposure for DARTs) can be applied to protect the hazards from acute exposure. Table G-10 lists the Acute  $HQ_{inh}$  for individual chemicals detected in air on- or off-field. It also summarizes the inhalation route total of the Acute  $HQ_{inh-sum}$  of three groups of chemicals (field-related, non-field-related, and all chemicals). Since inhalation route is the only exposure included in the acute hazard assessment, the Acute  $HQ_{inh-sum}$  equals to the Acute Hazard Index (Acute HI) for each group of chemicals.

Table G-1. Acute Inhalation Hazard Quotients by Chemicals (Acute  $HQ_{inh}$ , unitless), Route Total Acute Inhalation Hazard Quotients (Acute  $HQ_{inh-sum}$ , unitless), and Acute Inhalation Hazard Indices (Acute HI, unitless)—All Receptors

| Chemical   | CASRN    | On-Field Acute $HQ_{inh}$ | Off-Field Acute $HQ_{inh}$ |
|--|----------|---------------------------|----------------------------|
| Styrene <sup>a</sup>   | 100-42-5 | 7.7E-05                   | 6.6E-05                    |
| Field-Related Acute $HQ_{inh-sum}$ or Field-Related Acute HI         |          | 7.7E-05                   | 6.6E-05                    |
| Acetaldehyde   | 75-07-0  | 2.1E-02                   | Not assessed               |
| Benzene  | 71-43-2  | 1.4E-01                   | 1.3E-01                    |
| 2-Butanone   | 78-93-3  | 1.5E-04                   | Not assessed               |
| 2-Butoxyethanol  | 111-76-2 | 2.2E-04                   | 1.0E-04                    |
| Formaldehyde   | 50-00-0  | 3.1E-01                   | Not assessed               |
| Phenol   | 108-95-2 | 3.6E-05                   | 3.6E-05                    |
| Tetrachloroethylene  | 127-18-4 | 2.1E-05                   | 2.1E-05                    |
| Toluene  | 108-88-3 | 2.4E-03                   | 2.0E-03                    |
| m/p-Xylene   | 106-42-3 | 2.4E-04                   | 2.3E-04                    |
| o-Xylene   | 95-47-6  | 1.0E-04                   | 1.0E-04                    |
| Non-Field Related Acute $HQ_{inh-sum}$ or Non-Field Related Acute HI |          | 4.7E-01                   | 1.3E-01                    |
| All Chemical Acute HI <sup>b</sup>                                   |          | 4.7E-01                   | 1.3E-01                    |

<sup>a</sup> Styrene was designated as field-related chemical in this Study. All the other chemicals listed in this table were designated as non-field-related chemicals (see Section D.4.3 of Appendix D).

<sup>b</sup> Acute exposure is only assessed for inhalation to chemicals. The acute hazard index (Acute HI) equals the sum of acute hazard quotients (Acute  $HQ_{inh-sum}$ ) assessed.



### G.2.2. One-Day Inhalation Hazard Quotient for Developmental and Reproductive Toxicants (One-Day $HQ_{inh-DART}$ , unitless)

Except for lead, the Study assesses non-cancer hazard quotient from one-day exposure to DARTs (One-Day  $HQ_{inh-DART}$ , listed in Table G-11). Because of the single day exposure assumption, the field-specific One-Day  $HQ_{inh-DART}$  (One-Day  $HQ_{inh-DART-field}$ ) is derived from field-specific concentration of each DART in the air on- or off-field ( $C_{air-field}$ ) and One-Day  $HQ_{inh-DART-field}$  is summed across chemicals detected in each field to obtain the field-specific inhalation route total (One-Day  $HQ_{inh-DART-sum-field}$ ).

Although lead is considered as a DART based on its developmental endpoint, the metal is assessed in chronic exposure and chronic non-cancer hazard (see explanation in Section 4.6.1 of Chapter 4 and Chronic HQ results in Section G.1.1.3.2 of Appendix G).

Table G-1. List of Developmental and Reproductive Toxicants (DARTs) Included in the One-Day Inhalation Hazard Quotients (One-Day  $HQ_{inh-DART}$ ) Assessment

| Chemical                       | CASRN      | Number of Field Sampled |           | Type of Sample |
|--------------------------------|------------|-------------------------|-----------|----------------|
|                                |            | On-Field                | Off-Field |                |
| Non-Field-Related              |            |                         |           |                |
| 2-Butanone                     | 78-93-3    | 34                      | 0         | ALD            |
| Field-Related                  |            |                         |           |                |
| Benzo[a]pyrene                 | 50-32-8    | 34                      | 33        | SVOC           |
| Benzo[e]pyrene                 | 192-97-2   | 34                      | 33        | SVOC           |
| Benzo[g,h,i]perylene           | 191-24-2   | 34                      | 33        | SVOC           |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 34                      | 33        | SVOC           |
| n-Caproic acid vinyl ester     | 3050-69-9  | 34                      | 33        | SVOC           |
| Chrysene                       | 218-01-9   | 34                      | 33        | SVOC           |
| Coronene                       | 191-07-1   | 34                      | 33        | SVOC           |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 34                      | 33        | SVOC           |
| Cyclohexylamine                | 108-91-8   | 34                      | 33        | SVOC           |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 34                      | 33        | SVOC           |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 34                      | 33        | SVOC           |
| Dimethyl phthalate             | 131-11-3   | 34                      | 33        | SVOC           |



| Chemical                                 | CASRN     | Number of Field Sampled |           | Type of Sample |
|--|-----------|-------------------------|-----------|----------------|
|  |           | On-Field                | Off-Field |                |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5  | 34                      | 33        | SVOC           |
| Methyl stearate                          | 112-61-8  | 34                      | 33        | SVOC           |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 34                      | 33        | SVOC           |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 34                      | 33        | SVOC           |
| 4-tert-Octylphenol                       | 140-66-9  | 34                      | 33        | SVOC           |

ALD: Carbonyl samples collected with 2,4-dinitrophenylhydrazine cartridges; and SVOC: semivolatile organic chemical (SVOC) samples collected with SVOC sample trains

Table G-2. **On-Field** Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{inh-DART-field}$ , unitless)— Combined Gender **Athletes 2<6 years**

| Chemical                       | CASRN      | OneDay $HQ_{inh-DART-field}$ |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                      | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                      | 2.1E-03 | 2.2E-03            | 1.1E-03 | 5.6E-03                     | 8.6E-03 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                      | 3.4E-05 | 7.8E-05            | 0.0E+00 | 2.3E-04                     | 2.3E-04 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                      | 2.4E-04 | 3.5E-04            | 9.1E-05 | 9.4E-04                     | 1.4E-03 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                      | 1.6E-04 | 9.4E-04            | 0.0E+00 | 0.0E+00                     | 5.5E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                      | 5.0E-05 | 2.9E-04            | 0.0E+00 | 0.0E+00                     | 1.7E-03 |
| Chrysene                       | 218-01-9   | 0.0E+00                      | 3.7E-04 | 5.8E-04            | 0.0E+00 | 1.4E-03                     | 2.4E-03 |
| Coronene                       | 191-07-1   | 0.0E+00                      | 1.6E-04 | 2.9E-04            | 0.0E+00 | 5.5E-04                     | 1.3E-03 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                      | 3.5E-07 | 5.9E-07            | 2.4E-07 | 1.1E-06                     | 3.2E-06 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                      | 2.4E-06 | 7.0E-06            | 0.0E+00 | 1.6E-05                     | 3.2E-05 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                      | 1.3E-04 | 1.6E-04            | 4.9E-05 | 3.8E-04                     | 7.5E-04 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                      | 3.5E-07 | 4.9E-07            | 2.6E-07 | 1.4E-06                     | 2.1E-06 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                      | 6.6E-06 | 2.2E-05            | 0.0E+00 | 4.4E-05                     | 1.1E-04 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                      | 2.0E-04 | 6.4E-04            | 0.0E+00 | 2.2E-03                     | 2.2E-03 |
| Methyl stearate                | 112-61-8   | 0.0E+00                      | 4.1E-05 | 8.7E-05            | 0.0E+00 | 2.8E-04                     | 3.3E-04 |



| Chemical                                 | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 0.0E+00                            | 9.3E-08 | 3.8E-07            | 0.0E+00 | 5.5E-07                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 0.0E+00                            | 2.3E-06 | 6.2E-06            | 0.0E+00 | 1.1E-05                     | 3.3E-05 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 9.5E-06 | 2.0E-05            | 0.0E+00 | 5.4E-05                     | 7.3E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-3. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 6<11 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 1.6E-03 | 1.7E-03            | 8.4E-04 | 4.2E-03                     | 6.5E-03 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 2.6E-05 | 5.9E-05            | 0.0E+00 | 1.8E-04                     | 1.8E-04 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 1.8E-04 | 2.7E-04            | 6.9E-05 | 7.1E-04                     | 1.0E-03 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.2E-04 | 7.1E-04            | 0.0E+00 | 0.0E+00                     | 4.1E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.8E-05 | 2.2E-04            | 0.0E+00 | 0.0E+00                     | 1.3E-03 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 2.8E-04 | 4.4E-04            | 0.0E+00 | 1.1E-03                     | 1.8E-03 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.2E-04 | 2.2E-04            | 0.0E+00 | 4.2E-04                     | 1.0E-03 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.7E-07 | 4.5E-07            | 1.8E-07 | 8.1E-07                     | 2.4E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.8E-06 | 5.3E-06            | 0.0E+00 | 1.2E-05                     | 2.4E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.0E-04 | 1.2E-04            | 3.7E-05 | 2.9E-04                     | 5.7E-04 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.6E-07 | 3.7E-07            | 2.0E-07 | 1.1E-06                     | 1.6E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 5.0E-06 | 1.7E-05            | 0.0E+00 | 3.4E-05                     | 8.6E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.5E-04 | 4.9E-04            | 0.0E+00 | 1.7E-03                     | 1.7E-03 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 3.1E-05 | 6.6E-05            | 0.0E+00 | 2.1E-04                     | 2.5E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 7.0E-08 | 2.8E-07            | 0.0E+00 | 4.2E-07                     | 1.2E-06 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.7E-06 | 4.7E-06            | 0.0E+00 | 8.1E-06                     | 2.5E-05 |



| Chemical           | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                    |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 4-tert-Octylphenol | 140-66-9 | 0.0E+00                            | 7.2E-06 | 1.5E-05            | 0.0E+00 | 4.1E-05                     | 5.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-4. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 11<16 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 2.6E-01 | 2.8E-01            | 1.4E-01 | 7.1E-01                     | 1.1E+00 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 4.3E-03 | 9.9E-03            | 0.0E+00 | 2.9E-02                     | 2.9E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 3.0E-02 | 4.4E-02            | 1.1E-02 | 1.2E-01                     | 1.7E-01 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.0E-04 | 5.9E-04            | 0.0E+00 | 0.0E+00                     | 3.5E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.2E-05 | 1.9E-04            | 0.0E+00 | 0.0E+00                     | 1.1E-03 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 4.7E-02 | 7.3E-02            | 0.0E+00 | 1.8E-01                     | 3.0E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.0E-02 | 3.7E-02            | 0.0E+00 | 6.9E-02                     | 1.7E-01 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.2E-07 | 3.7E-07            | 1.5E-07 | 6.7E-07                     | 2.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.5E-06 | 4.4E-06            | 0.0E+00 | 1.0E-05                     | 2.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.7E-02 | 2.0E-02            | 6.2E-03 | 4.8E-02                     | 9.5E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.2E-07 | 3.1E-07            | 1.7E-07 | 9.1E-07                     | 1.3E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.2E-06 | 1.4E-05            | 0.0E+00 | 2.8E-05                     | 7.1E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.5E-02 | 8.1E-02            | 0.0E+00 | 2.8E-01                     | 2.8E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.6E-05 | 5.5E-05            | 0.0E+00 | 1.7E-04                     | 2.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 5.8E-08 | 2.4E-07            | 0.0E+00 | 3.5E-07                     | 9.9E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.5E-06 | 3.9E-06            | 0.0E+00 | 6.8E-06                     | 2.1E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.0E-06 | 1.2E-05            | 0.0E+00 | 3.4E-05                     | 4.6E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.



**Table G-5. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 16<30 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 3.8E-01 | 4.1E-01            | 2.1E-01 | 1.0E+00                     | 1.6E+00 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 6.3E-03 | 1.5E-02            | 0.0E+00 | 4.3E-02                     | 4.3E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 4.4E-02 | 6.5E-02            | 1.7E-02 | 1.7E-01                     | 2.6E-01 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.5E-04 | 8.7E-04            | 0.0E+00 | 0.0E+00                     | 5.1E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 4.7E-05 | 2.7E-04            | 0.0E+00 | 0.0E+00                     | 1.6E-03 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 6.9E-02 | 1.1E-01            | 0.0E+00 | 2.6E-01                     | 4.5E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.9E-02 | 5.4E-02            | 0.0E+00 | 1.0E-01                     | 2.5E-01 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 3.3E-07 | 5.5E-07            | 2.2E-07 | 9.9E-07                     | 3.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 2.2E-06 | 6.5E-06            | 0.0E+00 | 1.5E-05                     | 3.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 2.5E-02 | 3.0E-02            | 9.1E-03 | 7.1E-02                     | 1.4E-01 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 3.2E-07 | 4.5E-07            | 2.4E-07 | 1.3E-06                     | 1.9E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 6.1E-06 | 2.0E-05            | 0.0E+00 | 4.1E-05                     | 1.0E-04 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 3.6E-02 | 1.2E-01            | 0.0E+00 | 4.1E-01                     | 4.1E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 3.8E-05 | 8.0E-05            | 0.0E+00 | 2.6E-04                     | 3.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 8.6E-08 | 3.5E-07            | 0.0E+00 | 5.1E-07                     | 1.5E-06 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 2.1E-06 | 5.7E-06            | 0.0E+00 | 9.9E-06                     | 3.0E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 8.8E-06 | 1.8E-05            | 0.0E+00 | 5.0E-05                     | 6.8E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-6. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 30<40 years**

| Chemical       | CASRN   | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene | 50-32-8 | 0.0E+00                            | 2.6E-01 | 2.7E-01            | 1.4E-01 | 7.0E-01                     | 1.1E+00 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 4.2E-03 | 9.8E-03            | 0.0E+00 | 2.9E-02                     | 2.9E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 3.0E-02 | 4.4E-02            | 1.1E-02 | 1.2E-01                     | 1.7E-01 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.0E-04 | 5.8E-04            | 0.0E+00 | 0.0E+00                     | 3.4E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.1E-05 | 1.8E-04            | 0.0E+00 | 0.0E+00                     | 1.1E-03 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 4.7E-02 | 7.2E-02            | 0.0E+00 | 1.7E-01                     | 3.0E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.9E-02 | 3.7E-02            | 0.0E+00 | 6.8E-02                     | 1.7E-01 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.2E-07 | 3.7E-07            | 1.5E-07 | 6.7E-07                     | 2.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.5E-06 | 4.4E-06            | 0.0E+00 | 1.0E-05                     | 2.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.6E-02 | 2.0E-02            | 6.2E-03 | 4.8E-02                     | 9.4E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.2E-07 | 3.0E-07            | 1.6E-07 | 9.0E-07                     | 1.3E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.1E-06 | 1.4E-05            | 0.0E+00 | 2.8E-05                     | 7.0E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.4E-02 | 8.0E-02            | 0.0E+00 | 2.8E-01                     | 2.8E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.6E-05 | 5.4E-05            | 0.0E+00 | 1.7E-04                     | 2.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 5.8E-08 | 2.3E-07            | 0.0E+00 | 3.4E-07                     | 9.8E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.4E-06 | 3.9E-06            | 0.0E+00 | 6.7E-06                     | 2.0E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 5.9E-06 | 1.2E-05            | 0.0E+00 | 3.3E-05                     | 4.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-7. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 40<50 years**

| Chemical                 | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                          |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene           | 50-32-8  | 0.0E+00                            | 2.6E-01 | 2.7E-01            | 1.4E-01 | 7.0E-01                     | 1.1E+00 |
| Benzo[e]pyrene           | 192-97-2 | 0.0E+00                            | 4.2E-03 | 9.8E-03            | 0.0E+00 | 2.9E-02                     | 2.9E-02 |
| Benzo[g,h,i]perylene     | 191-24-2 | 0.0E+00                            | 3.0E-02 | 4.4E-02            | 1.1E-02 | 1.2E-01                     | 1.7E-01 |
| Bis(2-Ethylhexyl)adipate | 103-23-1 | 0.0E+00                            | 1.0E-04 | 5.8E-04            | 0.0E+00 | 0.0E+00                     | 3.4E-03 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.1E-05 | 1.8E-04            | 0.0E+00 | 0.0E+00                     | 1.1E-03 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 4.7E-02 | 7.2E-02            | 0.0E+00 | 1.7E-01                     | 3.0E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.9E-02 | 3.7E-02            | 0.0E+00 | 6.8E-02                     | 1.7E-01 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.2E-07 | 3.7E-07            | 1.5E-07 | 6.7E-07                     | 2.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.5E-06 | 4.4E-06            | 0.0E+00 | 1.0E-05                     | 2.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.6E-02 | 2.0E-02            | 6.2E-03 | 4.8E-02                     | 9.4E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.2E-07 | 3.0E-07            | 1.6E-07 | 9.0E-07                     | 1.3E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.1E-06 | 1.4E-05            | 0.0E+00 | 2.8E-05                     | 7.0E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.4E-02 | 8.0E-02            | 0.0E+00 | 2.8E-01                     | 2.8E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.6E-05 | 5.4E-05            | 0.0E+00 | 1.7E-04                     | 2.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 5.8E-08 | 2.3E-07            | 0.0E+00 | 3.4E-07                     | 9.8E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.4E-06 | 3.9E-06            | 0.0E+00 | 6.7E-06                     | 2.0E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 5.9E-06 | 1.2E-05            | 0.0E+00 | 3.3E-05                     | 4.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-8. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Athletes 50<70 years**

| Chemical                   | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene             | 50-32-8   | 0.0E+00                            | 2.8E-01 | 2.9E-01            | 1.5E-01 | 7.5E-01                     | 1.2E+00 |
| Benzo[e]pyrene             | 192-97-2  | 0.0E+00                            | 4.6E-03 | 1.1E-02            | 0.0E+00 | 3.1E-02                     | 3.1E-02 |
| Benzo[g,h,i]perylene       | 191-24-2  | 0.0E+00                            | 3.2E-02 | 4.7E-02            | 1.2E-02 | 1.3E-01                     | 1.9E-01 |
| Bis(2-Ethylhexyl)adipate   | 103-23-1  | 0.0E+00                            | 1.1E-04 | 6.3E-04            | 0.0E+00 | 0.0E+00                     | 3.7E-03 |
| n-Caproic acid vinyl ester | 3050-69-9 | 0.0E+00                            | 3.4E-05 | 2.0E-04            | 0.0E+00 | 0.0E+00                     | 1.2E-03 |
| Chrysene                   | 218-01-9  | 0.0E+00                            | 5.0E-02 | 7.8E-02            | 0.0E+00 | 1.9E-01                     | 3.2E-01 |
| Coronene                   | 191-07-1  | 0.0E+00                            | 2.1E-02 | 4.0E-02            | 0.0E+00 | 7.4E-02                     | 1.8E-01 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.4E-07 | 4.0E-07            | 1.6E-07 | 7.2E-07                     | 2.2E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.6E-06 | 4.7E-06            | 0.0E+00 | 1.1E-05                     | 2.2E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.8E-02 | 2.2E-02            | 6.7E-03 | 5.2E-02                     | 1.0E-01 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.3E-07 | 3.3E-07            | 1.8E-07 | 9.7E-07                     | 1.4E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.4E-06 | 1.5E-05            | 0.0E+00 | 3.0E-05                     | 7.6E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.6E-02 | 8.6E-02            | 0.0E+00 | 3.0E-01                     | 3.0E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.8E-05 | 5.9E-05            | 0.0E+00 | 1.9E-04                     | 2.2E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 6.2E-08 | 2.5E-07            | 0.0E+00 | 3.7E-07                     | 1.1E-06 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.6E-06 | 4.2E-06            | 0.0E+00 | 7.2E-06                     | 2.2E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.4E-06 | 1.3E-05            | 0.0E+00 | 3.6E-05                     | 4.9E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-9. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Coaches 16<30 years**

| Chemical                       | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8   | 0.0E+00                            | 1.6E-01 | 1.7E-01            | 8.8E-02 | 4.4E-01                     | 6.8E-01 |
| Benzo[e]pyrene                 | 192-97-2  | 0.0E+00                            | 2.7E-03 | 6.2E-03            | 0.0E+00 | 1.8E-02                     | 1.8E-02 |
| Benzo[g,h,i]perylene           | 191-24-2  | 0.0E+00                            | 1.9E-02 | 2.8E-02            | 7.2E-03 | 7.4E-02                     | 1.1E-01 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1  | 0.0E+00                            | 6.3E-05 | 3.7E-04            | 0.0E+00 | 0.0E+00                     | 2.2E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9 | 0.0E+00                            | 2.0E-05 | 1.2E-04            | 0.0E+00 | 0.0E+00                     | 6.8E-04 |
| Chrysene                       | 218-01-9  | 0.0E+00                            | 2.9E-02 | 4.6E-02            | 0.0E+00 | 1.1E-01                     | 1.9E-01 |
| Coronene                       | 191-07-1  | 0.0E+00                            | 1.2E-02 | 2.3E-02            | 0.0E+00 | 4.3E-02                     | 1.0E-01 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7  | 0.0E+00                            | 1.4E-07 | 2.3E-07            | 9.5E-08 | 4.2E-07                     | 1.3E-06 |
| Cyclohexylamine                | 108-91-8  | 0.0E+00                            | 9.3E-07 | 2.8E-06            | 0.0E+00 | 6.3E-06                     | 1.3E-05 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.0E-02 | 1.3E-02            | 3.9E-03 | 3.0E-02                     | 5.9E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.4E-07 | 1.9E-07            | 1.0E-07 | 5.7E-07                     | 8.2E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 2.6E-06 | 8.6E-06            | 0.0E+00 | 1.8E-05                     | 4.5E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.5E-02 | 5.0E-02            | 0.0E+00 | 1.8E-01                     | 1.8E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 1.6E-05 | 3.4E-05            | 0.0E+00 | 1.1E-04                     | 1.3E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 3.6E-08 | 1.5E-07            | 0.0E+00 | 2.2E-07                     | 6.2E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 9.1E-07 | 2.4E-06            | 0.0E+00 | 4.2E-06                     | 1.3E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 3.7E-06 | 7.8E-06            | 0.0E+00 | 2.1E-05                     | 2.9E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-10. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Coaches 30<40 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 1.4E-01 | 1.5E-01            | 7.7E-02 | 3.9E-01                     | 5.9E-01 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 2.4E-03 | 5.4E-03            | 0.0E+00 | 1.6E-02                     | 1.6E-02 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 1.6E-02 | 2.4E-02            | 6.3E-03 | 6.5E-02                     | 9.5E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 5.5E-05 | 3.2E-04            | 0.0E+00 | 0.0E+00                     | 1.9E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 1.7E-05 | 1.0E-04            | 0.0E+00 | 0.0E+00                     | 5.9E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 2.6E-02 | 4.0E-02            | 0.0E+00 | 9.6E-02                     | 1.7E-01 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 1.1E-02 | 2.0E-02            | 0.0E+00 | 3.8E-02                     | 9.2E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.2E-07 | 2.0E-07            | 8.3E-08 | 3.7E-07                     | 1.1E-06 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 8.2E-07 | 2.4E-06            | 0.0E+00 | 5.5E-06                     | 1.1E-05 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 9.1E-03 | 1.1E-02            | 3.4E-03 | 2.6E-02                     | 5.2E-02 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 1.2E-07 | 1.7E-07            | 9.0E-08 | 5.0E-07                     | 7.1E-07 |



| Chemical                                 | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Dimethyl phthalate                       | 131-11-3  | 0.0E+00                            | 2.3E-06 | 7.5E-06            | 0.0E+00 | 1.5E-05                     | 3.9E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5  | 0.0E+00                            | 1.4E-02 | 4.4E-02            | 0.0E+00 | 1.5E-01                     | 1.5E-01 |
| Methyl stearate                          | 112-61-8  | 0.0E+00                            | 1.4E-05 | 3.0E-05            | 0.0E+00 | 9.5E-05                     | 1.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 0.0E+00                            | 3.2E-08 | 1.3E-07            | 0.0E+00 | 1.9E-07                     | 5.4E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 0.0E+00                            | 7.9E-07 | 2.1E-06            | 0.0E+00 | 3.7E-06                     | 1.1E-05 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 3.3E-06 | 6.8E-06            | 0.0E+00 | 1.8E-05                     | 2.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-11. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Coaches 40<50 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 1.4E-01 | 1.5E-01            | 7.7E-02 | 3.9E-01                     | 6.0E-01 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 2.4E-03 | 5.5E-03            | 0.0E+00 | 1.6E-02                     | 1.6E-02 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 1.7E-02 | 2.5E-02            | 6.3E-03 | 6.6E-02                     | 9.6E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 5.6E-05 | 3.3E-04            | 0.0E+00 | 0.0E+00                     | 1.9E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 1.8E-05 | 1.0E-04            | 0.0E+00 | 0.0E+00                     | 6.0E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 2.6E-02 | 4.0E-02            | 0.0E+00 | 9.8E-02                     | 1.7E-01 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 1.1E-02 | 2.0E-02            | 0.0E+00 | 3.8E-02                     | 9.3E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.2E-07 | 2.1E-07            | 8.4E-08 | 3.7E-07                     | 1.1E-06 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 8.2E-07 | 2.4E-06            | 0.0E+00 | 5.6E-06                     | 1.1E-05 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 9.2E-03 | 1.1E-02            | 3.4E-03 | 2.7E-02                     | 5.2E-02 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 1.2E-07 | 1.7E-07            | 9.1E-08 | 5.0E-07                     | 7.2E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 2.3E-06 | 7.6E-06            | 0.0E+00 | 1.5E-05                     | 3.9E-05 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 1.4E-02 | 4.5E-02            | 0.0E+00 | 1.5E-01                     | 1.5E-01 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 1.4E-05 | 3.0E-05            | 0.0E+00 | 9.6E-05                     | 1.2E-04 |



| Chemical                                 | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 0.0E+00                            | 3.2E-08 | 1.3E-07            | 0.0E+00 | 1.9E-07                     | 5.5E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 0.0E+00                            | 8.0E-07 | 2.2E-06            | 0.0E+00 | 3.7E-06                     | 1.1E-05 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 3.3E-06 | 6.9E-06            | 0.0E+00 | 1.9E-05                     | 2.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-12. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Coaches 50<70 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 1.5E-01 | 1.5E-01            | 7.8E-02 | 3.9E-01                     | 6.0E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 2.4E-03 | 5.5E-03            | 0.0E+00 | 1.6E-02                     | 1.6E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 1.7E-02 | 2.5E-02            | 6.3E-03 | 6.6E-02                     | 9.7E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 5.6E-05 | 3.3E-04            | 0.0E+00 | 0.0E+00                     | 1.9E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 1.8E-05 | 1.0E-04            | 0.0E+00 | 0.0E+00                     | 6.0E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 2.6E-02 | 4.1E-02            | 0.0E+00 | 9.8E-02                     | 1.7E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.1E-02 | 2.1E-02            | 0.0E+00 | 3.8E-02                     | 9.3E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 1.2E-07 | 2.1E-07            | 8.4E-08 | 3.7E-07                     | 1.1E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 8.3E-07 | 2.4E-06            | 0.0E+00 | 5.6E-06                     | 1.1E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 9.2E-03 | 1.1E-02            | 3.5E-03 | 2.7E-02                     | 5.3E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.2E-07 | 1.7E-07            | 9.1E-08 | 5.0E-07                     | 7.2E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 2.3E-06 | 7.6E-06            | 0.0E+00 | 1.6E-05                     | 3.9E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.4E-02 | 4.5E-02            | 0.0E+00 | 1.6E-01                     | 1.6E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 1.4E-05 | 3.0E-05            | 0.0E+00 | 9.7E-05                     | 1.2E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 3.2E-08 | 1.3E-07            | 0.0E+00 | 1.9E-07                     | 5.5E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 8.0E-07 | 2.2E-06            | 0.0E+00 | 3.7E-06                     | 1.1E-05 |



| Chemical           | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                    |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 4-tert-Octylphenol | 140-66-9 | 0.0E+00                            | 3.3E-06 | 6.9E-06            | 0.0E+00 | 1.9E-05                     | 2.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-13. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Referees 16<30 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 1.5E-01 | 1.6E-01            | 8.1E-02 | 4.1E-01                     | 6.3E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 2.5E-03 | 5.7E-03            | 0.0E+00 | 1.7E-02                     | 1.7E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 1.7E-02 | 2.6E-02            | 6.6E-03 | 6.9E-02                     | 1.0E-01 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 5.9E-05 | 3.4E-04            | 0.0E+00 | 0.0E+00                     | 2.0E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 1.8E-05 | 1.1E-04            | 0.0E+00 | 0.0E+00                     | 6.3E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 2.7E-02 | 4.2E-02            | 0.0E+00 | 1.0E-01                     | 1.8E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.1E-02 | 2.2E-02            | 0.0E+00 | 4.0E-02                     | 9.7E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 1.3E-07 | 2.2E-07            | 8.8E-08 | 3.9E-07                     | 1.2E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 8.7E-07 | 2.6E-06            | 0.0E+00 | 5.9E-06                     | 1.2E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 9.7E-03 | 1.2E-02            | 3.6E-03 | 2.8E-02                     | 5.5E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.3E-07 | 1.8E-07            | 9.6E-08 | 5.3E-07                     | 7.6E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 2.4E-06 | 8.0E-06            | 0.0E+00 | 1.6E-05                     | 4.1E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.4E-02 | 4.7E-02            | 0.0E+00 | 1.6E-01                     | 1.6E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 1.5E-05 | 3.2E-05            | 0.0E+00 | 1.0E-04                     | 1.2E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 3.4E-08 | 1.4E-07            | 0.0E+00 | 2.0E-07                     | 5.8E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 8.4E-07 | 2.3E-06            | 0.0E+00 | 3.9E-06                     | 1.2E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 3.5E-06 | 7.2E-06            | 0.0E+00 | 2.0E-05                     | 2.7E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.



**Table G-14. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{inh-DART-field}$ , unitless)— Combined Gender Referees 30<40 years**

| Chemical                                 | CASRN      | OneDay $HQ_{inh-DART-field}$ |         |                    |         |                             |         |
|--|------------|------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                      | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                      | 1.3E-01 | 1.4E-01            | 7.1E-02 | 3.6E-01                     | 5.5E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                      | 2.2E-03 | 5.0E-03            | 0.0E+00 | 1.5E-02                     | 1.5E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                      | 1.5E-02 | 2.3E-02            | 5.8E-03 | 6.0E-02                     | 8.8E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                      | 5.1E-05 | 3.0E-04            | 0.0E+00 | 0.0E+00                     | 1.7E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                      | 1.6E-05 | 9.4E-05            | 0.0E+00 | 0.0E+00                     | 5.5E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                      | 2.4E-02 | 3.7E-02            | 0.0E+00 | 9.0E-02                     | 1.5E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                      | 9.9E-03 | 1.9E-02            | 0.0E+00 | 3.5E-02                     | 8.5E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                      | 1.1E-07 | 1.9E-07            | 7.7E-08 | 3.4E-07                     | 1.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                      | 7.6E-07 | 2.2E-06            | 0.0E+00 | 5.2E-06                     | 1.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                      | 8.5E-03 | 1.0E-02            | 3.2E-03 | 2.5E-02                     | 4.8E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                      | 1.1E-07 | 1.6E-07            | 8.4E-08 | 4.6E-07                     | 6.6E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                      | 2.1E-06 | 7.0E-06            | 0.0E+00 | 1.4E-05                     | 3.6E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                      | 1.3E-02 | 4.1E-02            | 0.0E+00 | 1.4E-01                     | 1.4E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                      | 1.3E-05 | 2.8E-05            | 0.0E+00 | 8.9E-05                     | 1.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                      | 3.0E-08 | 1.2E-07            | 0.0E+00 | 1.8E-07                     | 5.0E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                      | 7.4E-07 | 2.0E-06            | 0.0E+00 | 3.4E-06                     | 1.0E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                      | 3.0E-06 | 6.3E-06            | 0.0E+00 | 1.7E-05                     | 2.3E-05 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{inh-DART-field}$  are included in this table.

**Table G-15. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{inh-DART-field}$ , unitless)— Combined Gender Referees 40<50 years**

| Chemical       | CASRN   | OneDay $HQ_{inh-DART-field}$ |         |                    |         |                             |         |
|----------------|---------|------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                |         | Minimum                      | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene | 50-32-8 | 0.0E+00                      | 1.3E-01 | 1.4E-01            | 7.2E-02 | 3.6E-01                     | 5.6E-01 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 2.2E-03 | 5.1E-03            | 0.0E+00 | 1.5E-02                     | 1.5E-02 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 1.5E-02 | 2.3E-02            | 5.9E-03 | 6.1E-02                     | 8.9E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 5.2E-05 | 3.0E-04            | 0.0E+00 | 0.0E+00                     | 1.8E-03 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 1.6E-05 | 9.5E-05            | 0.0E+00 | 0.0E+00                     | 5.5E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 2.4E-02 | 3.8E-02            | 0.0E+00 | 9.1E-02                     | 1.6E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.0E-02 | 1.9E-02            | 0.0E+00 | 3.5E-02                     | 8.6E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 1.1E-07 | 1.9E-07            | 7.8E-08 | 3.5E-07                     | 1.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 7.7E-07 | 2.3E-06            | 0.0E+00 | 5.2E-06                     | 1.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 8.6E-03 | 1.0E-02            | 3.2E-03 | 2.5E-02                     | 4.9E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.1E-07 | 1.6E-07            | 8.5E-08 | 4.7E-07                     | 6.7E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 2.1E-06 | 7.1E-06            | 0.0E+00 | 1.4E-05                     | 3.6E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.3E-02 | 4.1E-02            | 0.0E+00 | 1.4E-01                     | 1.4E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 1.3E-05 | 2.8E-05            | 0.0E+00 | 9.0E-05                     | 1.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 3.0E-08 | 1.2E-07            | 0.0E+00 | 1.8E-07                     | 5.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 7.5E-07 | 2.0E-06            | 0.0E+00 | 3.5E-06                     | 1.1E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 3.1E-06 | 6.4E-06            | 0.0E+00 | 1.7E-05                     | 2.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-16. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Referees 50<70 years**

| Chemical                 | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                          |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene           | 50-32-8  | 0.0E+00                            | 1.3E-01 | 1.4E-01            | 7.2E-02 | 3.6E-01                     | 5.6E-01 |
| Benzo[e]pyrene           | 192-97-2 | 0.0E+00                            | 2.2E-03 | 5.1E-03            | 0.0E+00 | 1.5E-02                     | 1.5E-02 |
| Benzo[g,h,i]perylene     | 191-24-2 | 0.0E+00                            | 1.5E-02 | 2.3E-02            | 5.9E-03 | 6.1E-02                     | 9.0E-02 |
| Bis(2-Ethylhexyl)adipate | 103-23-1 | 0.0E+00                            | 5.2E-05 | 3.0E-04            | 0.0E+00 | 0.0E+00                     | 1.8E-03 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 1.6E-05 | 9.5E-05            | 0.0E+00 | 0.0E+00                     | 5.6E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 2.4E-02 | 3.8E-02            | 0.0E+00 | 9.1E-02                     | 1.6E-01 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 1.0E-02 | 1.9E-02            | 0.0E+00 | 3.6E-02                     | 8.6E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 1.1E-07 | 1.9E-07            | 7.8E-08 | 3.5E-07                     | 1.0E-06 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 7.7E-07 | 2.3E-06            | 0.0E+00 | 5.2E-06                     | 1.0E-05 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 8.6E-03 | 1.0E-02            | 3.2E-03 | 2.5E-02                     | 4.9E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.1E-07 | 1.6E-07            | 8.5E-08 | 4.7E-07                     | 6.7E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 2.1E-06 | 7.1E-06            | 0.0E+00 | 1.4E-05                     | 3.7E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.3E-02 | 4.1E-02            | 0.0E+00 | 1.4E-01                     | 1.4E-01 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 1.3E-05 | 2.8E-05            | 0.0E+00 | 9.0E-05                     | 1.1E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 3.0E-08 | 1.2E-07            | 0.0E+00 | 1.8E-07                     | 5.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 7.5E-07 | 2.0E-06            | 0.0E+00 | 3.5E-06                     | 1.1E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 3.1E-06 | 6.4E-06            | 0.0E+00 | 1.7E-05                     | 2.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-17. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators Third Trimester Fetus**

| Chemical                   | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene             | 50-32-8   | 0.0E+00                            | 1.4E-04 | 1.5E-04            | 7.5E-05 | 3.8E-04                     | 5.8E-04 |
| Benzo[e]pyrene             | 192-97-2  | 0.0E+00                            | 2.3E-06 | 5.3E-06            | 0.0E+00 | 1.6E-05                     | 1.6E-05 |
| Benzo[g,h,i]perylene       | 191-24-2  | 0.0E+00                            | 1.6E-05 | 2.4E-05            | 6.1E-06 | 6.4E-05                     | 9.3E-05 |
| Bis(2-Ethylhexyl)adipate   | 103-23-1  | 0.0E+00                            | 1.1E-05 | 6.3E-05            | 0.0E+00 | 0.0E+00                     | 3.7E-04 |
| n-Caproic acid vinyl ester | 3050-69-9 | 0.0E+00                            | 3.4E-06 | 2.0E-05            | 0.0E+00 | 0.0E+00                     | 1.2E-04 |
| Chrysene                   | 218-01-9  | 0.0E+00                            | 2.5E-05 | 3.9E-05            | 0.0E+00 | 9.5E-05                     | 1.6E-04 |
| Coronene                   | 191-07-1  | 0.0E+00                            | 1.1E-05 | 2.0E-05            | 0.0E+00 | 3.7E-05                     | 9.0E-05 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.4E-08 | 4.0E-08            | 1.6E-08 | 7.2E-08                     | 2.2E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.6E-07 | 4.7E-07            | 0.0E+00 | 1.1E-06                     | 2.2E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 9.0E-06 | 1.1E-05            | 3.3E-06 | 2.6E-05                     | 5.1E-05 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.3E-08 | 3.3E-08            | 1.8E-08 | 9.7E-08                     | 1.4E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.5E-07 | 1.5E-06            | 0.0E+00 | 3.0E-06                     | 7.6E-06 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.3E-05 | 4.3E-05            | 0.0E+00 | 1.5E-04                     | 1.5E-04 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.8E-06 | 5.9E-06            | 0.0E+00 | 1.9E-05                     | 2.2E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 6.3E-09 | 2.5E-08            | 0.0E+00 | 3.7E-08                     | 1.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.6E-07 | 4.2E-07            | 0.0E+00 | 7.3E-07                     | 2.2E-06 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.4E-07 | 1.3E-06            | 0.0E+00 | 3.6E-06                     | 4.9E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-18. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 0<2 years**

| Chemical                       | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8   | 0.0E+00                            | 1.1E-03 | 1.2E-03            | 6.1E-04 | 3.0E-03                     | 4.7E-03 |
| Benzo[e]pyrene                 | 192-97-2  | 0.0E+00                            | 1.9E-05 | 4.3E-05            | 0.0E+00 | 1.3E-04                     | 1.3E-04 |
| Benzo[g,h,i]perylene           | 191-24-2  | 0.0E+00                            | 1.3E-04 | 1.9E-04            | 4.9E-05 | 5.1E-04                     | 7.5E-04 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1  | 0.0E+00                            | 8.8E-05 | 5.1E-04            | 0.0E+00 | 0.0E+00                     | 3.0E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9 | 0.0E+00                            | 2.7E-05 | 1.6E-04            | 0.0E+00 | 0.0E+00                     | 9.3E-04 |
| Chrysene                       | 218-01-9  | 0.0E+00                            | 2.0E-04 | 3.2E-04            | 0.0E+00 | 7.6E-04                     | 1.3E-03 |
| Coronene                       | 191-07-1  | 0.0E+00                            | 8.5E-05 | 1.6E-04            | 0.0E+00 | 3.0E-04                     | 7.2E-04 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7  | 0.0E+00                            | 1.9E-07 | 3.2E-07            | 1.3E-07 | 5.8E-07                     | 1.7E-06 |
| Cyclohexylamine                | 108-91-8  | 0.0E+00                            | 1.3E-06 | 3.8E-06            | 0.0E+00 | 8.8E-06                     | 1.8E-05 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 7.2E-05 | 8.8E-05            | 2.7E-05 | 2.1E-04                     | 4.1E-04 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 1.9E-07 | 2.7E-07            | 1.4E-07 | 7.8E-07                     | 1.1E-06 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 3.6E-06 | 1.2E-05            | 0.0E+00 | 2.4E-05                     | 6.1E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 1.1E-04 | 3.5E-04            | 0.0E+00 | 1.2E-03                     | 1.2E-03 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.2E-05 | 4.7E-05            | 0.0E+00 | 1.5E-04                     | 1.8E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 5.0E-08 | 2.0E-07            | 0.0E+00 | 3.0E-07                     | 8.6E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.3E-06 | 3.4E-06            | 0.0E+00 | 5.8E-06                     | 1.8E-05 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 5.2E-06 | 1.1E-05            | 0.0E+00 | 2.9E-05                     | 4.0E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-19. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 2<6 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 5.9E-04 | 6.3E-04            | 3.2E-04 | 1.6E-03                     | 2.5E-03 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 9.8E-06 | 2.2E-05            | 0.0E+00 | 6.6E-05                     | 6.6E-05 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 6.8E-05 | 1.0E-04            | 2.6E-05 | 2.7E-04                     | 4.0E-04 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 4.6E-05 | 2.7E-04            | 0.0E+00 | 0.0E+00                     | 1.6E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 1.4E-05 | 8.4E-05            | 0.0E+00 | 0.0E+00                     | 4.9E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 1.1E-04 | 1.7E-04            | 0.0E+00 | 4.0E-04                     | 6.9E-04 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 4.4E-05 | 8.4E-05            | 0.0E+00 | 1.6E-04                     | 3.8E-04 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.0E-07 | 1.7E-07            | 6.9E-08 | 3.1E-07                     | 9.2E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 6.8E-07 | 2.0E-06            | 0.0E+00 | 4.6E-06                     | 9.2E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 3.8E-05 | 4.6E-05            | 1.4E-05 | 1.1E-04                     | 2.1E-04 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 9.9E-08 | 1.4E-07            | 7.5E-08 | 4.1E-07                     | 5.9E-07 |



| Chemical                                 | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Dimethyl phthalate                       | 131-11-3  | 0.0E+00                            | 1.9E-06 | 6.2E-06            | 0.0E+00 | 1.3E-05                     | 3.2E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5  | 0.0E+00                            | 5.6E-05 | 1.8E-04            | 0.0E+00 | 6.4E-04                     | 6.4E-04 |
| Methyl stearate                          | 112-61-8  | 0.0E+00                            | 1.2E-05 | 2.5E-05            | 0.0E+00 | 7.9E-05                     | 9.4E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 0.0E+00                            | 2.6E-08 | 1.1E-07            | 0.0E+00 | 1.6E-07                     | 4.5E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 0.0E+00                            | 6.6E-07 | 1.8E-06            | 0.0E+00 | 3.1E-06                     | 9.4E-06 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 2.7E-06 | 5.7E-06            | 0.0E+00 | 1.5E-05                     | 2.1E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-20. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 6<11 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 5.7E-04 | 6.0E-04            | 3.0E-04 | 1.5E-03                     | 2.3E-03 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 9.3E-06 | 2.1E-05            | 0.0E+00 | 6.3E-05                     | 6.3E-05 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 6.5E-05 | 9.6E-05            | 2.5E-05 | 2.6E-04                     | 3.8E-04 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 4.4E-05 | 2.6E-04            | 0.0E+00 | 0.0E+00                     | 1.5E-03 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 1.4E-05 | 8.0E-05            | 0.0E+00 | 0.0E+00                     | 4.7E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 1.0E-04 | 1.6E-04            | 0.0E+00 | 3.8E-04                     | 6.6E-04 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 4.2E-05 | 8.0E-05            | 0.0E+00 | 1.5E-04                     | 3.6E-04 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 9.6E-08 | 1.6E-07            | 6.6E-08 | 2.9E-07                     | 8.7E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 6.5E-07 | 1.9E-06            | 0.0E+00 | 4.4E-06                     | 8.8E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 3.6E-05 | 4.4E-05            | 1.3E-05 | 1.0E-04                     | 2.1E-04 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 9.5E-08 | 1.3E-07            | 7.1E-08 | 3.9E-07                     | 5.7E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 1.8E-06 | 6.0E-06            | 0.0E+00 | 1.2E-05                     | 3.1E-05 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 5.3E-05 | 1.7E-04            | 0.0E+00 | 6.1E-04                     | 6.1E-04 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 1.1E-05 | 2.4E-05            | 0.0E+00 | 7.6E-05                     | 9.0E-05 |



| Chemical                                 | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 0.0E+00                            | 2.5E-08 | 1.0E-07            | 0.0E+00 | 1.5E-07                     | 4.3E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 0.0E+00                            | 6.3E-07 | 1.7E-06            | 0.0E+00 | 2.9E-06                     | 8.9E-06 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 2.6E-06 | 5.4E-06            | 0.0E+00 | 1.5E-05                     | 2.0E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-21. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 11<16 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 4.9E-02 | 5.2E-02            | 2.6E-02 | 1.3E-01                     | 2.0E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 8.0E-04 | 1.8E-03            | 0.0E+00 | 5.5E-03                     | 5.5E-03 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 5.6E-03 | 8.3E-03            | 2.1E-03 | 2.2E-02                     | 3.3E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.9E-05 | 1.1E-04            | 0.0E+00 | 0.0E+00                     | 6.4E-04 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 5.9E-06 | 3.5E-05            | 0.0E+00 | 0.0E+00                     | 2.0E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 8.8E-03 | 1.4E-02            | 0.0E+00 | 3.3E-02                     | 5.7E-02 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 3.7E-03 | 6.9E-03            | 0.0E+00 | 1.3E-02                     | 3.1E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 4.2E-08 | 7.0E-08            | 2.8E-08 | 1.3E-07                     | 3.8E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 2.8E-07 | 8.3E-07            | 0.0E+00 | 1.9E-06                     | 3.8E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 3.1E-03 | 3.8E-03            | 1.2E-03 | 9.0E-03                     | 1.8E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 4.1E-08 | 5.7E-08            | 3.1E-08 | 1.7E-07                     | 2.4E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 7.8E-07 | 2.6E-06            | 0.0E+00 | 5.2E-06                     | 1.3E-05 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 4.6E-03 | 1.5E-02            | 0.0E+00 | 5.2E-02                     | 5.2E-02 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 4.9E-06 | 1.0E-05            | 0.0E+00 | 3.3E-05                     | 3.9E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 1.1E-08 | 4.4E-08            | 0.0E+00 | 6.5E-08                     | 1.9E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 2.7E-07 | 7.3E-07            | 0.0E+00 | 1.3E-06                     | 3.9E-06 |



| Chemical           | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                    |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 4-tert-Octylphenol | 140-66-9 | 0.0E+00                            | 1.1E-06 | 2.3E-06            | 0.0E+00 | 6.3E-06                     | 8.6E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-22. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 16<30 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 3.2E-02 | 3.4E-02            | 1.7E-02 | 8.7E-02                     | 1.3E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 5.3E-04 | 1.2E-03            | 0.0E+00 | 3.6E-03                     | 3.6E-03 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 3.7E-03 | 5.5E-03            | 1.4E-03 | 1.5E-02                     | 2.1E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.3E-05 | 7.3E-05            | 0.0E+00 | 0.0E+00                     | 4.3E-04 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.9E-06 | 2.3E-05            | 0.0E+00 | 0.0E+00                     | 1.3E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 5.8E-03 | 9.0E-03            | 0.0E+00 | 2.2E-02                     | 3.7E-02 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.4E-03 | 4.6E-03            | 0.0E+00 | 8.5E-03                     | 2.1E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.7E-08 | 4.6E-08            | 1.9E-08 | 8.3E-08                     | 2.5E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.8E-07 | 5.5E-07            | 0.0E+00 | 1.3E-06                     | 2.5E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 2.1E-03 | 2.5E-03            | 7.7E-04 | 6.0E-03                     | 1.2E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.7E-08 | 3.8E-08            | 2.0E-08 | 1.1E-07                     | 1.6E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 5.1E-07 | 1.7E-06            | 0.0E+00 | 3.4E-06                     | 8.8E-06 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 3.0E-03 | 9.9E-03            | 0.0E+00 | 3.5E-02                     | 3.5E-02 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 3.2E-06 | 6.7E-06            | 0.0E+00 | 2.2E-05                     | 2.6E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 7.2E-09 | 2.9E-08            | 0.0E+00 | 4.3E-08                     | 1.2E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.8E-07 | 4.8E-07            | 0.0E+00 | 8.3E-07                     | 2.5E-06 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 7.4E-07 | 1.5E-06            | 0.0E+00 | 4.2E-06                     | 5.7E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.



**Table G-23. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 30<40 years**

| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                           | 50-32-8    | 0.0E+00                            | 2.8E-02 | 3.0E-02            | 1.5E-02 | 7.6E-02                     | 1.2E-01 |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 4.6E-04 | 1.1E-03            | 0.0E+00 | 3.1E-03                     | 3.1E-03 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 3.2E-03 | 4.8E-03            | 1.2E-03 | 1.3E-02                     | 1.9E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.1E-05 | 6.4E-05            | 0.0E+00 | 0.0E+00                     | 3.7E-04 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.4E-06 | 2.0E-05            | 0.0E+00 | 0.0E+00                     | 1.2E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 5.1E-03 | 7.9E-03            | 0.0E+00 | 1.9E-02                     | 3.3E-02 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.1E-03 | 4.0E-03            | 0.0E+00 | 7.4E-03                     | 1.8E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.4E-08 | 4.0E-08            | 1.6E-08 | 7.3E-08                     | 2.2E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.6E-07 | 4.8E-07            | 0.0E+00 | 1.1E-06                     | 2.2E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.8E-03 | 2.2E-03            | 6.7E-04 | 5.2E-03                     | 1.0E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.4E-08 | 3.3E-08            | 1.8E-08 | 9.8E-08                     | 1.4E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.5E-07 | 1.5E-06            | 0.0E+00 | 3.0E-06                     | 7.7E-06 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.7E-03 | 8.7E-03            | 0.0E+00 | 3.0E-02                     | 3.0E-02 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.8E-06 | 5.9E-06            | 0.0E+00 | 1.9E-05                     | 2.2E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 6.3E-09 | 2.5E-08            | 0.0E+00 | 3.7E-08                     | 1.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.6E-07 | 4.2E-07            | 0.0E+00 | 7.3E-07                     | 2.2E-06 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.4E-07 | 1.3E-06            | 0.0E+00 | 3.6E-06                     | 5.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-24. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 40<50 years**

| Chemical       | CASRN   | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene | 50-32-8 | 0.0E+00                            | 2.9E-02 | 3.0E-02            | 1.5E-02 | 7.7E-02                     | 1.2E-01 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[e]pyrene                           | 192-97-2   | 0.0E+00                            | 4.7E-04 | 1.1E-03            | 0.0E+00 | 3.2E-03                     | 3.2E-03 |
| Benzo[g,h,i]perylene                     | 191-24-2   | 0.0E+00                            | 3.3E-03 | 4.8E-03            | 1.2E-03 | 1.3E-02                     | 1.9E-02 |
| Bis(2-Ethylhexyl)adipate                 | 103-23-1   | 0.0E+00                            | 1.1E-05 | 6.4E-05            | 0.0E+00 | 0.0E+00                     | 3.8E-04 |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.5E-06 | 2.0E-05            | 0.0E+00 | 0.0E+00                     | 1.2E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 5.1E-03 | 8.0E-03            | 0.0E+00 | 1.9E-02                     | 3.3E-02 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.1E-03 | 4.0E-03            | 0.0E+00 | 7.5E-03                     | 1.8E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.4E-08 | 4.1E-08            | 1.7E-08 | 7.3E-08                     | 2.2E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.6E-07 | 4.8E-07            | 0.0E+00 | 1.1E-06                     | 2.2E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.8E-03 | 2.2E-03            | 6.8E-04 | 5.3E-03                     | 1.0E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.4E-08 | 3.3E-08            | 1.8E-08 | 9.9E-08                     | 1.4E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.5E-07 | 1.5E-06            | 0.0E+00 | 3.0E-06                     | 7.7E-06 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.7E-03 | 8.8E-03            | 0.0E+00 | 3.1E-02                     | 3.1E-02 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.0E-06            | 0.0E+00 | 1.9E-05                     | 2.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 6.3E-09 | 2.6E-08            | 0.0E+00 | 3.8E-08                     | 1.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.6E-07 | 4.3E-07            | 0.0E+00 | 7.4E-07                     | 2.2E-06 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.5E-07 | 1.4E-06            | 0.0E+00 | 3.7E-06                     | 5.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-25. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 50<70 years**

| Chemical                 | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                          |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene           | 50-32-8  | 0.0E+00                            | 2.9E-02 | 3.0E-02            | 1.5E-02 | 7.7E-02                     | 1.2E-01 |
| Benzo[e]pyrene           | 192-97-2 | 0.0E+00                            | 4.7E-04 | 1.1E-03            | 0.0E+00 | 3.2E-03                     | 3.2E-03 |
| Benzo[g,h,i]perylene     | 191-24-2 | 0.0E+00                            | 3.3E-03 | 4.8E-03            | 1.2E-03 | 1.3E-02                     | 1.9E-02 |
| Bis(2-Ethylhexyl)adipate | 103-23-1 | 0.0E+00                            | 1.1E-05 | 6.5E-05            | 0.0E+00 | 0.0E+00                     | 3.8E-04 |



| Chemical                                 | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| n-Caproic acid vinyl ester               | 3050-69-9  | 0.0E+00                            | 3.5E-06 | 2.0E-05            | 0.0E+00 | 0.0E+00                     | 1.2E-04 |
| Chrysene                                 | 218-01-9   | 0.0E+00                            | 5.1E-03 | 8.0E-03            | 0.0E+00 | 1.9E-02                     | 3.3E-02 |
| Coronene                                 | 191-07-1   | 0.0E+00                            | 2.1E-03 | 4.0E-03            | 0.0E+00 | 7.5E-03                     | 1.8E-02 |
| Cyclohexanamine, N-cyclohexyl-           | 101-83-7   | 0.0E+00                            | 2.4E-08 | 4.1E-08            | 1.7E-08 | 7.4E-08                     | 2.2E-07 |
| Cyclohexylamine                          | 108-91-8   | 0.0E+00                            | 1.6E-07 | 4.8E-07            | 0.0E+00 | 1.1E-06                     | 2.2E-06 |
| Cyclopenta[cd]pyrene                     | 27208-37-3 | 0.0E+00                            | 1.8E-03 | 2.2E-03            | 6.8E-04 | 5.3E-03                     | 1.0E-02 |
| N,N-Dicyclohexylmethylamine              | 7560-83-0  | 0.0E+00                            | 2.4E-08 | 3.4E-08            | 1.8E-08 | 9.9E-08                     | 1.4E-07 |
| Dimethyl phthalate                       | 131-11-3   | 0.0E+00                            | 4.5E-07 | 1.5E-06            | 0.0E+00 | 3.1E-06                     | 7.8E-06 |
| Indeno[1,2,3-cd]pyrene                   | 193-39-5   | 0.0E+00                            | 2.7E-03 | 8.8E-03            | 0.0E+00 | 3.1E-02                     | 3.1E-02 |
| Methyl stearate                          | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.0E-06            | 0.0E+00 | 1.9E-05                     | 2.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4  | 0.0E+00                            | 6.4E-09 | 2.6E-08            | 0.0E+00 | 3.8E-08                     | 1.1E-07 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2  | 0.0E+00                            | 1.6E-07 | 4.3E-07            | 0.0E+00 | 7.4E-07                     | 2.3E-06 |
| 4-tert-Octylphenol                       | 140-66-9   | 0.0E+00                            | 6.5E-07 | 1.4E-06            | 0.0E+00 | 3.7E-06                     | 5.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-26. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for 2-Butanone CASRN 78-93-3 (Non-Field-Related DART) (One-Day HQ<sub>inh-DART-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group | One-Day HQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|---------------------------------|--------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                              | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 0.0E+00                              | 8.4E-05 | 6.0E-05            | 6.7E-05 | 1.8E-04                     | 2.1E-04 |
| Athletes 6<11 years             | 0.0E+00                              | 6.4E-05 | 4.6E-05            | 5.0E-05 | 1.3E-04                     | 1.6E-04 |
| Athletes 11<16 years            | 0.0E+00                              | 5.3E-05 | 3.8E-05            | 4.2E-05 | 1.1E-04                     | 1.3E-04 |
| Athletes 16<30 years            | 0.0E+00                              | 7.8E-05 | 5.6E-05            | 6.2E-05 | 1.6E-04                     | 1.9E-04 |
| Athletes 30<40 years            | 0.0E+00                              | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04                     | 1.3E-04 |
| Athletes 40<50 years            | 0.0E+00                              | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04                     | 1.3E-04 |
| Athletes 50<70 years            | 0.0E+00                              | 5.6E-05 | 4.1E-05            | 4.5E-05 | 1.2E-04                     | 1.4E-04 |



| Receptor Category and Age Group  | One-Day HQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------------|--------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                  | Minimum                              | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Coaches 16<30 years              | 0.0E+00                              | 3.3E-05 | 2.4E-05            | 2.6E-05 | 7.0E-05                     | 8.1E-05 |
| Coaches 30<40 years              | 0.0E+00                              | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.1E-05                     | 7.1E-05 |
| Coaches 40<50 years              | 0.0E+00                              | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05                     | 7.2E-05 |
| Coaches 50<70 years              | 0.0E+00                              | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05                     | 7.2E-05 |
| Referees 16<30 years             | 0.0E+00                              | 3.1E-05 | 2.2E-05            | 2.4E-05 | 6.5E-05                     | 7.5E-05 |
| Referees 30<40 years             | 0.0E+00                              | 2.7E-05 | 1.9E-05            | 2.1E-05 | 5.7E-05                     | 6.6E-05 |
| Referees 40<50 years             | 0.0E+00                              | 2.7E-05 | 1.9E-05            | 2.2E-05 | 5.7E-05                     | 6.7E-05 |
| Referees 50<70 years             | 0.0E+00                              | 2.7E-05 | 2.0E-05            | 2.2E-05 | 5.8E-05                     | 6.7E-05 |
| Spectators Third trimester fetus | 0.0E+00                              | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05                     | 1.4E-05 |
| Spectators 0<2 years             | 0.0E+00                              | 4.6E-05 | 3.3E-05            | 3.6E-05 | 9.6E-05                     | 1.1E-04 |
| Spectators 2<6 years             | 0.0E+00                              | 2.4E-05 | 1.7E-05            | 1.9E-05 | 5.1E-05                     | 5.9E-05 |
| Spectators 6<11 years            | 0.0E+00                              | 2.3E-05 | 1.6E-05            | 1.8E-05 | 4.8E-05                     | 5.6E-05 |
| Spectators 11<16 years           | 0.0E+00                              | 9.9E-06 | 7.1E-06            | 7.8E-06 | 2.1E-05                     | 2.4E-05 |
| Spectators 16<30 years           | 0.0E+00                              | 6.5E-06 | 4.7E-06            | 5.2E-06 | 1.4E-05                     | 1.6E-05 |
| Spectators 30<40 years           | 0.0E+00                              | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05                     | 1.4E-05 |
| Spectators 40<50 years           | 0.0E+00                              | 5.7E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05                     | 1.4E-05 |
| Spectators 50<70 years           | 0.0E+00                              | 5.8E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05                     | 1.4E-05 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-27. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators Third Trimester Fetus**

| Chemical             | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                      |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene       | 50-32-8  | 0.0E+00                            | 1.7E-04 | 2.7E-04            | 7.2E-05 | 6.2E-04                     | 1.2E-03 |
| Benzo[e]pyrene       | 192-97-2 | 0.0E+00                            | 3.3E-06 | 7.6E-06            | 0.0E+00 | 1.6E-05                     | 3.2E-05 |
| Benzo[g,h,i]perylene | 191-24-2 | 0.0E+00                            | 1.6E-05 | 2.7E-05            | 0.0E+00 | 6.0E-05                     | 1.2E-04 |



| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 8.6E-06 | 3.4E-05            | 0.0E+00 | 5.7E-05                     | 1.4E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 6.7E-06 | 2.7E-05            | 0.0E+00 | 3.5E-05                     | 1.5E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 1.3E-05 | 2.7E-05            | 0.0E+00 | 5.2E-05                     | 1.1E-04 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 8.3E-06 | 1.9E-05            | 0.0E+00 | 3.1E-05                     | 8.7E-05 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.4E-08 | 2.5E-08            | 0.0E+00 | 7.5E-08                     | 8.8E-08 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 6.6E-08 | 3.8E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 7.8E-06 | 1.0E-05            | 3.3E-06 | 2.8E-05                     | 3.2E-05 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 2.5E-08 | 3.8E-08            | 0.0E+00 | 9.5E-08                     | 1.3E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 4.1E-07 | 1.4E-06            | 0.0E+00 | 3.0E-06                     | 7.4E-06 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 9.1E-06 | 3.6E-05            | 0.0E+00 | 6.0E-05                     | 1.5E-04 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.0E-06            | 0.0E+00 | 1.8E-05                     | 2.2E-05 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 2.3E-07 | 5.0E-07            | 0.0E+00 | 9.4E-07                     | 2.5E-06 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 1.9E-07 | 4.5E-07            | 0.0E+00 | 1.1E-06                     | 2.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-28. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 0<2 years**

| Chemical                   | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene             | 50-32-8   | 0.0E+00                            | 1.4E-03 | 2.1E-03            | 5.8E-04 | 5.0E-03                     | 9.8E-03 |
| Benzo[e]pyrene             | 192-97-2  | 0.0E+00                            | 2.7E-05 | 6.1E-05            | 0.0E+00 | 1.3E-04                     | 2.5E-04 |
| Benzo[g,h,i]perylene       | 191-24-2  | 0.0E+00                            | 1.3E-04 | 2.1E-04            | 0.0E+00 | 4.8E-04                     | 9.8E-04 |
| Bis(2-Ethylhexyl)adipate   | 103-23-1  | 0.0E+00                            | 6.9E-05 | 2.8E-04            | 0.0E+00 | 4.6E-04                     | 1.1E-03 |
| n-Caproic acid vinyl ester | 3050-69-9 | 0.0E+00                            | 5.4E-05 | 2.2E-04            | 0.0E+00 | 2.8E-04                     | 1.2E-03 |
| Chrysene                   | 218-01-9  | 0.0E+00                            | 1.0E-04 | 2.2E-04            | 0.0E+00 | 4.2E-04                     | 9.2E-04 |
| Coronene                   | 191-07-1  | 0.0E+00                            | 6.7E-05 | 1.5E-04            | 0.0E+00 | 2.5E-04                     | 7.0E-04 |



| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.1E-07 | 2.0E-07            | 0.0E+00 | 6.0E-07                     | 7.1E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 5.3E-07 | 3.0E-06            | 0.0E+00 | 0.0E+00                     | 1.8E-05 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 6.3E-05 | 8.1E-05            | 2.7E-05 | 2.2E-04                     | 2.6E-04 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 2.0E-07 | 3.0E-07            | 0.0E+00 | 7.6E-07                     | 1.0E-06 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 3.3E-06 | 1.2E-05            | 0.0E+00 | 2.4E-05                     | 5.9E-05 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 7.3E-05 | 2.9E-04            | 0.0E+00 | 4.8E-04                     | 1.2E-03 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 2.2E-05 | 4.8E-05            | 0.0E+00 | 1.4E-04                     | 1.8E-04 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 1.8E-06 | 4.0E-06            | 0.0E+00 | 7.5E-06                     | 2.0E-05 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 1.5E-06 | 3.6E-06            | 0.0E+00 | 8.7E-06                     | 1.6E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-29. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 2<6 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 7.3E-04 | 1.1E-03            | 3.0E-04 | 2.6E-03                     | 5.2E-03 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 1.4E-05 | 3.2E-05            | 0.0E+00 | 6.6E-05                     | 1.3E-04 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 6.9E-05 | 1.1E-04            | 0.0E+00 | 2.5E-04                     | 5.2E-04 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 3.6E-05 | 1.5E-04            | 0.0E+00 | 2.4E-04                     | 6.0E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 2.8E-05 | 1.1E-04            | 0.0E+00 | 1.5E-04                     | 6.3E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 5.5E-05 | 1.2E-04            | 0.0E+00 | 2.2E-04                     | 4.8E-04 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 3.5E-05 | 7.9E-05            | 0.0E+00 | 1.3E-04                     | 3.7E-04 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 6.0E-08 | 1.1E-07            | 0.0E+00 | 3.2E-07                     | 3.7E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 2.8E-07 | 1.6E-06            | 0.0E+00 | 0.0E+00                     | 9.2E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 3.3E-05 | 4.3E-05            | 1.4E-05 | 1.2E-04                     | 1.4E-04 |



| Chemical                    | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|-----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                             |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| N,N-Dicyclohexylmethylamine | 7560-83-0 | 0.0E+00                            | 1.0E-07 | 1.6E-07            | 0.0E+00 | 4.0E-07                     | 5.4E-07 |
| Dimethyl phthalate          | 131-11-3  | 0.0E+00                            | 1.7E-06 | 6.1E-06            | 0.0E+00 | 1.3E-05                     | 3.1E-05 |
| Indeno[1,2,3-cd]pyrene      | 193-39-5  | 0.0E+00                            | 3.9E-05 | 1.5E-04            | 0.0E+00 | 2.5E-04                     | 6.4E-04 |
| Methyl stearate             | 112-61-8  | 0.0E+00                            | 1.2E-05 | 2.5E-05            | 0.0E+00 | 7.5E-05                     | 9.3E-05 |
| Phenol, 4-(1-phenylethyl)-  | 1988-89-2 | 0.0E+00                            | 9.6E-07 | 2.1E-06            | 0.0E+00 | 4.0E-06                     | 1.0E-05 |
| 4-tert-Octylphenol          | 140-66-9  | 0.0E+00                            | 7.9E-07 | 1.9E-06            | 0.0E+00 | 4.6E-06                     | 8.6E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-30. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 6<11 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 7.0E-04 | 1.1E-03            | 2.9E-04 | 2.5E-03                     | 4.9E-03 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 1.3E-05 | 3.1E-05            | 0.0E+00 | 6.3E-05                     | 1.3E-04 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 6.6E-05 | 1.1E-04            | 0.0E+00 | 2.4E-04                     | 4.9E-04 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 3.5E-05 | 1.4E-04            | 0.0E+00 | 2.3E-04                     | 5.7E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 2.7E-05 | 1.1E-04            | 0.0E+00 | 1.4E-04                     | 6.0E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 5.2E-05 | 1.1E-04            | 0.0E+00 | 2.1E-04                     | 4.6E-04 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 3.4E-05 | 7.5E-05            | 0.0E+00 | 1.3E-04                     | 3.5E-04 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 5.7E-08 | 1.0E-07            | 0.0E+00 | 3.0E-07                     | 3.5E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 2.7E-07 | 1.5E-06            | 0.0E+00 | 0.0E+00                     | 8.8E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 3.2E-05 | 4.1E-05            | 1.4E-05 | 1.1E-04                     | 1.3E-04 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 9.9E-08 | 1.5E-07            | 0.0E+00 | 3.8E-07                     | 5.1E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 1.6E-06 | 5.8E-06            | 0.0E+00 | 1.2E-05                     | 3.0E-05 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 3.7E-05 | 1.5E-04            | 0.0E+00 | 2.4E-04                     | 6.1E-04 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 1.1E-05 | 2.4E-05            | 0.0E+00 | 7.2E-05                     | 8.9E-05 |



| Chemical                   | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 4-(1-phenylethyl)- | 1988-89-2 | 0.0E+00                            | 9.2E-07 | 2.0E-06            | 0.0E+00 | 3.8E-06                     | 9.9E-06 |
| 4-tert-Octylphenol         | 140-66-9  | 0.0E+00                            | 7.5E-07 | 1.8E-06            | 0.0E+00 | 4.4E-06                     | 8.2E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-31. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 11<16 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 6.0E-02 | 9.3E-02            | 2.5E-02 | 2.1E-01                     | 4.3E-01 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 1.2E-03 | 2.7E-03            | 0.0E+00 | 5.5E-03                     | 1.1E-02 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 5.7E-03 | 9.3E-03            | 0.0E+00 | 2.1E-02                     | 4.3E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 1.5E-05 | 6.0E-05            | 0.0E+00 | 9.9E-05                     | 2.5E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 1.2E-05 | 4.7E-05            | 0.0E+00 | 6.1E-05                     | 2.6E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 4.5E-03 | 9.5E-03            | 0.0E+00 | 1.8E-02                     | 4.0E-02 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 2.9E-03 | 6.5E-03            | 0.0E+00 | 1.1E-02                     | 3.0E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 2.5E-08 | 4.4E-08            | 0.0E+00 | 1.3E-07                     | 1.5E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 1.1E-07 | 6.6E-07            | 0.0E+00 | 0.0E+00                     | 3.8E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 2.7E-03 | 3.5E-03            | 1.2E-03 | 9.7E-03                     | 1.1E-02 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 4.3E-08 | 6.6E-08            | 0.0E+00 | 1.7E-07                     | 2.2E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 7.0E-07 | 2.5E-06            | 0.0E+00 | 5.2E-06                     | 1.3E-05 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 3.2E-03 | 1.3E-02            | 0.0E+00 | 2.1E-02                     | 5.2E-02 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 4.8E-06 | 1.0E-05            | 0.0E+00 | 3.1E-05                     | 3.8E-05 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 4.0E-07 | 8.7E-07            | 0.0E+00 | 1.6E-06                     | 4.3E-06 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 3.2E-07 | 7.8E-07            | 0.0E+00 | 1.9E-06                     | 3.5E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.



**Table G-32. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 16<30 years**

| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8    | 0.0E+00                            | 4.0E-02 | 6.1E-02            | 1.6E-02 | 1.4E-01                     | 2.8E-01 |
| Benzo[e]pyrene                 | 192-97-2   | 0.0E+00                            | 7.7E-04 | 1.8E-03            | 0.0E+00 | 3.6E-03                     | 7.3E-03 |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 3.8E-03 | 6.1E-03            | 0.0E+00 | 1.4E-02                     | 2.8E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 9.9E-06 | 3.9E-05            | 0.0E+00 | 6.5E-05                     | 1.6E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 7.6E-06 | 3.1E-05            | 0.0E+00 | 4.0E-05                     | 1.7E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 3.0E-03 | 6.3E-03            | 0.0E+00 | 1.2E-02                     | 2.6E-02 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 1.9E-03 | 4.3E-03            | 0.0E+00 | 7.2E-03                     | 2.0E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.6E-08 | 2.9E-08            | 0.0E+00 | 8.6E-08                     | 1.0E-07 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 7.6E-08 | 4.4E-07            | 0.0E+00 | 0.0E+00                     | 2.5E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 1.8E-03 | 2.3E-03            | 7.7E-04 | 6.4E-03                     | 7.4E-03 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 2.8E-08 | 4.3E-08            | 0.0E+00 | 1.1E-07                     | 1.5E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 4.7E-07 | 1.7E-06            | 0.0E+00 | 3.5E-06                     | 8.5E-06 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 2.1E-03 | 8.4E-03            | 0.0E+00 | 1.4E-02                     | 3.5E-02 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 3.2E-06 | 6.9E-06            | 0.0E+00 | 2.0E-05                     | 2.5E-05 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 2.6E-07 | 5.8E-07            | 0.0E+00 | 1.1E-06                     | 2.8E-06 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 2.1E-07 | 5.1E-07            | 0.0E+00 | 1.2E-06                     | 2.3E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-33. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 30<40 years**

| Chemical       | CASRN    | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene | 50-32-8  | 0.0E+00                            | 3.5E-02 | 5.4E-02            | 1.4E-02 | 1.2E-01                     | 2.5E-01 |
| Benzo[e]pyrene | 192-97-2 | 0.0E+00                            | 6.7E-04 | 1.5E-03            | 0.0E+00 | 3.1E-03                     | 6.3E-03 |



| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[g,h,i]perylene           | 191-24-2   | 0.0E+00                            | 3.3E-03 | 5.4E-03            | 0.0E+00 | 1.2E-02                     | 2.5E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1   | 0.0E+00                            | 8.6E-06 | 3.4E-05            | 0.0E+00 | 5.7E-05                     | 1.4E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9  | 0.0E+00                            | 6.7E-06 | 2.7E-05            | 0.0E+00 | 3.5E-05                     | 1.5E-04 |
| Chrysene                       | 218-01-9   | 0.0E+00                            | 2.6E-03 | 5.5E-03            | 0.0E+00 | 1.0E-02                     | 2.3E-02 |
| Coronene                       | 191-07-1   | 0.0E+00                            | 1.7E-03 | 3.8E-03            | 0.0E+00 | 6.3E-03                     | 1.7E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.4E-08 | 2.5E-08            | 0.0E+00 | 7.5E-08                     | 8.8E-08 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 6.6E-08 | 3.8E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 1.6E-03 | 2.0E-03            | 6.7E-04 | 5.6E-03                     | 6.5E-03 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 2.5E-08 | 3.8E-08            | 0.0E+00 | 9.5E-08                     | 1.3E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 4.1E-07 | 1.5E-06            | 0.0E+00 | 3.0E-06                     | 7.4E-06 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 1.8E-03 | 7.3E-03            | 0.0E+00 | 1.2E-02                     | 3.0E-02 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.0E-06            | 0.0E+00 | 1.8E-05                     | 2.2E-05 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 2.3E-07 | 5.0E-07            | 0.0E+00 | 9.4E-07                     | 2.5E-06 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 1.9E-07 | 4.5E-07            | 0.0E+00 | 1.1E-06                     | 2.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-34. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 40<50 years**

| Chemical                   | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene             | 50-32-8   | 0.0E+00                            | 3.5E-02 | 5.4E-02            | 1.5E-02 | 1.3E-01                     | 2.5E-01 |
| Benzo[e]pyrene             | 192-97-2  | 0.0E+00                            | 6.8E-04 | 1.5E-03            | 0.0E+00 | 3.2E-03                     | 6.4E-03 |
| Benzo[g,h,i]perylene       | 191-24-2  | 0.0E+00                            | 3.3E-03 | 5.4E-03            | 0.0E+00 | 1.2E-02                     | 2.5E-02 |
| Bis(2-Ethylhexyl)adipate   | 103-23-1  | 0.0E+00                            | 8.7E-06 | 3.5E-05            | 0.0E+00 | 5.8E-05                     | 1.4E-04 |
| n-Caproic acid vinyl ester | 3050-69-9 | 0.0E+00                            | 6.8E-06 | 2.7E-05            | 0.0E+00 | 3.6E-05                     | 1.5E-04 |
| Chrysene                   | 218-01-9  | 0.0E+00                            | 2.6E-03 | 5.5E-03            | 0.0E+00 | 1.1E-02                     | 2.3E-02 |



| Chemical                       | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Coronene                       | 191-07-1   | 0.0E+00                            | 1.7E-03 | 3.8E-03            | 0.0E+00 | 6.4E-03                     | 1.8E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7   | 0.0E+00                            | 1.4E-08 | 2.5E-08            | 0.0E+00 | 7.6E-08                     | 8.9E-08 |
| Cyclohexylamine                | 108-91-8   | 0.0E+00                            | 6.7E-08 | 3.8E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |
| Cyclopenta[cd]pyrene           | 27208-37-3 | 0.0E+00                            | 1.6E-03 | 2.0E-03            | 6.8E-04 | 5.6E-03                     | 6.5E-03 |
| N,N-Dicyclohexylmethylamine    | 7560-83-0  | 0.0E+00                            | 2.5E-08 | 3.8E-08            | 0.0E+00 | 9.6E-08                     | 1.3E-07 |
| Dimethyl phthalate             | 131-11-3   | 0.0E+00                            | 4.1E-07 | 1.5E-06            | 0.0E+00 | 3.1E-06                     | 7.5E-06 |
| Indeno[1,2,3-cd]pyrene         | 193-39-5   | 0.0E+00                            | 1.8E-03 | 7.4E-03            | 0.0E+00 | 1.2E-02                     | 3.1E-02 |
| Methyl stearate                | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.1E-06            | 0.0E+00 | 1.8E-05                     | 2.2E-05 |
| Phenol, 4-(1-phenylethyl)-     | 1988-89-2  | 0.0E+00                            | 2.3E-07 | 5.1E-07            | 0.0E+00 | 9.5E-07                     | 2.5E-06 |
| 4-tert-Octylphenol             | 140-66-9   | 0.0E+00                            | 1.9E-07 | 4.5E-07            | 0.0E+00 | 1.1E-06                     | 2.1E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**Table G-35. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>inh-DART-field</sub>, unitless)— Combined Gender Spectators 50<70 years**

| Chemical                       | CASRN     | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|--------------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                 | 50-32-8   | 0.0E+00                            | 3.5E-02 | 5.4E-02            | 1.5E-02 | 1.3E-01                     | 2.5E-01 |
| Benzo[e]pyrene                 | 192-97-2  | 0.0E+00                            | 6.8E-04 | 1.6E-03            | 0.0E+00 | 3.2E-03                     | 6.4E-03 |
| Benzo[g,h,i]perylene           | 191-24-2  | 0.0E+00                            | 3.3E-03 | 5.4E-03            | 0.0E+00 | 1.2E-02                     | 2.5E-02 |
| Bis(2-Ethylhexyl)adipate       | 103-23-1  | 0.0E+00                            | 8.7E-06 | 3.5E-05            | 0.0E+00 | 5.8E-05                     | 1.4E-04 |
| n-Caproic acid vinyl ester     | 3050-69-9 | 0.0E+00                            | 6.8E-06 | 2.7E-05            | 0.0E+00 | 3.6E-05                     | 1.5E-04 |
| Chrysene                       | 218-01-9  | 0.0E+00                            | 2.6E-03 | 5.6E-03            | 0.0E+00 | 1.1E-02                     | 2.3E-02 |
| Coronene                       | 191-07-1  | 0.0E+00                            | 1.7E-03 | 3.8E-03            | 0.0E+00 | 6.4E-03                     | 1.8E-02 |
| Cyclohexanamine, N-cyclohexyl- | 101-83-7  | 0.0E+00                            | 1.4E-08 | 2.5E-08            | 0.0E+00 | 7.6E-08                     | 8.9E-08 |
| Cyclohexylamine                | 108-91-8  | 0.0E+00                            | 6.7E-08 | 3.9E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |



| Chemical                    | CASRN      | OneDayHQ <sub>inh-DART-field</sub> |         |                    |         |                             |         |
|-----------------------------|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                             |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Cyclopenta[cd]pyrene        | 27208-37-3 | 0.0E+00                            | 1.6E-03 | 2.0E-03            | 6.8E-04 | 5.6E-03                     | 6.6E-03 |
| N,N-Dicyclohexylmethylamine | 7560-83-0  | 0.0E+00                            | 2.5E-08 | 3.8E-08            | 0.0E+00 | 9.7E-08                     | 1.3E-07 |
| Dimethyl phthalate          | 131-11-3   | 0.0E+00                            | 4.1E-07 | 1.5E-06            | 0.0E+00 | 3.1E-06                     | 7.5E-06 |
| Indeno[1,2,3-cd]pyrene      | 193-39-5   | 0.0E+00                            | 1.9E-03 | 7.4E-03            | 0.0E+00 | 1.2E-02                     | 3.1E-02 |
| Methyl stearate             | 112-61-8   | 0.0E+00                            | 2.8E-06 | 6.1E-06            | 0.0E+00 | 1.8E-05                     | 2.2E-05 |
| Phenol, 4-(1-phenylethyl)-  | 1988-89-2  | 0.0E+00                            | 2.3E-07 | 5.1E-07            | 0.0E+00 | 9.6E-07                     | 2.5E-06 |
| 4-tert-Octylphenol          | 140-66-9   | 0.0E+00                            | 1.9E-07 | 4.5E-07            | 0.0E+00 | 1.1E-06                     | 2.1E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-field</sub> are included in this table.

**INDIVIDUAL FIELD ASSESSMENT (Table G-46 to Table G-50)**

Table G-36. **On-Field** Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for **All DARTs** (One-Day HQ<sub>inh-DART-sum-field</sub>, unitless)—Combined Gender

| Receptor Category and Age Group | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|---------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 7.4E-07                                  | 3.5E-03 | 3.5E-03            | 1.6E-03 | 9.8E-03                     | 1.3E-02 |
| Athletes 6<11 years             | 5.6E-07                                  | 2.6E-03 | 2.7E-03            | 1.2E-03 | 7.4E-03                     | 9.6E-03 |
| Athletes 11<16 years            | 4.7E-07                                  | 3.9E-01 | 4.0E-01            | 1.8E-01 | 1.1E+00                     | 1.3E+00 |
| Athletes 16<30 years            | 6.9E-07                                  | 5.8E-01 | 5.8E-01            | 2.7E-01 | 1.7E+00                     | 1.8E+00 |
| Athletes 30<40 years            | 4.6E-07                                  | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 40<50 years            | 4.6E-07                                  | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 50<70 years            | 5.0E-07                                  | 4.2E-01 | 4.2E-01            | 1.9E-01 | 1.2E+00                     | 1.3E+00 |
| Coaches 16<30 years             | 2.9E-07                                  | 2.5E-01 | 2.5E-01            | 1.1E-01 | 7.2E-01                     | 7.8E-01 |
| Coaches 30<40 years             | 2.6E-07                                  | 2.1E-01 | 2.1E-01            | 9.9E-02 | 6.3E-01                     | 6.8E-01 |
| Coaches 40<50 years             | 2.6E-07                                  | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.3E-01                     | 6.9E-01 |
| Coaches 50<70 years             | 2.6E-07                                  | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.4E-01                     | 6.9E-01 |
| Referees 16<30 years            | 2.7E-07                                  | 2.3E-01 | 2.3E-01            | 1.1E-01 | 6.7E-01                     | 7.3E-01 |
| Referees 30<40 years            | 2.4E-07                                  | 2.0E-01 | 2.0E-01            | 9.2E-02 | 5.8E-01                     | 6.4E-01 |



| Receptor Category and Age Group  | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|----------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                  | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Referees 40<50 years             | 2.4E-07                                  | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01                     | 6.4E-01 |
| Referees 50<70 years             | 2.4E-07                                  | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01                     | 6.4E-01 |
| Spectators Third trimester fetus | 5.0E-08                                  | 2.3E-04 | 2.4E-04            | 1.1E-04 | 6.6E-04                     | 8.5E-04 |
| Spectators 0<2 years             | 4.0E-07                                  | 1.9E-03 | 1.9E-03            | 8.5E-04 | 5.3E-03                     | 6.9E-03 |
| Spectators 2<6 years             | 2.1E-07                                  | 9.9E-04 | 1.0E-03            | 4.5E-04 | 2.8E-03                     | 3.6E-03 |
| Spectators 6<11 years            | 2.0E-07                                  | 9.4E-04 | 9.6E-04            | 4.3E-04 | 2.7E-03                     | 3.4E-03 |
| Spectators 11<16 years           | 8.7E-08                                  | 7.3E-02 | 7.3E-02            | 3.4E-02 | 2.1E-01                     | 2.3E-01 |
| Spectators 16<30 years           | 5.8E-08                                  | 4.8E-02 | 4.8E-02            | 2.2E-02 | 1.4E-01                     | 1.5E-01 |
| Spectators 30<40 years           | 5.0E-08                                  | 4.2E-02 | 4.2E-02            | 2.0E-02 | 1.2E-01                     | 1.3E-01 |
| Spectators 40<50 years           | 5.1E-08                                  | 4.3E-02 | 4.3E-02            | 2.0E-02 | 1.2E-01                     | 1.4E-01 |
| Spectators 50<70 years           | 5.1E-08                                  | 4.3E-02 | 4.3E-02            | 2.0E-02 | 1.3E-01                     | 1.4E-01 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

Values are rounded to two decimal places.

**Table G-37. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Field-Related DARTs (One-Day HQ<sub>inh-DART-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|---------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 2.4E-07                                  | 3.5E-03 | 3.5E-03            | 1.8E-03 | 9.8E-03                     | 1.2E-02 |
| Athletes 6<11 years             | 1.8E-07                                  | 2.6E-03 | 2.7E-03            | 1.4E-03 | 7.4E-03                     | 9.4E-03 |
| Athletes 11<16 years            | 1.5E-07                                  | 4.0E-01 | 4.0E-01            | 2.2E-01 | 1.2E+00                     | 1.3E+00 |
| Athletes 16<30 years            | 2.2E-07                                  | 5.9E-01 | 5.8E-01            | 3.2E-01 | 1.7E+00                     | 1.8E+00 |
| Athletes 30<40 years            | 1.5E-07                                  | 4.0E-01 | 3.9E-01            | 2.2E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 40<50 years            | 1.5E-07                                  | 4.0E-01 | 3.9E-01            | 2.2E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 50<70 years            | 1.6E-07                                  | 4.3E-01 | 4.2E-01            | 2.4E-01 | 1.2E+00                     | 1.3E+00 |
| Coaches 16<30 years             | 9.5E-08                                  | 2.5E-01 | 2.5E-01            | 1.4E-01 | 7.2E-01                     | 7.8E-01 |
| Coaches 30<40 years             | 8.3E-08                                  | 2.2E-01 | 2.1E-01            | 1.2E-01 | 6.3E-01                     | 6.8E-01 |



| Receptor Category and Age Group  | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|----------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                  | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Coaches 40<50 years              | 8.4E-08                                  | 2.2E-01 | 2.2E-01            | 1.2E-01 | 6.4E-01                     | 6.9E-01 |
| Coaches 50<70 years              | 8.4E-08                                  | 2.2E-01 | 2.2E-01            | 1.2E-01 | 6.4E-01                     | 6.9E-01 |
| Referees 16<30 years             | 8.8E-08                                  | 2.3E-01 | 2.3E-01            | 1.3E-01 | 6.7E-01                     | 7.3E-01 |
| Referees 30<40 years             | 7.7E-08                                  | 2.1E-01 | 2.0E-01            | 1.1E-01 | 5.8E-01                     | 6.4E-01 |
| Referees 40<50 years             | 7.8E-08                                  | 2.1E-01 | 2.0E-01            | 1.1E-01 | 5.9E-01                     | 6.4E-01 |
| Referees 50<70 years             | 7.8E-08                                  | 2.1E-01 | 2.0E-01            | 1.1E-01 | 5.9E-01                     | 6.4E-01 |
| Spectators Third trimester fetus | 1.6E-08                                  | 2.4E-04 | 2.4E-04            | 1.2E-04 | 6.6E-04                     | 8.4E-04 |
| Spectators 0<2 years             | 1.3E-07                                  | 1.9E-03 | 1.9E-03            | 9.8E-04 | 5.3E-03                     | 6.8E-03 |
| Spectators 2<6 years             | 6.9E-08                                  | 1.0E-03 | 1.0E-03            | 5.1E-04 | 2.8E-03                     | 3.6E-03 |
| Spectators 6<11 years            | 6.6E-08                                  | 9.5E-04 | 9.5E-04            | 4.9E-04 | 2.7E-03                     | 3.4E-03 |
| Spectators 11<16 years           | 2.8E-08                                  | 7.6E-02 | 7.3E-02            | 4.1E-02 | 2.1E-01                     | 2.3E-01 |
| Spectators 16<30 years           | 1.9E-08                                  | 5.0E-02 | 4.8E-02            | 2.7E-02 | 1.4E-01                     | 1.5E-01 |
| Spectators 30<40 years           | 1.6E-08                                  | 4.4E-02 | 4.2E-02            | 2.4E-02 | 1.2E-01                     | 1.3E-01 |
| Spectators 40<50 years           | 1.7E-08                                  | 4.4E-02 | 4.3E-02            | 2.4E-02 | 1.3E-01                     | 1.4E-01 |
| Spectators 50<70 years           | 1.7E-08                                  | 4.4E-02 | 4.3E-02            | 2.4E-02 | 1.3E-01                     | 1.4E-01 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 1 of the 35 fields did not have on-field SVOC samples. 34 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

Values are rounded to two decimal places.

**Table G-38. On-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Non-Field-Related DARTs (One-Day HQ<sub>inh-DART-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|---------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 0.0E+00                                  | 8.4E-05 | 6.0E-05            | 6.7E-05 | 1.8E-04                     | 2.1E-04 |
| Athletes 6<11 years             | 0.0E+00                                  | 6.4E-05 | 4.6E-05            | 5.0E-05 | 1.3E-04                     | 1.6E-04 |
| Athletes 11<16 years            | 0.0E+00                                  | 5.3E-05 | 3.8E-05            | 4.2E-05 | 1.1E-04                     | 1.3E-04 |
| Athletes 16<30 years            | 0.0E+00                                  | 7.8E-05 | 5.6E-05            | 6.2E-05 | 1.6E-04                     | 1.9E-04 |



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| Receptor Category and Age Group  | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|--|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                                  | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 30<40 years             | 0.0E+00                                  | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04         | 1.3E-04 |
| Athletes 40<50 years             | 0.0E+00                                  | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04         | 1.3E-04 |
| Athletes 50<70 years             | 0.0E+00                                  | 5.6E-05 | 4.1E-05            | 4.5E-05 | 1.2E-04         | 1.4E-04 |
| Coaches 16<30 years              | 0.0E+00                                  | 3.3E-05 | 2.4E-05            | 2.6E-05 | 7.0E-05         | 8.1E-05 |
| Coaches 30<40 years              | 0.0E+00                                  | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.1E-05         | 7.1E-05 |
| Coaches 40<50 years              | 0.0E+00                                  | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05         | 7.2E-05 |
| Coaches 50<70 years              | 0.0E+00                                  | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05         | 7.2E-05 |
| Referees 16<30 years             | 0.0E+00                                  | 3.1E-05 | 2.2E-05            | 2.4E-05 | 6.5E-05         | 7.5E-05 |
| Referees 30<40 years             | 0.0E+00                                  | 2.7E-05 | 1.9E-05            | 2.1E-05 | 5.7E-05         | 6.6E-05 |
| Referees 40<50 years             | 0.0E+00                                  | 2.7E-05 | 1.9E-05            | 2.2E-05 | 5.7E-05         | 6.7E-05 |
| Referees 50<70 years             | 0.0E+00                                  | 2.7E-05 | 2.0E-05            | 2.2E-05 | 5.8E-05         | 6.7E-05 |
| Spectators Third trimester fetus | 0.0E+00                                  | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 0<2 years             | 0.0E+00                                  | 4.6E-05 | 3.3E-05            | 3.6E-05 | 9.6E-05         | 1.1E-04 |
| Spectators 2<6 years             | 0.0E+00                                  | 2.4E-05 | 1.7E-05            | 1.9E-05 | 5.1E-05         | 5.9E-05 |
| Spectators 6<11 years            | 0.0E+00                                  | 2.3E-05 | 1.6E-05            | 1.8E-05 | 4.8E-05         | 5.6E-05 |
| Spectators 11<16 years           | 0.0E+00                                  | 9.9E-06 | 7.1E-06            | 7.8E-06 | 2.1E-05         | 2.4E-05 |
| Spectators 16<30 years           | 0.0E+00                                  | 6.5E-06 | 4.7E-06            | 5.2E-06 | 1.4E-05         | 1.6E-05 |
| Spectators 30<40 years           | 0.0E+00                                  | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 40<50 years           | 0.0E+00                                  | 5.7E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 50<70 years           | 0.0E+00                                  | 5.8E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05         | 1.4E-05 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 1 of the 35 fields did not have on-field ALD samples. 34 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

Values are rounded to two decimal places.



**Table G-39. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for All DARTs (One-Day HQ<sub>inh-DART-sum-field</sub>, unitless) for Combined Gender Spectators**

| Spectator Receptor Age Group | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus        | 0.0E+00                                  | 2.5E-04 | 3.1E-04            | 1.3E-04 | 8.1E-04                     | 1.4E-03 |
| 0<2 years                    | 0.0E+00                                  | 2.0E-03 | 2.5E-03            | 1.1E-03 | 6.5E-03                     | 1.2E-02 |
| 2<6 years                    | 0.0E+00                                  | 1.1E-03 | 1.3E-03            | 5.6E-04 | 3.4E-03                     | 6.1E-03 |
| 6<11 years                   | 0.0E+00                                  | 1.0E-03 | 1.3E-03            | 5.3E-04 | 3.3E-03                     | 5.8E-03 |
| 11<16 years                  | 0.0E+00                                  | 8.0E-02 | 1.0E-01            | 4.5E-02 | 2.7E-01                     | 4.5E-01 |
| 16<30 years                  | 0.0E+00                                  | 5.3E-02 | 6.6E-02            | 3.0E-02 | 1.8E-01                     | 3.0E-01 |
| 30<40 years                  | 0.0E+00                                  | 4.6E-02 | 5.8E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 40<50 years                  | 0.0E+00                                  | 4.7E-02 | 5.9E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 50<70 years                  | 0.0E+00                                  | 4.7E-02 | 5.9E-02            | 2.7E-02 | 1.6E-01                     | 2.6E-01 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 2 of the 35 fields did not have off-field SVOCs samples and none of the 35 fields have off-field ALD samples. 33 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table. Values are rounded to two significant figures.

**Table G-40. Off-Field Field-Specific<sup>a</sup> One-Day Inhalation Route Total Hazard Quotients for Field-Related DARTs (One-Day HQ<sub>inh-DART-sum-field</sub>, unitless) for Combined Gender Spectators**

| Spectator Receptor Age Group | One-Day HQ <sub>inh-DART-sum-field</sub> |         |                    |         |                             |         |
|------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus        | 0.0E+00                                  | 2.5E-04 | 3.1E-04            | 1.3E-04 | 8.1E-04                     | 1.4E-03 |
| 0<2 years                    | 0.0E+00                                  | 2.0E-03 | 2.5E-03            | 1.1E-03 | 6.5E-03                     | 1.2E-02 |
| 2<6 years                    | 0.0E+00                                  | 1.1E-03 | 1.3E-03            | 5.6E-04 | 3.4E-03                     | 6.1E-03 |
| 6<11 years                   | 0.0E+00                                  | 1.0E-03 | 1.3E-03            | 5.3E-04 | 3.3E-03                     | 5.8E-03 |
| 11<16 years                  | 0.0E+00                                  | 8.0E-02 | 1.0E-01            | 4.5E-02 | 2.7E-01                     | 4.5E-01 |
| 16<30 years                  | 0.0E+00                                  | 5.3E-02 | 6.6E-02            | 3.0E-02 | 1.8E-01                     | 3.0E-01 |
| 30<40 years                  | 0.0E+00                                  | 4.6E-02 | 5.8E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 40<50 years                  | 0.0E+00                                  | 4.7E-02 | 5.9E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |



| Spectator Receptor Age Group | One-Day $HQ_{inh-DART-sum-field}$ |         |                    |         |                             |         |
|------------------------------|-----------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                           | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 50<70 years                  | 0.0E+00                           | 4.7E-02 | 5.9E-02            | 2.7E-02 | 1.6E-01                     | 2.6E-01 |

<sup>a</sup> Only individual fields that had samples collected are included in the distribution calculations. 2 of the 35 fields did not have off-field SVOCs samples. 33 field-specific One-Day  $HQ_{inh-DART-sum-field}$  are included in this table.

Values are rounded to two significant figures.

### G.2.3. Chronic Inhalation Hazard for Sensory Irritants (Chronic $HQ_{inh-sensory}$ ) and Chronic Hazard Index for Sensory Irritants (Chronic $HI_{sensory}$ )

Table G-1. Chronic Inhalation Hazard Quotient for Individual Sensory Irritant (Chronic  $HQ_{inh-sensory}$ , unitless), Inhalation Route Total Hazard Quotients for **Sensory Irritants** (Chronic  $HQ_{inh-sensory-sum}$ , unitless), and Chronic Hazard Index for Sensory Irritants (Chronic  $HI_{sensory}$ , unitless)—All Receptor Categories and Age Groups

| Chemical   | CASRN    | Chronic $HQ_{inh-sensory}$ |              |
|--|----------|----------------------------|--------------|
|  |          | On-Field                   | Off-Field    |
| <b>Field-Related</b>   |          |                            |              |
| Styrene  | 100-42-5 | 6.5E-05                    | 6.7E-05      |
| Field-Related Chronic $HQ_{inh-sensory-sum}$ or Field-Related Chronic $HI_{sensory}$         |          | 6.5E-05                    | 6.7E-05      |
| <b>Non-Field-Related</b>   |          |                            |              |
| Acetaldehyde   | 75-07-0  | 1.8E-02                    | Not assessed |
| Formaldehyde   | 50-00-0  | 4.3E-01                    | Not assessed |
| Non-Field-Related Chronic $HQ_{inh-sensory-sum}$ or Non-Field-Related Chronic $HI_{sensory}$ |          | 4.4E-01                    | Not assessed |
| All Sensory Irritants Chronic $HI_{sensory}$ <sup>a</sup>                                    |          | 4.4E-01                    | 6.7E-05      |

<sup>a</sup> Inhalation exposure is the only route assessed for sensory irritants. Hazard index for sensory irritants (Chronic  $HI_{sensory}$ ) equals to the inhalation route total of chronic hazard quotients of sensory irritants (Chronic  $HQ_{inh-sensory-sum}$ ) assessed.

Values are rounded to two decimal places.

### **INDIVIDUAL FIELD ASSESSMENT (Table G-52)**



**Table G-2. On-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients<sup>b</sup> for Sensory Irritants (Chronic  $HQ_{inh-sensory-sum-field}$ , unitless) and Field-Specific Chronic Hazard Index<sup>b</sup> for Sensory Irritants (Chronic  $HI_{sensory-field}$ , unitless)—All Receptor Categories and Age Groups**

| Chemical Group   | Chronic $HQ_{inh-sensory-sum-field}$ Or Chronic $HI_{sensory-field}$ |         |                    |         |                 |                |
|--|--|---------|--------------------|---------|-----------------|----------------|
|  | Minimum  | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum        |
| Non-field related Chronic $HQ_{inh-sensory-sum-field}$ or Chronic $HI_{sensory-field}$     | 9.5E-02  | 4.4E-01 | 3.3E-01            | 3.7E-01 | 7.4E-01         | <b>1.9E+00</b> |
| Field related Chronic $HQ_{inh-sensory-sum-field}$ or Chronic $HI_{sensory-field}$         | 0.0E+00  | 6.5E-05 | 1.3E-04            | 0.0E+00 | 2.2E-04         | 7.3E-04        |
| All Sensory Irritants Chronic $HQ_{inh-sensory-sum-field}$ or Chronic $HI_{sensory-field}$ | 0.0E+00  | 4.3E-01 | 3.4E-01            | 3.7E-01 | 7.4E-01         | 1.9E+00        |

<sup>a</sup> 35 field-specific Chronic  $HQ_{inh-sensory-sum-field}$  are included in this table.

<sup>b</sup> Inhalation route is the only exposure assessed for sensory irritants. For each field, its Chronic  $HQ_{inh-sensory-sum-field}$  equals to Chronic  $HI_{sensory-field}$ .

Values are rounded to two decimal places.

#### G.2.4. Chronic Inhalation Hazard Quotient (Chronic $HQ_{inh}$ ) for General Chemicals

**Table G-1. On-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic  $HQ_{inh}$ , unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic  $HQ_{inh-sum}$ , unitless) for Field-Related General Chemicals—Combined Gender Athletes**

| Chemical                      | CASRN    | Chronic $HQ_{inh}$ |            |             |             |             |             |             |
|-------------------------------|----------|--------------------|------------|-------------|-------------|-------------|-------------|-------------|
|                               |          | 2<6 years          | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                | 208-96-8 | 7.4E-07            | 9.6E-07    | 9.4E-07     | 1.8E-06     | 1.2E-06     | 1.1E-06     | 1.1E-06     |
| Acetone                       | 67-64-1  | 9.6E-04            | 1.3E-03    | 1.2E-03     | 2.3E-03     | 1.5E-03     | 1.5E-03     | 1.5E-03     |
| Aniline                       | 62-53-3  | 1.0E-03            | 1.3E-03    | 1.3E-03     | 2.4E-03     | 1.6E-03     | 1.5E-03     | 1.5E-03     |
| Anthracene                    | 120-12-7 | 4.8E-08            | 6.3E-08    | 6.1E-08     | 1.2E-07     | 7.5E-08     | 7.4E-08     | 7.3E-08     |
| Anthracene, 2-methyl-         | 613-12-7 | 1.3E-08            | 1.6E-08    | 1.6E-08     | 3.0E-08     | 2.0E-08     | 1.9E-08     | 1.9E-08     |
| Anthracene, 9,10-dimethyl     | 781-43-1 | 1.4E-08            | 1.9E-08    | 1.8E-08     | 3.4E-08     | 2.2E-08     | 2.2E-08     | 2.2E-08     |
| Anthracene, 9-phenyl          | 602-55-1 | 1.3E-09            | 1.7E-09    | 1.7E-09     | 3.2E-09     | 2.1E-09     | 2.1E-09     | 2.0E-09     |
| Benz[a]anthracene             | 56-55-3  | 7.3E-10            | 9.4E-10    | 9.2E-10     | 1.7E-09     | 1.1E-09     | 1.1E-09     | 1.1E-09     |
| Benzaldehyde                  | 100-52-7 | 3.9E-05            | 5.1E-05    | 5.0E-05     | 9.4E-05     | 6.2E-05     | 6.1E-05     | 6.0E-05     |
| Benzene, 1,2,3-trimethyl-     | 526-73-8 | 3.4E-05            | 4.4E-05    | 4.3E-05     | 8.1E-05     | 5.3E-05     | 5.2E-05     | 5.2E-05     |
| Benzene, 1,2,4,5-tetramethyl- | 95-93-2  | 6.5E-06            | 8.4E-06    | 8.2E-06     | 1.5E-05     | 1.0E-05     | 1.0E-05     | 9.8E-06     |
| Benzene, 1,2,4-trimethyl-     | 95-63-6  | 3.0E-04            | 3.9E-04    | 3.8E-04     | 7.3E-04     | 4.7E-04     | 4.7E-04     | 4.6E-04     |



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| Chemical   | CASRN      | Chronic HQ <sub>inh</sub> |               |                |                |                |                |                |
|--|------------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|  |            | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Benzene, 1-ethyl-2,4-dimethyl-                       | 874-41-9   | 1.4E-05                   | 1.8E-05       | 1.7E-05        | 3.2E-05        | 2.1E-05        | 2.1E-05        | 2.1E-05        |
| Benzene, 2-ethyl-1,4-dimethyl-                       | 1758-88-9  | 1.9E-05                   | 2.5E-05       | 2.4E-05        | 4.6E-05        | 3.0E-05        | 3.0E-05        | 2.9E-05        |
| Benzene, butyl-                                      | 104-51-8   | 2.3E-08                   | 3.0E-08       | 2.9E-08        | 5.6E-08        | 3.6E-08        | 3.6E-08        | 3.5E-08        |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8   | 5.5E-05                   | 7.2E-05       | 7.0E-05        | 1.3E-04        | 8.6E-05        | 8.5E-05        | 8.3E-05        |
| Benzo[b]fluoranthene                                 | 205-99-2   | 2.7E-08                   | 3.5E-08       | 3.5E-08        | 6.5E-08        | 4.3E-08        | 4.2E-08        | 4.1E-08        |
| 7H-Benzo[c]fluorene                                  | 205-12-9   | 6.0E-08                   | 7.7E-08       | 7.6E-08        | 1.4E-07        | 9.3E-08        | 9.2E-08        | 9.0E-08        |
| Benzo[k]fluoranthene                                 | 207-08-9   | 3.4E-08                   | 4.4E-08       | 4.3E-08        | 8.1E-08        | 5.3E-08        | 5.2E-08        | 5.1E-08        |
| Benzothiazole  | 95-16-9    | 3.3E-03                   | 4.3E-03       | 4.2E-03        | 7.8E-03        | 5.1E-03        | 5.0E-03        | 5.0E-03        |
| Benzothiazole, 2-phenyl-                             | 883-93-2   | 2.6E-04                   | 3.4E-04       | 3.3E-04        | 6.2E-04        | 4.1E-04        | 4.0E-04        | 3.9E-04        |
| 2-Benzothiazolone                                    | 934-34-9   | 4.1E-04                   | 5.3E-04       | 5.2E-04        | 9.8E-04        | 6.4E-04        | 6.3E-04        | 6.2E-04        |
| Benzyl butyl phthalate                               | 85-68-7    | 7.6E-07                   | 9.9E-07       | 9.6E-07        | 1.8E-06        | 1.2E-06        | 1.2E-06        | 1.1E-06        |
| Butanal  | 123-72-8   | 5.9E-03                   | 7.7E-03       | 7.5E-03        | 1.4E-02        | 9.2E-03        | 9.1E-03        | 9.0E-03        |
| Cyclopentasiloxane, decamethyl-                      | 541-02-6   | 3.6E-05                   | 4.6E-05       | 4.5E-05        | 8.5E-05        | 5.6E-05        | 5.5E-05        | 5.4E-05        |
| Cyclotetrasiloxane, octamethyl-                      | 556-67-2   | 1.3E-05                   | 1.7E-05       | 1.6E-05        | 3.1E-05        | 2.0E-05        | 2.0E-05        | 1.9E-05        |
| p-Cymene   | 99-87-6    | 6.5E-05                   | 8.4E-05       | 8.2E-05        | 1.5E-04        | 1.0E-04        | 1.0E-04        | 9.8E-05        |
| Decane   | 124-18-5   | 4.2E-04                   | 5.4E-04       | 5.3E-04        | 1.0E-03        | 6.6E-04        | 6.5E-04        | 6.3E-04        |
| Dibenz[a,h]anthracene                                | 53-70-3    | 2.1E-08                   | 2.7E-08       | 2.7E-08        | 5.1E-08        | 3.3E-08        | 3.3E-08        | 3.2E-08        |
| Dibenzothiophene                                     | 132-65-0   | 5.5E-06                   | 7.1E-06       | 6.9E-06        | 1.3E-05        | 8.5E-06        | 8.4E-06        | 8.3E-06        |
| Dibutyl phthalate                                    | 84-74-2    | 1.7E-04                   | 2.2E-04       | 2.1E-04        | 4.0E-04        | 2.6E-04        | 2.6E-04        | 2.5E-04        |
| Diethyl phthalate                                    | 84-66-2    | 1.5E-07                   | 1.9E-07       | 1.8E-07        | 3.5E-07        | 2.3E-07        | 2.2E-07        | 2.2E-07        |
| Diisobutyl phthalate                                 | 84-69-5    | 6.3E-05                   | 8.2E-05       | 8.0E-05        | 1.5E-04        | 9.9E-05        | 9.7E-05        | 9.5E-05        |
| Diisooctylphthalate                                  | 27554-26-3 | 2.2E-04                   | 2.8E-04       | 2.8E-04        | 5.2E-04        | 3.4E-04        | 3.4E-04        | 3.3E-04        |
| Di-n-octyl phthalate                                 | 117-84-0   | 4.3E-07                   | 5.5E-07       | 5.4E-07        | 1.0E-06        | 6.7E-07        | 6.6E-07        | 6.5E-07        |
| 2,5-di-tert-Butyl-1,4-benzoquinone                   | 2460-77-7  | 7.2E-04                   | 9.3E-04       | 9.1E-04        | 1.7E-03        | 1.1E-03        | 1.1E-03        | 1.1E-03        |



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| Chemical                                | CASRN     | Chronic HQ <sub>inh</sub> |               |                |                |                |                |                |
|---|-----------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|   |           | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0 | 2.5E-06                   | 3.3E-06       | 3.2E-06        | 6.0E-06        | 3.9E-06        | 3.9E-06        | 3.8E-06        |
| Dodecane                                | 112-40-3  | 5.2E-05                   | 6.8E-05       | 6.6E-05        | 1.3E-04        | 8.2E-05        | 8.1E-05        | 7.9E-05        |
| Fluoranthene                            | 206-44-0  | 4.2E-06                   | 5.4E-06       | 5.3E-06        | 1.0E-05        | 6.5E-06        | 6.4E-06        | 6.3E-06        |
| Fluorene                                | 86-73-7   | 6.6E-06                   | 8.6E-06       | 8.4E-06        | 1.6E-05        | 1.0E-05        | 1.0E-05        | 1.0E-05        |
| Furan, 2-methyl                         | 534-22-5  | 4.7E-02                   | 6.1E-02       | 6.0E-02        | 1.1E-01        | 7.4E-02        | 7.3E-02        | 7.1E-02        |
| Heptanal                                | 111-71-7  | 2.9E-04                   | 3.7E-04       | 3.6E-04        | 6.8E-04        | 4.5E-04        | 4.4E-04        | 4.3E-04        |
| Hexadecane                              | 544-76-3  | 2.5E-04                   | 3.2E-04       | 3.1E-04        | 5.9E-04        | 3.8E-04        | 3.8E-04        | 3.7E-04        |
| 2,5-Hexanedione                         | 110-13-4  | 1.4E-04                   | 1.8E-04       | 1.8E-04        | 3.4E-04        | 2.2E-04        | 2.2E-04        | 2.1E-04        |
| Indan                                   | 496-11-7  | 2.3E-06                   | 3.0E-06       | 3.0E-06        | 5.6E-06        | 3.7E-06        | 3.6E-06        | 3.5E-06        |
| Mesitylene                              | 108-67-8  | 7.1E-05                   | 9.3E-05       | 9.0E-05        | 1.7E-04        | 1.1E-04        | 1.1E-04        | 1.1E-04        |
| Methacrolein                            | 78-85-3   | 8.4E-03                   | 1.1E-02       | 1.1E-02        | 2.0E-02        | 1.3E-02        | 1.3E-02        | 1.3E-02        |
| Methyl Isobutyl Ketone                  | 108-10-1  | 1.5E-05                   | 2.0E-05       | 1.9E-05        | 3.6E-05        | 2.4E-05        | 2.3E-05        | 2.3E-05        |
| Naphthalene                             | 91-20-3   | 1.4E-03                   | 1.8E-03       | 1.7E-03        | 3.3E-03        | 2.1E-03        | 2.1E-03        | 2.1E-03        |
| Naphthalene, 1,2-dimethyl-              | 573-98-8  | 1.9E-05                   | 2.5E-05       | 2.4E-05        | 4.6E-05        | 3.0E-05        | 3.0E-05        | 2.9E-05        |
| Naphthalene, 1,6-dimethyl-              | 575-43-9  | 1.4E-04                   | 1.8E-04       | 1.7E-04        | 3.3E-04        | 2.1E-04        | 2.1E-04        | 2.1E-04        |
| Naphthalene, 1-methyl-                  | 90-12-0   | 1.4E-04                   | 1.8E-04       | 1.7E-04        | 3.3E-04        | 2.1E-04        | 2.1E-04        | 2.1E-04        |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4  | 3.8E-05                   | 4.9E-05       | 4.8E-05        | 9.1E-05        | 6.0E-05        | 5.9E-05        | 5.8E-05        |
| Naphthalene, 2,3-dimethyl-              | 581-40-8  | 1.0E-04                   | 1.3E-04       | 1.3E-04        | 2.5E-04        | 1.6E-04        | 1.6E-04        | 1.6E-04        |
| Naphthalene, 2-methyl-                  | 91-57-6   | 3.7E-04                   | 4.8E-04       | 4.6E-04        | 8.8E-04        | 5.7E-04        | 5.6E-04        | 5.5E-04        |
| 1-Octadecene                            | 112-88-9  | 3.4E-05                   | 4.4E-05       | 4.3E-05        | 8.2E-05        | 5.3E-05        | 5.3E-05        | 5.2E-05        |
| Octanal                                 | 124-13-0  | 8.7E-04                   | 1.1E-03       | 1.1E-03        | 2.1E-03        | 1.4E-03        | 1.3E-03        | 1.3E-03        |
| Octane                                  | 111-65-9  | 4.7E-04                   | 6.1E-04       | 5.9E-04        | 1.1E-03        | 7.3E-04        | 7.2E-04        | 7.1E-04        |
| 17-Pentatriacontene                     | 6971-40-0 | 5.7E-06                   | 7.4E-06       | 7.2E-06        | 1.4E-05        | 8.9E-06        | 8.7E-06        | 8.6E-06        |
| N-Phenylbenzamide                       | 93-98-1   | 1.4E-03                   | 1.8E-03       | 1.8E-03        | 3.3E-03        | 2.2E-03        | 2.1E-03        | 2.1E-03        |
| Phenanthrene                            | 85-01-8   | 1.9E-06                   | 2.5E-06       | 2.4E-06        | 4.6E-06        | 3.0E-06        | 3.0E-06        | 2.9E-06        |



| Chemical                                    | CASRN     | Chronic HQ <sub>inh</sub> |               |                |                |                |                |                |
|---|-----------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|   |           | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Phenanthrene, 1-methyl                      | 832-69-9  | 1.2E-07                   | 1.6E-07       | 1.5E-07        | 2.9E-07        | 1.9E-07        | 1.9E-07        | 1.8E-07        |
| Phenanthrene, 2-methyl-                     | 2531-84-2 | 2.2E-07                   | 2.9E-07       | 2.8E-07        | 5.3E-07        | 3.4E-07        | 3.4E-07        | 3.3E-07        |
| Phenanthrene, 3-methyl                      | 832-71-3  | 2.6E-07                   | 3.4E-07       | 3.3E-07        | 6.3E-07        | 4.1E-07        | 4.0E-07        | 4.0E-07        |
| Propionaldehyde                             | 123-38-6  | 3.6E-03                   | 4.6E-03       | 4.5E-03        | 8.5E-03        | 5.6E-03        | 5.5E-03        | 5.4E-03        |
| Pyrene                                      | 129-00-0  | 4.7E-06                   | 6.1E-06       | 6.0E-06        | 1.1E-05        | 7.4E-06        | 7.3E-06        | 7.1E-06        |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 1.6E-06                   | 2.0E-06       | 2.0E-06        | 3.7E-06        | 2.4E-06        | 2.4E-06        | 2.4E-06        |
| Resorcinol                                  | 108-46-3  | 1.5E-05                   | 1.9E-05       | 1.8E-05        | 3.5E-05        | 2.3E-05        | 2.2E-05        | 2.2E-05        |
| m-Tolualdehyde                              | 620-23-5  | 1.2E-04                   | 1.6E-04       | 1.5E-04        | 2.9E-04        | 1.9E-04        | 1.8E-04        | 1.8E-04        |
| TXIB "Kodaflex"                             | 6846-50-0 | 2.9E-05                   | 3.8E-05       | 3.7E-05        | 7.0E-05        | 4.6E-05        | 4.5E-05        | 4.4E-05        |
| 5,9-Undecadien-2-one,<br>6,10-dimethyl-     | 689-67-8  | 3.7E-06                   | 4.8E-06       | 4.6E-06        | 8.8E-06        | 5.7E-06        | 5.6E-06        | 5.5E-06        |
| Undecane                                    | 1120-21-4 | 1.0E-04                   | 1.3E-04       | 1.3E-04        | 2.4E-04        | 1.6E-04        | 1.6E-04        | 1.5E-04        |
| Valeraldehyde                               | 110-62-3  | 1.8E-02                   | 2.3E-02       | 2.3E-02        | 4.3E-02        | 2.8E-02        | 2.8E-02        | 2.7E-02        |
| Field-Related Chronic HQ <sub>inh-sum</sub> |           | 9.7E-02                   | 1.3E-01       | 1.2E-01        | 2.3E-01        | 1.5E-01        | 1.5E-01        | 1.5E-01        |

Values are rounded to two significant figures.

Table G-2. **On-Field** Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for **Non-Field-Related General Chemicals**—Combined Gender **Athletes**

| Chemical                               | CASRN    | Chronic HQ <sub>inh</sub> |               |                |                |                |                |                |
|--|----------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|  |          | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Benzene                                | 71-43-2  | 3.1E-02                   | 4.1E-02       | 4.0E-02        | 7.5E-02        | 4.9E-02        | 4.8E-02        | 4.7E-02        |
| Benzene, 1,4-dichloro                  | 106-46-7 | 5.0E-05                   | 6.4E-05       | 6.3E-05        | 1.2E-04        | 7.7E-05        | 7.6E-05        | 7.5E-05        |
| Benzene, 1-chloro-4-(trifluoromethyl)- | 98-56-6  | 3.0E-04                   | 3.9E-04       | 3.8E-04        | 7.1E-04        | 4.6E-04        | 4.6E-04        | 4.5E-04        |
| 2-Butoxyethanol                        | 111-76-2 | 9.6E-06                   | 1.2E-05       | 1.2E-05        | 2.3E-05        | 1.5E-05        | 1.5E-05        | 1.5E-05        |
| Cyclotrisiloxane, hexamethyl-          | 541-05-9 | 1.6E-05                   | 2.1E-05       | 2.1E-05        | 3.9E-05        | 2.5E-05        | 2.5E-05        | 2.5E-05        |
| Decanal                                | 112-31-2 | 5.4E-04                   | 7.1E-04       | 6.9E-04        | 1.3E-03        | 8.5E-04        | 8.4E-04        | 8.2E-04        |



| Chemical  | CASRN      | Chronic HQ <sub>inh</sub> |            |             |             |             |             |             |
|---|------------|---------------------------|------------|-------------|-------------|-------------|-------------|-------------|
|   |            | 2<6 years                 | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Ethylbenzene                                    | 100-41-4   | 8.9E-05                   | 1.2E-04    | 1.1E-04     | 2.1E-04     | 1.4E-04     | 1.4E-04     | 1.3E-04     |
| Heptane   | 142-82-5   | 8.9E-05                   | 1.2E-04    | 1.1E-04     | 2.1E-04     | 1.4E-04     | 1.4E-04     | 1.4E-04     |
| Hexanal   | 66-25-1    | 1.5E-02                   | 2.0E-02    | 1.9E-02     | 3.6E-02     | 2.4E-02     | 2.3E-02     | 2.3E-02     |
| Hexane  | 110-54-3   | 1.5E-04                   | 1.9E-04    | 1.9E-04     | 3.5E-04     | 2.3E-04     | 2.3E-04     | 2.2E-04     |
| 1-Hexanol, 2-ethyl-                             | 104-76-7   | 3.0E-03                   | 3.9E-03    | 3.8E-03     | 7.2E-03     | 4.7E-03     | 4.7E-03     | 4.6E-03     |
| Nonanal   | 124-19-6   | 1.5E-04                   | 2.0E-04    | 1.9E-04     | 3.6E-04     | 2.4E-04     | 2.3E-04     | 2.3E-04     |
| Phenol  | 108-95-2   | 4.5E-05                   | 5.9E-05    | 5.7E-05     | 1.1E-04     | 7.1E-05     | 7.0E-05     | 6.8E-05     |
| Tetrachloroethylene                             | 127-18-4   | 1.9E-04                   | 2.4E-04    | 2.3E-04     | 4.4E-04     | 2.9E-04     | 2.9E-04     | 2.8E-04     |
| Tetradecane                                     | 629-59-4   | 6.3E-05                   | 8.2E-05    | 8.0E-05     | 1.5E-04     | 9.8E-05     | 9.7E-05     | 9.5E-05     |
| Texanol, TXIB (mono-isomer)                     | 25265-77-4 | 1.5E-03                   | 2.0E-03    | 2.0E-03     | 3.7E-03     | 2.4E-03     | 2.4E-03     | 2.3E-03     |
| Toluene   | 108-88-3   | 5.0E-04                   | 6.5E-04    | 6.3E-04     | 1.2E-03     | 7.8E-04     | 7.7E-04     | 7.6E-04     |
| Trichloroethylene                               | 79-01-6    | 5.0E-06                   | 6.5E-06    | 6.4E-06     | 1.2E-05     | 7.9E-06     | 7.8E-06     | 7.6E-06     |
| Trichloromethane                                | 67-66-3    | 5.6E-04                   | 7.3E-04    | 7.1E-04     | 1.3E-03     | 8.8E-04     | 8.7E-04     | 8.5E-04     |
| m/p-Xylene                                      | 106-42-3   | 9.0E-04                   | 1.2E-03    | 1.1E-03     | 2.1E-03     | 1.4E-03     | 1.4E-03     | 1.4E-03     |
| o-Xylene  | 95-47-6    | 3.0E-04                   | 3.9E-04    | 3.8E-04     | 7.2E-04     | 4.7E-04     | 4.6E-04     | 4.5E-04     |
| Non-Field-Related Chronic HQ <sub>inh-sum</sub> |            | 5.5E-02                   | 7.1E-02    | 7.0E-02     | 1.3E-01     | 8.6E-02     | 8.5E-02     | 8.3E-02     |

Values are rounded to two significant figures.

**Table G-3. On-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for Field-Related General Chemicals—Combined Gender Coaches**

| Chemical       | CASRN    | Chronic HQ <sub>inh</sub> |             |             |             |
|----------------|----------|---------------------------|-------------|-------------|-------------|
|                |          | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene | 208-96-8 | 7.3E-07                   | 6.4E-07     | 6.5E-07     | 6.5E-07     |
| Acetone        | 67-64-1  | 9.5E-04                   | 8.3E-04     | 8.4E-04     | 8.4E-04     |
| Aniline        | 62-53-3  | 9.9E-04                   | 8.7E-04     | 8.8E-04     | 8.8E-04     |



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| Chemical   | CASRN     | Chronic HQ <sub>inh</sub> |                |                |                |
|--|-----------|---------------------------|----------------|----------------|----------------|
|  |           | 16<30<br>years            | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Anthracene   | 120-12-7  | 4.8E-08                   | 4.2E-08        | 4.2E-08        | 4.2E-08        |
| Anthracene, 2-methyl-                                | 613-12-7  | 1.2E-08                   | 1.1E-08        | 1.1E-08        | 1.1E-08        |
| Anthracene, 9,10-dimethyl                            | 781-43-1  | 1.4E-08                   | 1.2E-08        | 1.3E-08        | 1.3E-08        |
| Anthracene, 9-phenyl                                 | 602-55-1  | 1.3E-09                   | 1.2E-09        | 1.2E-09        | 1.2E-09        |
| Benz[a]anthracene                                    | 56-55-3   | 7.2E-10                   | 6.3E-10        | 6.3E-10        | 6.4E-10        |
| Benzaldehyde   | 100-52-7  | 3.9E-05                   | 3.4E-05        | 3.4E-05        | 3.5E-05        |
| Benzene, 1,2,3-trimethyl-                            | 526-73-8  | 3.4E-05                   | 2.9E-05        | 3.0E-05        | 3.0E-05        |
| Benzene, 1,2,4,5-tetramethyl-                        | 95-93-2   | 6.4E-06                   | 5.6E-06        | 5.6E-06        | 5.7E-06        |
| Benzene, 1,2,4-trimethyl-                            | 95-63-6   | 3.0E-04                   | 2.6E-04        | 2.6E-04        | 2.7E-04        |
| Benzene, 1-ethyl-2,4-dimethyl-                       | 874-41-9  | 1.3E-05                   | 1.2E-05        | 1.2E-05        | 1.2E-05        |
| Benzene, 2-ethyl-1,4-dimethyl-                       | 1758-88-9 | 1.9E-05                   | 1.7E-05        | 1.7E-05        | 1.7E-05        |
| Benzene, butyl-                                      | 104-51-8  | 2.3E-08                   | 2.0E-08        | 2.0E-08        | 2.0E-08        |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 5.4E-05                   | 4.8E-05        | 4.8E-05        | 4.8E-05        |
| Benzo[b]fluoranthene                                 | 205-99-2  | 2.7E-08                   | 2.4E-08        | 2.4E-08        | 2.4E-08        |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 5.9E-08                   | 5.2E-08        | 5.2E-08        | 5.2E-08        |
| Benzo[k]fluoranthene                                 | 207-08-9  | 3.4E-08                   | 2.9E-08        | 3.0E-08        | 3.0E-08        |
| Benzothiazole  | 95-16-9   | 3.2E-03                   | 2.8E-03        | 2.9E-03        | 2.9E-03        |
| Benzothiazole, 2-phenyl-                             | 883-93-2  | 2.6E-04                   | 2.3E-04        | 2.3E-04        | 2.3E-04        |
| 2-Benzothiazolone                                    | 934-34-9  | 4.0E-04                   | 3.5E-04        | 3.6E-04        | 3.6E-04        |
| Benzyl butyl phthalate                               | 85-68-7   | 7.5E-07                   | 6.6E-07        | 6.6E-07        | 6.6E-07        |
| Butanal  | 123-72-8  | 5.8E-03                   | 5.1E-03        | 5.2E-03        | 5.2E-03        |
| Cyclopentasiloxane, decamethyl-                      | 541-02-6  | 3.5E-05                   | 3.1E-05        | 3.1E-05        | 3.1E-05        |
| Cyclotetrasiloxane, octamethyl-                      | 556-67-2  | 1.3E-05                   | 1.1E-05        | 1.1E-05        | 1.1E-05        |
| p-Cymene   | 99-87-6   | 6.4E-05                   | 5.6E-05        | 5.6E-05        | 5.7E-05        |
| Decane   | 124-18-5  | 4.1E-04                   | 3.6E-04        | 3.7E-04        | 3.7E-04        |



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| Chemical                                | CASRN      | Chronic HQ <sub>inh</sub> |                |                |                |
|---|------------|---------------------------|----------------|----------------|----------------|
|   |            | 16<30<br>years            | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Dibenz[a,h]anthracene                   | 53-70-3    | 2.1E-08                   | 1.8E-08        | 1.8E-08        | 1.9E-08        |
| Dibenzothiophene                        | 132-65-0   | 5.4E-06                   | 4.7E-06        | 4.8E-06        | 4.8E-06        |
| Dibutyl phthalate                       | 84-74-2    | 1.6E-04                   | 1.4E-04        | 1.5E-04        | 1.5E-04        |
| Diethyl phthalate                       | 84-66-2    | 1.4E-07                   | 1.3E-07        | 1.3E-07        | 1.3E-07        |
| Diisobutyl phthalate                    | 84-69-5    | 6.2E-05                   | 5.4E-05        | 5.5E-05        | 5.5E-05        |
| Diisooctylphthalate                     | 27554-26-3 | 2.2E-04                   | 1.9E-04        | 1.9E-04        | 1.9E-04        |
| Di-n-octyl phthalate                    | 117-84-0   | 4.2E-07                   | 3.7E-07        | 3.7E-07        | 3.7E-07        |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 7.1E-04                   | 6.2E-04        | 6.2E-04        | 6.3E-04        |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0  | 2.5E-06                   | 2.2E-06        | 2.2E-06        | 2.2E-06        |
| Dodecane                                | 112-40-3   | 5.2E-05                   | 4.5E-05        | 4.6E-05        | 4.6E-05        |
| Fluoranthene                            | 206-44-0   | 4.1E-06                   | 3.6E-06        | 3.6E-06        | 3.7E-06        |
| Fluorene                                | 86-73-7    | 6.5E-06                   | 5.7E-06        | 5.8E-06        | 5.8E-06        |
| Furan, 2-methyl                         | 534-22-5   | 4.7E-02                   | 4.1E-02        | 4.1E-02        | 4.1E-02        |
| Heptanal                                | 111-71-7   | 2.8E-04                   | 2.5E-04        | 2.5E-04        | 2.5E-04        |
| Hexadecane                              | 544-76-3   | 2.4E-04                   | 2.1E-04        | 2.1E-04        | 2.2E-04        |
| 2,5-Hexanedione                         | 110-13-4   | 1.4E-04                   | 1.2E-04        | 1.2E-04        | 1.2E-04        |
| Indan                                   | 496-11-7   | 2.3E-06                   | 2.0E-06        | 2.0E-06        | 2.1E-06        |
| Mesitylene                              | 108-67-8   | 7.0E-05                   | 6.2E-05        | 6.2E-05        | 6.2E-05        |
| Methacrolein                            | 78-85-3    | 8.3E-03                   | 7.2E-03        | 7.3E-03        | 7.3E-03        |
| Methyl Isobutyl Ketone                  | 108-10-1   | 1.5E-05                   | 1.3E-05        | 1.3E-05        | 1.3E-05        |
| Naphthalene                             | 91-20-3    | 1.4E-03                   | 1.2E-03        | 1.2E-03        | 1.2E-03        |
| Naphthalene, 1,2-dimethyl-              | 573-98-8   | 1.9E-05                   | 1.7E-05        | 1.7E-05        | 1.7E-05        |
| Naphthalene, 1,6-dimethyl-              | 575-43-9   | 1.4E-04                   | 1.2E-04        | 1.2E-04        | 1.2E-04        |
| Naphthalene, 1-methyl-                  | 90-12-0    | 1.4E-04                   | 1.2E-04        | 1.2E-04        | 1.2E-04        |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4   | 3.8E-05                   | 3.3E-05        | 3.3E-05        | 3.3E-05        |
| Naphthalene, 2,3-dimethyl-              | 581-40-8   | 1.0E-04                   | 8.9E-05        | 9.0E-05        | 9.1E-05        |



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| Chemical                                    | CASRN     | Chronic HQ <sub>inh</sub> |                |                |                |
|---|-----------|---------------------------|----------------|----------------|----------------|
|   |           | 16<30<br>years            | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Naphthalene, 2-methyl-                      | 91-57-6   | 3.6E-04                   | 3.2E-04        | 3.2E-04        | 3.2E-04        |
| 1-Octadecene                                | 112-88-9  | 3.4E-05                   | 3.0E-05        | 3.0E-05        | 3.0E-05        |
| Octanal                                     | 124-13-0  | 8.6E-04                   | 7.5E-04        | 7.6E-04        | 7.6E-04        |
| Octane                                      | 111-65-9  | 4.6E-04                   | 4.0E-04        | 4.1E-04        | 4.1E-04        |
| 17-Pentatriacontene                         | 6971-40-0 | 5.6E-06                   | 4.9E-06        | 4.9E-06        | 5.0E-06        |
| N-Phenylbenzamide                           | 93-98-1   | 1.4E-03                   | 1.2E-03        | 1.2E-03        | 1.2E-03        |
| Phenanthrene                                | 85-01-8   | 1.9E-06                   | 1.7E-06        | 1.7E-06        | 1.7E-06        |
| Phenanthrene, 1-methyl                      | 832-69-9  | 1.2E-07                   | 1.0E-07        | 1.1E-07        | 1.1E-07        |
| Phenanthrene, 2-methyl-                     | 2531-84-2 | 2.2E-07                   | 1.9E-07        | 1.9E-07        | 1.9E-07        |
| Phenanthrene, 3-methyl                      | 832-71-3  | 2.6E-07                   | 2.3E-07        | 2.3E-07        | 2.3E-07        |
| Propionaldehyde                             | 123-38-6  | 3.5E-03                   | 3.1E-03        | 3.1E-03        | 3.1E-03        |
| Pyrene                                      | 129-00-0  | 4.7E-06                   | 4.1E-06        | 4.1E-06        | 4.1E-06        |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 1.5E-06                   | 1.4E-06        | 1.4E-06        | 1.4E-06        |
| Resorcinol                                  | 108-46-3  | 1.4E-05                   | 1.3E-05        | 1.3E-05        | 1.3E-05        |
| m-Tolualdehyde                              | 620-23-5  | 1.2E-04                   | 1.0E-04        | 1.0E-04        | 1.0E-04        |
| TXIB "Kodaflex"                             | 6846-50-0 | 2.9E-05                   | 2.5E-05        | 2.5E-05        | 2.6E-05        |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 3.6E-06                   | 3.2E-06        | 3.2E-06        | 3.2E-06        |
| Undecane                                    | 1120-21-4 | 1.0E-04                   | 8.8E-05        | 8.9E-05        | 8.9E-05        |
| Valeraldehyde                               | 110-62-3  | 1.8E-02                   | 1.6E-02        | 1.6E-02        | 1.6E-02        |
| Field-Related Chronic HQ <sub>inh-sum</sub> |           | 9.6E-02                   | 8.4E-02        | 8.5E-02        | 8.5E-02        |

Values are rounded to two significant figures.



**Table G-4. On-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for Non-Field-Related General Chemicals—Combined Gender Coaches**

| Chemical  | CASRN      | Chronic HQ <sub>inh</sub> |             |             |             |
|---|------------|---------------------------|-------------|-------------|-------------|
|   |            | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Benzene   | 71-43-2    | 3.1E-02                   | 2.7E-02     | 2.7E-02     | 2.7E-02     |
| Benzene, 1,4-dichloro                           | 106-46-7   | 4.9E-05                   | 4.3E-05     | 4.3E-05     | 4.3E-05     |
| Benzene, 1-chloro-4-(trifluoromethyl)-          | 98-56-6    | 2.9E-04                   | 2.6E-04     | 2.6E-04     | 2.6E-04     |
| 2-Butoxyethanol                                 | 111-76-2   | 9.5E-06                   | 8.3E-06     | 8.4E-06     | 8.4E-06     |
| Cyclotrisiloxane, hexamethyl-                   | 541-05-9   | 1.6E-05                   | 1.4E-05     | 1.4E-05     | 1.4E-05     |
| Decanal   | 112-31-2   | 5.4E-04                   | 4.7E-04     | 4.7E-04     | 4.8E-04     |
| Ethylbenzene                                    | 100-41-4   | 8.8E-05                   | 7.7E-05     | 7.7E-05     | 7.8E-05     |
| Heptane   | 142-82-5   | 8.8E-05                   | 7.7E-05     | 7.8E-05     | 7.8E-05     |
| Hexanal   | 66-25-1    | 1.5E-02                   | 1.3E-02     | 1.3E-02     | 1.3E-02     |
| Hexane  | 110-54-3   | 1.5E-04                   | 1.3E-04     | 1.3E-04     | 1.3E-04     |
| 1-Hexanol, 2-ethyl-                             | 104-76-7   | 3.0E-03                   | 2.6E-03     | 2.6E-03     | 2.6E-03     |
| Nonanal   | 124-19-6   | 1.5E-04                   | 1.3E-04     | 1.3E-04     | 1.3E-04     |
| Phenol  | 108-95-2   | 4.5E-05                   | 3.9E-05     | 3.9E-05     | 4.0E-05     |
| Tetrachloroethylene                             | 127-18-4   | 1.8E-04                   | 1.6E-04     | 1.6E-04     | 1.6E-04     |
| Tetradecane                                     | 629-59-4   | 6.2E-05                   | 5.4E-05     | 5.5E-05     | 5.5E-05     |
| Texanol, TXIB (mono-isomer)                     | 25265-77-4 | 1.5E-03                   | 1.3E-03     | 1.3E-03     | 1.3E-03     |
| Toluene   | 108-88-3   | 4.9E-04                   | 4.3E-04     | 4.4E-04     | 4.4E-04     |
| Trichloroethylene                               | 79-01-6    | 5.0E-06                   | 4.4E-06     | 4.4E-06     | 4.4E-06     |
| Trichloromethane                                | 67-66-3    | 5.5E-04                   | 4.8E-04     | 4.9E-04     | 4.9E-04     |
| m/p-Xylene                                      | 106-42-3   | 8.8E-04                   | 7.7E-04     | 7.8E-04     | 7.8E-04     |
| o-Xylene  | 95-47-6    | 3.0E-04                   | 2.6E-04     | 2.6E-04     | 2.6E-04     |
| Non-Field-Related Chronic HQ <sub>inh-sum</sub> |            | 5.4E-02                   | 4.7E-02     | 4.8E-02     | 4.8E-02     |

Values are rounded to two significant figures.



Table G-5. **On-Field** Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for **Field-Related General Chemicals**—Combined Gender

**Referees**

| Chemical   | CASRN     | Chronic HQ <sub>inh</sub> |             |             |             |
|--|-----------|---------------------------|-------------|-------------|-------------|
|  |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8  | 2.7E-07                   | 2.4E-07     | 2.4E-07     | 2.4E-07     |
| Acetone  | 67-64-1   | 3.5E-04                   | 3.1E-04     | 3.1E-04     | 3.1E-04     |
| Aniline  | 62-53-3   | 3.7E-04                   | 3.2E-04     | 3.3E-04     | 3.3E-04     |
| Anthracene   | 120-12-7  | 1.8E-08                   | 1.5E-08     | 1.6E-08     | 1.6E-08     |
| Anthracene, 2-methyl-                                | 613-12-7  | 4.6E-09                   | 4.0E-09     | 4.1E-09     | 4.1E-09     |
| Anthracene, 9,10-dimethyl                            | 781-43-1  | 5.3E-09                   | 4.6E-09     | 4.6E-09     | 4.7E-09     |
| Anthracene, 9-phenyl                                 | 602-55-1  | 4.9E-10                   | 4.3E-10     | 4.3E-10     | 4.3E-10     |
| Benz[a]anthracene                                    | 56-55-3   | 2.7E-10                   | 2.3E-10     | 2.4E-10     | 2.4E-10     |
| Benzaldehyde   | 100-52-7  | 1.4E-05                   | 1.3E-05     | 1.3E-05     | 1.3E-05     |
| Benzene, 1,2,3-trimethyl-                            | 526-73-8  | 1.2E-05                   | 1.1E-05     | 1.1E-05     | 1.1E-05     |
| Benzene, 1,2,4,5-tetramethyl-                        | 95-93-2   | 2.4E-06                   | 2.1E-06     | 2.1E-06     | 2.1E-06     |
| Benzene, 1,2,4-trimethyl-                            | 95-63-6   | 1.1E-04                   | 9.7E-05     | 9.8E-05     | 9.9E-05     |
| Benzene, 1-ethyl-2,4-dimethyl-                       | 874-41-9  | 5.0E-06                   | 4.4E-06     | 4.4E-06     | 4.4E-06     |
| Benzene, 2-ethyl-1,4-dimethyl-                       | 1758-88-9 | 7.1E-06                   | 6.2E-06     | 6.2E-06     | 6.3E-06     |
| Benzene, butyl-                                      | 104-51-8  | 8.5E-09                   | 7.4E-09     | 7.5E-09     | 7.5E-09     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 2.0E-05                   | 1.8E-05     | 1.8E-05     | 1.8E-05     |
| Benzo[b]fluoranthene                                 | 205-99-2  | 1.0E-08                   | 8.7E-09     | 8.8E-09     | 8.9E-09     |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 2.2E-08                   | 1.9E-08     | 1.9E-08     | 1.9E-08     |
| Benzo[k]fluoranthene                                 | 207-08-9  | 1.2E-08                   | 1.1E-08     | 1.1E-08     | 1.1E-08     |
| Benzothiazole  | 95-16-9   | 1.2E-03                   | 1.0E-03     | 1.1E-03     | 1.1E-03     |
| Benzothiazole, 2-phenyl-                             | 883-93-2  | 9.6E-05                   | 8.4E-05     | 8.4E-05     | 8.5E-05     |
| 2-Benzothiazolone                                    | 934-34-9  | 1.5E-04                   | 1.3E-04     | 1.3E-04     | 1.3E-04     |
| Benzyl butyl phthalate                               | 85-68-7   | 2.8E-07                   | 2.4E-07     | 2.5E-07     | 2.5E-07     |



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| Chemical                                | CASRN      | Chronic HQ <sub>inh</sub> |             |             |             |
|---|------------|---------------------------|-------------|-------------|-------------|
|   |            | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Butanal                                 | 123-72-8   | 2.2E-03                   | 1.9E-03     | 1.9E-03     | 1.9E-03     |
| Cyclopentasiloxane, decamethyl-         | 541-02-6   | 1.3E-05                   | 1.1E-05     | 1.2E-05     | 1.2E-05     |
| Cyclotetrasiloxane, octamethyl-         | 556-67-2   | 4.7E-06                   | 4.1E-06     | 4.2E-06     | 4.2E-06     |
| p-Cymene                                | 99-87-6    | 2.4E-05                   | 2.1E-05     | 2.1E-05     | 2.1E-05     |
| Decane                                  | 124-18-5   | 1.5E-04                   | 1.3E-04     | 1.4E-04     | 1.4E-04     |
| Dibenz[a,h]anthracene                   | 53-70-3    | 7.8E-09                   | 6.8E-09     | 6.9E-09     | 6.9E-09     |
| Dibenzothiophene                        | 132-65-0   | 2.0E-06                   | 1.8E-06     | 1.8E-06     | 1.8E-06     |
| Dibutyl phthalate                       | 84-74-2    | 6.1E-05                   | 5.3E-05     | 5.4E-05     | 5.4E-05     |
| Diethyl phthalate                       | 84-66-2    | 5.3E-08                   | 4.7E-08     | 4.7E-08     | 4.7E-08     |
| Diisobutyl phthalate                    | 84-69-5    | 2.3E-05                   | 2.0E-05     | 2.0E-05     | 2.0E-05     |
| Diisooctylphthalate                     | 27554-26-3 | 8.0E-05                   | 7.0E-05     | 7.1E-05     | 7.1E-05     |
| Di-n-octyl phthalate                    | 117-84-0   | 1.6E-07                   | 1.4E-07     | 1.4E-07     | 1.4E-07     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 2.6E-04                   | 2.3E-04     | 2.3E-04     | 2.3E-04     |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0  | 9.2E-07                   | 8.0E-07     | 8.1E-07     | 8.1E-07     |
| Dodecane                                | 112-40-3   | 1.9E-05                   | 1.7E-05     | 1.7E-05     | 1.7E-05     |
| Fluoranthene                            | 206-44-0   | 1.5E-06                   | 1.3E-06     | 1.4E-06     | 1.4E-06     |
| Fluorene                                | 86-73-7    | 2.4E-06                   | 2.1E-06     | 2.1E-06     | 2.1E-06     |
| Furan, 2-methyl                         | 534-22-5   | 1.7E-02                   | 1.5E-02     | 1.5E-02     | 1.5E-02     |
| Heptanal                                | 111-71-7   | 1.0E-04                   | 9.1E-05     | 9.2E-05     | 9.3E-05     |
| Hexadecane                              | 544-76-3   | 9.0E-05                   | 7.9E-05     | 8.0E-05     | 8.0E-05     |
| 2,5-Hexanedione                         | 110-13-4   | 5.1E-05                   | 4.5E-05     | 4.5E-05     | 4.6E-05     |
| Indan                                   | 496-11-7   | 8.6E-07                   | 7.5E-07     | 7.6E-07     | 7.6E-07     |
| Mesitylene                              | 108-67-8   | 2.6E-05                   | 2.3E-05     | 2.3E-05     | 2.3E-05     |
| Methacrolein                            | 78-85-3    | 3.1E-03                   | 2.7E-03     | 2.7E-03     | 2.7E-03     |
| Methyl Isobutyl Ketone                  | 108-10-1   | 5.6E-06                   | 4.9E-06     | 4.9E-06     | 4.9E-06     |
| Naphthalene                             | 91-20-3    | 5.0E-04                   | 4.4E-04     | 4.4E-04     | 4.5E-04     |



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| Chemical                                    | CASRN     | Chronic HQ <sub>inh</sub> |             |             |             |
|---|-----------|---------------------------|-------------|-------------|-------------|
|   |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Naphthalene, 1,2-dimethyl-                  | 573-98-8  | 7.0E-06                   | 6.1E-06     | 6.2E-06     | 6.2E-06     |
| Naphthalene, 1,6-dimethyl-                  | 575-43-9  | 5.0E-05                   | 4.4E-05     | 4.4E-05     | 4.5E-05     |
| Naphthalene, 1-methyl-                      | 90-12-0   | 5.0E-05                   | 4.4E-05     | 4.4E-05     | 4.5E-05     |
| Naphthalene, 2-(bromomethyl)-               | 939-26-4  | 1.4E-05                   | 1.2E-05     | 1.2E-05     | 1.2E-05     |
| Naphthalene, 2,3-dimethyl-                  | 581-40-8  | 3.8E-05                   | 3.3E-05     | 3.4E-05     | 3.4E-05     |
| Naphthalene, 2-methyl-                      | 91-57-6   | 1.3E-04                   | 1.2E-04     | 1.2E-04     | 1.2E-04     |
| 1-Octadecene                                | 112-88-9  | 1.3E-05                   | 1.1E-05     | 1.1E-05     | 1.1E-05     |
| Octanal                                     | 124-13-0  | 3.2E-04                   | 2.8E-04     | 2.8E-04     | 2.8E-04     |
| Octane                                      | 111-65-9  | 1.7E-04                   | 1.5E-04     | 1.5E-04     | 1.5E-04     |
| 17-Pentatriacontene                         | 6971-40-0 | 2.1E-06                   | 1.8E-06     | 1.8E-06     | 1.8E-06     |
| N-Phenylbenzamide                           | 93-98-1   | 5.1E-04                   | 4.5E-04     | 4.5E-04     | 4.5E-04     |
| Phenanthrene                                | 85-01-8   | 7.0E-07                   | 6.1E-07     | 6.2E-07     | 6.2E-07     |
| Phenanthrene, 1-methyl                      | 832-69-9  | 4.4E-08                   | 3.9E-08     | 3.9E-08     | 3.9E-08     |
| Phenanthrene, 2-methyl-                     | 2531-84-2 | 8.1E-08                   | 7.1E-08     | 7.1E-08     | 7.2E-08     |
| Phenanthrene, 3-methyl                      | 832-71-3  | 9.6E-08                   | 8.4E-08     | 8.5E-08     | 8.5E-08     |
| Propionaldehyde                             | 123-38-6  | 1.3E-03                   | 1.1E-03     | 1.2E-03     | 1.2E-03     |
| Pyrene                                      | 129-00-0  | 1.7E-06                   | 1.5E-06     | 1.5E-06     | 1.5E-06     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 5.7E-07                   | 5.0E-07     | 5.1E-07     | 5.1E-07     |
| Resorcinol                                  | 108-46-3  | 5.3E-06                   | 4.7E-06     | 4.7E-06     | 4.7E-06     |
| m-Tolualdehyde                              | 620-23-5  | 4.4E-05                   | 3.8E-05     | 3.9E-05     | 3.9E-05     |
| TXIB "Kodaflex"                             | 6846-50-0 | 1.1E-05                   | 9.3E-06     | 9.5E-06     | 9.5E-06     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 1.3E-06                   | 1.2E-06     | 1.2E-06     | 1.2E-06     |
| Undecane                                    | 1120-21-4 | 3.7E-05                   | 3.3E-05     | 3.3E-05     | 3.3E-05     |
| Valeraldehyde                               | 110-62-3  | 6.6E-03                   | 5.8E-03     | 5.9E-03     | 5.9E-03     |
| Field-Related Chronic HQ <sub>inh-sum</sub> |           | 3.6E-02                   | 3.1E-02     | 3.1E-02     | 3.2E-02     |

Values are rounded to two significant figures.



**Table G-6. On-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for Non-Field-Related General Chemicals—Combined Gender Referees**

| Chemical  | CASRN      | Chronic HQ <sub>inh</sub> |             |             |             |
|---|------------|---------------------------|-------------|-------------|-------------|
|   |            | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Benzene   | 71-43-2    | 1.1E-02                   | 1.0E-02     | 1.0E-02     | 1.0E-02     |
| Benzene, 1,4-dichloro                           | 106-46-7   | 1.8E-05                   | 1.6E-05     | 1.6E-05     | 1.6E-05     |
| Benzene, 1-chloro-4-(trifluoromethyl)-          | 98-56-6    | 1.1E-04                   | 9.5E-05     | 9.6E-05     | 9.6E-05     |
| 2-Butoxyethanol                                 | 111-76-2   | 3.5E-06                   | 3.1E-06     | 3.1E-06     | 3.1E-06     |
| Cyclotrisiloxane, hexamethyl-                   | 541-05-9   | 5.9E-06                   | 5.2E-06     | 5.3E-06     | 5.3E-06     |
| Decanal   | 112-31-2   | 2.0E-04                   | 1.7E-04     | 1.8E-04     | 1.8E-04     |
| Ethylbenzene                                    | 100-41-4   | 3.3E-05                   | 2.8E-05     | 2.9E-05     | 2.9E-05     |
| Heptane   | 142-82-5   | 3.3E-05                   | 2.9E-05     | 2.9E-05     | 2.9E-05     |
| Hexanal   | 66-25-1    | 5.6E-03                   | 4.9E-03     | 4.9E-03     | 5.0E-03     |
| Hexane  | 110-54-3   | 5.4E-05                   | 4.8E-05     | 4.8E-05     | 4.8E-05     |
| 1-Hexanol, 2-ethyl-                             | 104-76-7   | 1.1E-03                   | 9.7E-04     | 9.8E-04     | 9.8E-04     |
| Nonanal   | 124-19-6   | 5.5E-05                   | 4.8E-05     | 4.9E-05     | 4.9E-05     |
| Phenol  | 108-95-2   | 1.7E-05                   | 1.5E-05     | 1.5E-05     | 1.5E-05     |
| Tetrachloroethylene                             | 127-18-4   | 6.8E-05                   | 5.9E-05     | 6.0E-05     | 6.0E-05     |
| Tetradecane                                     | 629-59-4   | 2.3E-05                   | 2.0E-05     | 2.0E-05     | 2.0E-05     |
| Texanol, TXIB (mono-isomer)                     | 25265-77-4 | 5.6E-04                   | 4.9E-04     | 5.0E-04     | 5.0E-04     |
| Toluene   | 108-88-3   | 1.8E-04                   | 1.6E-04     | 1.6E-04     | 1.6E-04     |
| Trichloroethylene                               | 79-01-6    | 1.8E-06                   | 1.6E-06     | 1.6E-06     | 1.6E-06     |
| Trichloromethane                                | 67-66-3    | 2.1E-04                   | 1.8E-04     | 1.8E-04     | 1.8E-04     |
| m/p-Xylene                                      | 106-42-3   | 3.3E-04                   | 2.9E-04     | 2.9E-04     | 2.9E-04     |
| o-Xylene  | 95-47-6    | 1.1E-04                   | 9.6E-05     | 9.7E-05     | 9.7E-05     |
| Non-Field-Related Chronic HQ <sub>inh-sum</sub> |            | 2.0E-02                   | 1.8E-02     | 1.8E-02     | 1.8E-02     |

Values are rounded to two significant figures.



**Table G-7. On-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for Field-Related General Chemicals—Combined Gender Spectators**

| Chemical   | CASRN     | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|--|-----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |           | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8  | 9.8E-08                   | 7.9E-07   | 4.2E-07   | 4.0E-07    | 1.7E-07     | 1.1E-07     | 9.9E-08     | 1.0E-07     | 1.0E-07     |
| Acetone  | 67-64-1   | 1.3E-04                   | 1.0E-03   | 5.4E-04   | 5.2E-04    | 2.2E-04     | 1.5E-04     | 1.3E-04     | 1.3E-04     | 1.3E-04     |
| Aniline  | 62-53-3   | 1.3E-04                   | 1.1E-03   | 5.6E-04   | 5.4E-04    | 2.3E-04     | 1.5E-04     | 1.3E-04     | 1.4E-04     | 1.4E-04     |
| Anthracene   | 120-12-7  | 6.4E-09                   | 5.2E-08   | 2.7E-08   | 2.6E-08    | 1.1E-08     | 7.4E-09     | 6.4E-09     | 6.5E-09     | 6.5E-09     |
| Anthracene, 2-methyl-                                | 613-12-7  | 1.7E-09                   | 1.3E-08   | 7.1E-09   | 6.8E-09    | 2.9E-09     | 1.9E-09     | 1.7E-09     | 1.7E-09     | 1.7E-09     |
| Anthracene, 9,10-dimethyl                            | 781-43-1  | 1.9E-09                   | 1.5E-08   | 8.1E-09   | 7.7E-09    | 3.3E-09     | 2.2E-09     | 1.9E-09     | 1.9E-09     | 1.9E-09     |
| Anthracene, 9-phenyl                                 | 602-55-1  | 1.8E-10                   | 1.4E-09   | 7.5E-10   | 7.2E-10    | 3.1E-10     | 2.0E-10     | 1.8E-10     | 1.8E-10     | 1.8E-10     |
| Benz[a]anthracene                                    | 56-55-3   | 9.7E-11                   | 7.8E-10   | 4.1E-10   | 3.9E-10    | 1.7E-10     | 1.1E-10     | 9.7E-11     | 9.8E-11     | 9.8E-11     |
| Benzaldehyde   | 100-52-7  | 5.2E-06                   | 4.2E-05   | 2.2E-05   | 2.1E-05    | 9.1E-06     | 6.0E-06     | 5.3E-06     | 5.3E-06     | 5.3E-06     |
| Benzene, 1,2,3-trimethyl-                            | 526-73-8  | 4.5E-06                   | 3.6E-05   | 1.9E-05   | 1.8E-05    | 7.9E-06     | 5.2E-06     | 4.5E-06     | 4.6E-06     | 4.6E-06     |
| Benzene, 1,2,4,5-tetramethyl-                        | 95-93-2   | 8.6E-07                   | 6.9E-06   | 3.6E-06   | 3.5E-06    | 1.5E-06     | 9.9E-07     | 8.6E-07     | 8.7E-07     | 8.7E-07     |
| Benzene, 1,2,4-trimethyl-                            | 95-63-6   | 4.0E-05                   | 3.2E-04   | 1.7E-04   | 1.6E-04    | 7.0E-05     | 4.6E-05     | 4.0E-05     | 4.1E-05     | 4.1E-05     |
| Benzene, 1-ethyl-2,4-dimethyl-                       | 874-41-9  | 1.8E-06                   | 1.5E-05   | 7.6E-06   | 7.3E-06    | 3.1E-06     | 2.1E-06     | 1.8E-06     | 1.8E-06     | 1.8E-06     |
| Benzene, 2-ethyl-1,4-dimethyl-                       | 1758-88-9 | 2.6E-06                   | 2.1E-05   | 1.1E-05   | 1.0E-05    | 4.5E-06     | 2.9E-06     | 2.6E-06     | 2.6E-06     | 2.6E-06     |
| Benzene, butyl-                                      | 104-51-8  | 3.1E-09                   | 2.5E-08   | 1.3E-08   | 1.2E-08    | 5.4E-09     | 3.5E-09     | 3.1E-09     | 3.1E-09     | 3.1E-09     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 7.3E-06                   | 5.9E-05   | 3.1E-05   | 3.0E-05    | 1.3E-05     | 8.4E-06     | 7.4E-06     | 7.4E-06     | 7.5E-06     |
| Benzo[b]fluoranthene                                 | 205-99-2  | 3.6E-09                   | 2.9E-08   | 1.5E-08   | 1.5E-08    | 6.3E-09     | 4.2E-09     | 3.6E-09     | 3.7E-09     | 3.7E-09     |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 7.9E-09                   | 6.4E-08   | 3.4E-08   | 3.2E-08    | 1.4E-08     | 9.1E-09     | 8.0E-09     | 8.1E-09     | 8.1E-09     |
| Benzo[k]fluoranthene                                 | 207-08-9  | 4.5E-09                   | 3.6E-08   | 1.9E-08   | 1.8E-08    | 7.9E-09     | 5.2E-09     | 4.5E-09     | 4.6E-09     | 4.6E-09     |



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| Chemical                                | CASRN      | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|---|------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |            | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Benzothiazole                           | 95-16-9    | 4.4E-04                   | 3.5E-03   | 1.8E-03   | 1.8E-03    | 7.6E-04     | 5.0E-04     | 4.4E-04     | 4.4E-04     | 4.4E-04     |
| Benzothiazole, 2-phenyl-                | 883-93-2   | 3.5E-05                   | 2.8E-04   | 1.5E-04   | 1.4E-04    | 6.0E-05     | 4.0E-05     | 3.5E-05     | 3.5E-05     | 3.5E-05     |
| 2-Benzothiazolone                       | 934-34-9   | 5.4E-05                   | 4.4E-04   | 2.3E-04   | 2.2E-04    | 9.5E-05     | 6.2E-05     | 5.5E-05     | 5.5E-05     | 5.5E-05     |
| Benzyl butyl phthalate                  | 85-68-7    | 1.0E-07                   | 8.1E-07   | 4.3E-07   | 4.1E-07    | 1.8E-07     | 1.2E-07     | 1.0E-07     | 1.0E-07     | 1.0E-07     |
| Butanal                                 | 123-72-8   | 7.9E-04                   | 6.3E-03   | 3.3E-03   | 3.2E-03    | 1.4E-03     | 9.0E-04     | 7.9E-04     | 8.0E-04     | 8.0E-04     |
| Cyclopentasiloxane, decamethyl-         | 541-02-6   | 4.7E-06                   | 3.8E-05   | 2.0E-05   | 1.9E-05    | 8.3E-06     | 5.4E-06     | 4.8E-06     | 4.8E-06     | 4.8E-06     |
| Cyclotetrasiloxane, octamethyl-         | 556-67-2   | 1.7E-06                   | 1.4E-05   | 7.2E-06   | 6.9E-06    | 3.0E-06     | 2.0E-06     | 1.7E-06     | 1.7E-06     | 1.7E-06     |
| p-Cymene                                | 99-87-6    | 8.6E-06                   | 6.9E-05   | 3.6E-05   | 3.5E-05    | 1.5E-05     | 9.9E-06     | 8.6E-06     | 8.7E-06     | 8.8E-06     |
| Decane                                  | 124-18-5   | 5.6E-05                   | 4.5E-04   | 2.4E-04   | 2.3E-04    | 9.7E-05     | 6.4E-05     | 5.6E-05     | 5.7E-05     | 5.7E-05     |
| Dibenz[a,h]anthracene                   | 53-70-3    | 2.8E-09                   | 2.3E-08   | 1.2E-08   | 1.1E-08    | 4.9E-09     | 3.2E-09     | 2.8E-09     | 2.9E-09     | 2.9E-09     |
| Dibenzothiophene                        | 132-65-0   | 7.3E-07                   | 5.9E-06   | 3.1E-06   | 2.9E-06    | 1.3E-06     | 8.4E-07     | 7.3E-07     | 7.4E-07     | 7.4E-07     |
| Dibutyl phthalate                       | 84-74-2    | 2.2E-05                   | 1.8E-04   | 9.3E-05   | 8.9E-05    | 3.9E-05     | 2.5E-05     | 2.2E-05     | 2.2E-05     | 2.2E-05     |
| Diethyl phthalate                       | 84-66-2    | 1.9E-08                   | 1.6E-07   | 8.2E-08   | 7.8E-08    | 3.4E-08     | 2.2E-08     | 1.9E-08     | 2.0E-08     | 2.0E-08     |
| Diisobutyl phthalate                    | 84-69-5    | 8.4E-06                   | 6.8E-05   | 3.5E-05   | 3.4E-05    | 1.5E-05     | 9.6E-06     | 8.4E-06     | 8.5E-06     | 8.5E-06     |
| Diisooctylphthalate                     | 27554-26-3 | 2.9E-05                   | 2.3E-04   | 1.2E-04   | 1.2E-04    | 5.1E-05     | 3.3E-05     | 2.9E-05     | 3.0E-05     | 3.0E-05     |
| Di-n-octyl phthalate                    | 117-84-0   | 5.7E-08                   | 4.6E-07   | 2.4E-07   | 2.3E-07    | 9.9E-08     | 6.5E-08     | 5.7E-08     | 5.8E-08     | 5.8E-08     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 9.5E-05                   | 7.7E-04   | 4.0E-04   | 3.8E-04    | 1.7E-04     | 1.1E-04     | 9.6E-05     | 9.7E-05     | 9.7E-05     |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0  | 3.3E-07                   | 2.7E-06   | 1.4E-06   | 1.3E-06    | 5.8E-07     | 3.8E-07     | 3.3E-07     | 3.4E-07     | 3.4E-07     |
| Dodecane                                | 112-40-3   | 7.0E-06                   | 5.6E-05   | 2.9E-05   | 2.8E-05    | 1.2E-05     | 8.0E-06     | 7.0E-06     | 7.1E-06     | 7.1E-06     |
| Fluoranthene                            | 206-44-0   | 5.6E-07                   | 4.5E-06   | 2.3E-06   | 2.2E-06    | 9.7E-07     | 6.4E-07     | 5.6E-07     | 5.6E-07     | 5.7E-07     |
| Fluorene                                | 86-73-7    | 8.8E-07                   | 7.1E-06   | 3.7E-06   | 3.5E-06    | 1.5E-06     | 1.0E-06     | 8.8E-07     | 8.9E-07     | 9.0E-07     |
| Furan, 2-methyl                         | 534-22-5   | 6.3E-03                   | 5.0E-02   | 2.7E-02   | 2.5E-02    | 1.1E-02     | 7.2E-03     | 6.3E-03     | 6.4E-03     | 6.4E-03     |



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| Chemical                      | CASRN     | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|-------------------------------|-----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                               |           | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Heptanal                      | 111-71-7  | 3.8E-05                   | 3.0E-04   | 1.6E-04   | 1.5E-04    | 6.6E-05     | 4.4E-05     | 3.8E-05     | 3.8E-05     | 3.9E-05     |
| Hexadecane                    | 544-76-3  | 3.3E-05                   | 2.6E-04   | 1.4E-04   | 1.3E-04    | 5.7E-05     | 3.8E-05     | 3.3E-05     | 3.3E-05     | 3.3E-05     |
| 2,5-Hexanedione               | 110-13-4  | 1.9E-05                   | 1.5E-04   | 7.9E-05   | 7.5E-05    | 3.2E-05     | 2.1E-05     | 1.9E-05     | 1.9E-05     | 1.9E-05     |
| Indan                         | 496-11-7  | 3.1E-07                   | 2.5E-06   | 1.3E-06   | 1.3E-06    | 5.4E-07     | 3.6E-07     | 3.1E-07     | 3.2E-07     | 3.2E-07     |
| Mesitylene                    | 108-67-8  | 9.5E-06                   | 7.6E-05   | 4.0E-05   | 3.8E-05    | 1.7E-05     | 1.1E-05     | 9.5E-06     | 9.6E-06     | 9.7E-06     |
| Methacrolein                  | 78-85-3   | 1.1E-03                   | 9.0E-03   | 4.7E-03   | 4.5E-03    | 1.9E-03     | 1.3E-03     | 1.1E-03     | 1.1E-03     | 1.1E-03     |
| Methyl Isobutyl Ketone        | 108-10-1  | 2.0E-06                   | 1.6E-05   | 8.5E-06   | 8.1E-06    | 3.5E-06     | 2.3E-06     | 2.0E-06     | 2.0E-06     | 2.1E-06     |
| Naphthalene                   | 91-20-3   | 1.8E-04                   | 1.5E-03   | 7.7E-04   | 7.4E-04    | 3.2E-04     | 2.1E-04     | 1.8E-04     | 1.9E-04     | 1.9E-04     |
| Naphthalene, 1,2-dimethyl-    | 573-98-8  | 2.6E-06                   | 2.1E-05   | 1.1E-05   | 1.0E-05    | 4.4E-06     | 2.9E-06     | 2.6E-06     | 2.6E-06     | 2.6E-06     |
| Naphthalene, 1,6-dimethyl-    | 575-43-9  | 1.8E-05                   | 1.5E-04   | 7.7E-05   | 7.4E-05    | 3.2E-05     | 2.1E-05     | 1.8E-05     | 1.9E-05     | 1.9E-05     |
| Naphthalene, 1-methyl-        | 90-12-0   | 1.8E-05                   | 1.5E-04   | 7.7E-05   | 7.4E-05    | 3.2E-05     | 2.1E-05     | 1.8E-05     | 1.9E-05     | 1.9E-05     |
| Naphthalene, 2-(bromomethyl)- | 939-26-4  | 5.1E-06                   | 4.1E-05   | 2.1E-05   | 2.0E-05    | 8.8E-06     | 5.8E-06     | 5.1E-06     | 5.1E-06     | 5.2E-06     |
| Naphthalene, 2,3-dimethyl-    | 581-40-8  | 1.4E-05                   | 1.1E-04   | 5.8E-05   | 5.5E-05    | 2.4E-05     | 1.6E-05     | 1.4E-05     | 1.4E-05     | 1.4E-05     |
| Naphthalene, 2-methyl-        | 91-57-6   | 4.9E-05                   | 3.9E-04   | 2.1E-04   | 2.0E-04    | 8.5E-05     | 5.6E-05     | 4.9E-05     | 4.9E-05     | 5.0E-05     |
| 1-Octadecene                  | 112-88-9  | 4.6E-06                   | 3.7E-05   | 1.9E-05   | 1.8E-05    | 7.9E-06     | 5.2E-06     | 4.6E-06     | 4.6E-06     | 4.6E-06     |
| Octanal                       | 124-13-0  | 1.2E-04                   | 9.3E-04   | 4.9E-04   | 4.7E-04    | 2.0E-04     | 1.3E-04     | 1.2E-04     | 1.2E-04     | 1.2E-04     |
| Octane                        | 111-65-9  | 6.2E-05                   | 5.0E-04   | 2.6E-04   | 2.5E-04    | 1.1E-04     | 7.2E-05     | 6.3E-05     | 6.3E-05     | 6.3E-05     |
| 17-Pentatriacontene           | 6971-40-0 | 7.5E-07                   | 6.1E-06   | 3.2E-06   | 3.0E-06    | 1.3E-06     | 8.7E-07     | 7.6E-07     | 7.7E-07     | 7.7E-07     |
| N-Phenylbenzamide             | 93-98-1   | 1.8E-04                   | 1.5E-03   | 7.8E-04   | 7.5E-04    | 3.2E-04     | 2.1E-04     | 1.9E-04     | 1.9E-04     | 1.9E-04     |
| Phenanthrene                  | 85-01-8   | 2.5E-07                   | 2.0E-06   | 1.1E-06   | 1.0E-06    | 4.4E-07     | 2.9E-07     | 2.6E-07     | 2.6E-07     | 2.6E-07     |
| Phenanthrene, 1-methyl        | 832-69-9  | 1.6E-08                   | 1.3E-07   | 6.8E-08   | 6.5E-08    | 2.8E-08     | 1.9E-08     | 1.6E-08     | 1.6E-08     | 1.6E-08     |
| Phenanthrene, 2-methyl-       | 2531-84-2 | 2.9E-08                   | 2.4E-07   | 1.2E-07   | 1.2E-07    | 5.1E-08     | 3.4E-08     | 2.9E-08     | 3.0E-08     | 3.0E-08     |



| Chemical                                    | CASRN     | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|---|-----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |           | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Phenanthrene, 3-methyl                      | 832-71-3  | 3.5E-08                   | 2.8E-07   | 1.5E-07   | 1.4E-07    | 6.1E-08     | 4.0E-08     | 3.5E-08     | 3.5E-08     | 3.6E-08     |
| Propionaldehyde                             | 123-38-6  | 4.7E-04                   | 3.8E-03   | 2.0E-03   | 1.9E-03    | 8.3E-04     | 5.5E-04     | 4.8E-04     | 4.8E-04     | 4.8E-04     |
| Pyrene                                      | 129-00-0  | 6.3E-07                   | 5.0E-06   | 2.7E-06   | 2.5E-06    | 1.1E-06     | 7.2E-07     | 6.3E-07     | 6.4E-07     | 6.4E-07     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 2.1E-07                   | 1.7E-06   | 8.8E-07   | 8.4E-07    | 3.6E-07     | 2.4E-07     | 2.1E-07     | 2.1E-07     | 2.1E-07     |
| Resorcinol                                  | 108-46-3  | 1.9E-06                   | 1.6E-05   | 8.2E-06   | 7.8E-06    | 3.4E-06     | 2.2E-06     | 1.9E-06     | 2.0E-06     | 2.0E-06     |
| m-Tolualdehyde                              | 620-23-5  | 1.6E-05                   | 1.3E-04   | 6.7E-05   | 6.4E-05    | 2.8E-05     | 1.8E-05     | 1.6E-05     | 1.6E-05     | 1.6E-05     |
| TXIB "Kodaflex"                             | 6846-50-0 | 3.9E-06                   | 3.1E-05   | 1.6E-05   | 1.6E-05    | 6.8E-06     | 4.5E-06     | 3.9E-06     | 3.9E-06     | 3.9E-06     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 4.9E-07                   | 3.9E-06   | 2.1E-06   | 2.0E-06    | 8.5E-07     | 5.6E-07     | 4.9E-07     | 4.9E-07     | 5.0E-07     |
| Undecane                                    | 1120-21-4 | 1.4E-05                   | 1.1E-04   | 5.7E-05   | 5.5E-05    | 2.4E-05     | 1.6E-05     | 1.4E-05     | 1.4E-05     | 1.4E-05     |
| Valeraldehyde                               | 110-62-3  | 2.4E-03                   | 1.9E-02   | 1.0E-02   | 9.7E-03    | 4.2E-03     | 2.8E-03     | 2.4E-03     | 2.4E-03     | 2.4E-03     |
| Field-Related Chronic HQ <sub>inh-sum</sub> |           | 1.3E-02                   | 1.0E-01   | 5.5E-02   | 5.2E-02    | 2.3E-02     | 1.5E-02     | 1.3E-02     | 1.3E-02     | 1.3E-02     |

Values are rounded to two significant figures.

Table G-8. **On-Field** Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for **Non-Field-Related General Chemicals**—Combined Gender Spectators

| Chemical                               | CASRN    | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|--|----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |          | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Benzene                                | 71-43-2  | 4.2E-03                   | 3.3E-02   | 1.8E-02   | 1.7E-02    | 7.2E-03     | 4.8E-03     | 4.2E-03     | 4.2E-03     | 4.2E-03     |
| Benzene, 1,4-dichloro                  | 106-46-7 | 6.6E-06                   | 5.3E-05   | 2.8E-05   | 2.7E-05    | 1.1E-05     | 7.6E-06     | 6.6E-06     | 6.7E-06     | 6.7E-06     |
| Benzene, 1-chloro-4-(trifluoromethyl)- | 98-56-6  | 4.0E-05                   | 3.2E-04   | 1.7E-04   | 1.6E-04    | 6.9E-05     | 4.5E-05     | 4.0E-05     | 4.0E-05     | 4.0E-05     |
| 2-Butoxyethanol                        | 111-76-2 | 1.3E-06                   | 1.0E-05   | 5.4E-06   | 5.1E-06    | 2.2E-06     | 1.5E-06     | 1.3E-06     | 1.3E-06     | 1.3E-06     |
| Cyclotrisiloxane, hexamethyl-          | 541-05-9 | 2.2E-06                   | 1.7E-05   | 9.1E-06   | 8.7E-06    | 3.8E-06     | 2.5E-06     | 2.2E-06     | 2.2E-06     | 2.2E-06     |



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| Chemical   | CASRN      | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|--|------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |            | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Decanal  | 112-31-2   | 7.2E-05                   | 5.8E-04   | 3.1E-04   | 2.9E-04    | 1.3E-04     | 8.3E-05     | 7.3E-05     | 7.3E-05     | 7.4E-05     |
| Ethylbenzene                                     | 100-41-4   | 1.2E-05                   | 9.5E-05   | 5.0E-05   | 4.8E-05    | 2.1E-05     | 1.4E-05     | 1.2E-05     | 1.2E-05     | 1.2E-05     |
| Heptane  | 142-82-5   | 1.2E-05                   | 9.6E-05   | 5.0E-05   | 4.8E-05    | 2.1E-05     | 1.4E-05     | 1.2E-05     | 1.2E-05     | 1.2E-05     |
| Hexanal  | 66-25-1    | 2.0E-03                   | 1.6E-02   | 8.6E-03   | 8.2E-03    | 3.5E-03     | 2.3E-03     | 2.0E-03     | 2.1E-03     | 2.1E-03     |
| Hexane   | 110-54-3   | 2.0E-05                   | 1.6E-04   | 8.3E-05   | 8.0E-05    | 3.4E-05     | 2.3E-05     | 2.0E-05     | 2.0E-05     | 2.0E-05     |
| 1-Hexanol, 2-ethyl-                              | 104-76-7   | 4.0E-04                   | 3.2E-03   | 1.7E-03   | 1.6E-03    | 7.0E-04     | 4.6E-04     | 4.0E-04     | 4.1E-04     | 4.1E-04     |
| Nonanal  | 124-19-6   | 2.0E-05                   | 1.6E-04   | 8.5E-05   | 8.1E-05    | 3.5E-05     | 2.3E-05     | 2.0E-05     | 2.0E-05     | 2.0E-05     |
| Phenol   | 108-95-2   | 6.0E-06                   | 4.8E-05   | 2.5E-05   | 2.4E-05    | 1.0E-05     | 6.9E-06     | 6.0E-06     | 6.1E-06     | 6.1E-06     |
| Tetrachloroethylene                              | 127-18-4   | 2.5E-05                   | 2.0E-04   | 1.0E-04   | 9.9E-05    | 4.3E-05     | 2.8E-05     | 2.5E-05     | 2.5E-05     | 2.5E-05     |
| Tetradecane                                      | 629-59-4   | 8.4E-06                   | 6.7E-05   | 3.5E-05   | 3.4E-05    | 1.5E-05     | 9.6E-06     | 8.4E-06     | 8.5E-06     | 8.5E-06     |
| Texanol, TXIB (mono-isomer)                      | 25265-77-4 | 2.0E-04                   | 1.6E-03   | 8.6E-04   | 8.2E-04    | 3.6E-04     | 2.3E-04     | 2.1E-04     | 2.1E-04     | 2.1E-04     |
| Toluene  | 108-88-3   | 6.6E-05                   | 5.3E-04   | 2.8E-04   | 2.7E-04    | 1.2E-04     | 7.6E-05     | 6.7E-05     | 6.7E-05     | 6.8E-05     |
| Trichloroethylene                                | 79-01-6    | 6.7E-07                   | 5.4E-06   | 2.8E-06   | 2.7E-06    | 1.2E-06     | 7.7E-07     | 6.7E-07     | 6.8E-07     | 6.8E-07     |
| Trichloromethane                                 | 67-66-3    | 7.5E-05                   | 6.0E-04   | 3.2E-04   | 3.0E-04    | 1.3E-04     | 8.6E-05     | 7.5E-05     | 7.6E-05     | 7.6E-05     |
| m/p-Xylene                                       | 106-42-3   | 1.2E-04                   | 9.6E-04   | 5.0E-04   | 4.8E-04    | 2.1E-04     | 1.4E-04     | 1.2E-04     | 1.2E-04     | 1.2E-04     |
| o-Xylene   | 95-47-6    | 4.0E-05                   | 3.2E-04   | 1.7E-04   | 1.6E-04    | 6.9E-05     | 4.6E-05     | 4.0E-05     | 4.0E-05     | 4.1E-05     |
| Non-Field-Related Chronic HQ <sub>inh</sub> -sum |            | 7.3E-03                   | 5.9E-02   | 3.1E-02   | 3.0E-02    | 1.3E-02     | 8.4E-03     | 7.3E-03     | 7.4E-03     | 7.4E-03     |

Values are rounded to two significant figures.



**Table G-9. Off-Field Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for Field-Related General Chemicals—Combined Gender Spectators**

| Chemical   | CASRN   | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|--|---------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |         | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 1.0E-07 | 8.3E-07                   | 4.4E-07   | 4.2E-07   | 1.8E-07    | 1.2E-07     | 1.0E-07     | 1.1E-07     | 1.1E-07     | 1.1E-07     |
| Aniline  | 1.5E-04 | 1.2E-03                   | 6.2E-04   | 6.0E-04   | 2.6E-04    | 1.7E-04     | 1.5E-04     | 1.5E-04     | 1.5E-04     | 1.5E-04     |
| Anthracene   | 3.9E-09 | 3.2E-08                   | 1.7E-08   | 1.6E-08   | 6.9E-09    | 4.5E-09     | 4.0E-09     | 4.0E-09     | 4.0E-09     | 4.0E-09     |
| Anthracene, 2-methyl-                                | 1.0E-09 | 8.3E-09                   | 4.3E-09   | 4.1E-09   | 1.8E-09    | 1.2E-09     | 1.0E-09     | 1.0E-09     | 1.0E-09     | 1.0E-09     |
| Anthracene, 9,10-dimethyl                            | 1.6E-09 | 1.3E-08                   | 6.9E-09   | 6.6E-09   | 2.9E-09    | 1.9E-09     | 1.6E-09     | 1.7E-09     | 1.7E-09     | 1.7E-09     |
| Anthracene, 9-phenyl                                 | 7.3E-10 | 5.9E-09                   | 3.1E-09   | 2.9E-09   | 1.3E-09    | 8.4E-10     | 7.3E-10     | 7.4E-10     | 7.4E-10     | 7.4E-10     |
| Benz[a]anthracene                                    | 0.0E+00 | 0.0E+00                   | 0.0E+00   | 0.0E+00   | 0.0E+00    | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     |
| Benzaldehyde   | 5.7E-06 | 4.6E-05                   | 2.4E-05   | 2.3E-05   | 1.0E-05    | 6.6E-06     | 5.7E-06     | 5.8E-06     | 5.8E-06     | 5.8E-06     |
| Benzene, 1,2,3-trimethyl-                            | 5.7E-06 | 4.6E-05                   | 2.4E-05   | 2.3E-05   | 1.0E-05    | 6.6E-06     | 5.8E-06     | 5.8E-06     | 5.8E-06     | 5.8E-06     |
| Benzene, 1,2,4,5-tetramethyl-                        | 1.1E-06 | 8.8E-06                   | 4.6E-06   | 4.4E-06   | 1.9E-06    | 1.3E-06     | 1.1E-06     | 1.1E-06     | 1.1E-06     | 1.1E-06     |
| Benzene, 1,2,4-trimethyl-                            | 4.4E-05 | 3.5E-04                   | 1.8E-04   | 1.8E-04   | 7.6E-05    | 5.0E-05     | 4.4E-05     | 4.4E-05     | 4.4E-05     | 4.4E-05     |
| Benzene, 1-ethyl-2,4-dimethyl-                       | 2.0E-06 | 1.6E-05                   | 8.6E-06   | 8.3E-06   | 3.6E-06    | 2.4E-06     | 2.1E-06     | 2.1E-06     | 2.1E-06     | 2.1E-06     |
| Benzene, 2-ethyl-1,4-dimethyl-                       | 2.9E-06 | 2.3E-05                   | 1.2E-05   | 1.2E-05   | 5.0E-06    | 3.3E-06     | 2.9E-06     | 2.9E-06     | 2.9E-06     | 2.9E-06     |
| Benzene, butyl-                                      | 5.1E-09 | 4.1E-08                   | 2.2E-08   | 2.1E-08   | 8.9E-09    | 5.8E-09     | 5.1E-09     | 5.2E-09     | 5.2E-09     | 5.2E-09     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 8.2E-06 | 6.6E-05                   | 3.5E-05   | 3.3E-05   | 1.4E-05    | 9.5E-06     | 8.3E-06     | 8.4E-06     | 8.4E-06     | 8.4E-06     |
| Benzo[b]fluoranthene                                 | 5.6E-09 | 4.5E-08                   | 2.4E-08   | 2.3E-08   | 9.8E-09    | 6.4E-09     | 5.6E-09     | 5.7E-09     | 5.7E-09     | 5.7E-09     |
| 7H-Benzo[c]fluorene                                  | 4.6E-09 | 3.7E-08                   | 2.0E-08   | 1.9E-08   | 8.0E-09    | 5.3E-09     | 4.6E-09     | 4.7E-09     | 4.7E-09     | 4.7E-09     |
| Benzo[k]fluoranthene                                 | 4.6E-09 | 3.7E-08                   | 2.0E-08   | 1.9E-08   | 8.1E-09    | 5.3E-09     | 4.7E-09     | 4.7E-09     | 4.7E-09     | 4.7E-09     |
| Benzothiazole  | 5.7E-05 | 4.6E-04                   | 2.4E-04   | 2.3E-04   | 9.9E-05    | 6.5E-05     | 5.7E-05     | 5.8E-05     | 5.8E-05     | 5.8E-05     |



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| Chemical                                | CASRN   | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|---|---------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |         | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Benzothiazole, 2-phenyl-                | 5.1E-06 | 4.1E-05                   | 2.1E-05   | 2.0E-05   | 8.8E-06    | 5.8E-06     | 5.1E-06     | 5.1E-06     | 5.2E-06     | 5.2E-06     |
| 2-Benzothiazolone                       | 4.8E-05 | 3.9E-04                   | 2.0E-04   | 1.9E-04   | 8.4E-05    | 5.5E-05     | 4.8E-05     | 4.9E-05     | 4.9E-05     | 4.9E-05     |
| Benzyl butyl phthalate                  | 1.3E-07 | 1.0E-06                   | 5.5E-07   | 5.2E-07   | 2.2E-07    | 1.5E-07     | 1.3E-07     | 1.3E-07     | 1.3E-07     | 1.3E-07     |
| Butanal                                 | 7.3E-04 | 5.9E-03                   | 3.1E-03   | 3.0E-03   | 1.3E-03    | 8.4E-04     | 7.4E-04     | 7.4E-04     | 7.5E-04     | 7.5E-04     |
| Cyclopentasiloxane, decamethyl-         | 4.4E-06 | 3.5E-05                   | 1.8E-05   | 1.8E-05   | 7.6E-06    | 5.0E-06     | 4.4E-06     | 4.4E-06     | 4.4E-06     | 4.4E-06     |
| Cyclotetrasiloxane, octamethyl-         | 1.5E-06 | 1.2E-05                   | 6.5E-06   | 6.2E-06   | 2.7E-06    | 1.8E-06     | 1.5E-06     | 1.6E-06     | 1.6E-06     | 1.6E-06     |
| p-Cymene                                | 9.0E-06 | 7.2E-05                   | 3.8E-05   | 3.6E-05   | 1.6E-05    | 1.0E-05     | 9.0E-06     | 9.1E-06     | 9.2E-06     | 9.2E-06     |
| Decane                                  | 6.2E-05 | 5.0E-04                   | 2.6E-04   | 2.5E-04   | 1.1E-04    | 7.1E-05     | 6.2E-05     | 6.3E-05     | 6.3E-05     | 6.3E-05     |
| Dibenz[a,h]anthracene                   | 1.8E-09 | 1.4E-08                   | 7.5E-09   | 7.1E-09   | 3.1E-09    | 2.0E-09     | 1.8E-09     | 1.8E-09     | 1.8E-09     | 1.8E-09     |
| Dibenzothiophene                        | 6.9E-07 | 5.6E-06                   | 2.9E-06   | 2.8E-06   | 1.2E-06    | 7.9E-07     | 6.9E-07     | 7.0E-07     | 7.0E-07     | 7.0E-07     |
| Dibutyl phthalate                       | 1.8E-05 | 1.4E-04                   | 7.5E-05   | 7.2E-05   | 3.1E-05    | 2.0E-05     | 1.8E-05     | 1.8E-05     | 1.8E-05     | 1.8E-05     |
| Diethyl phthalate                       | 8.0E-08 | 6.4E-07                   | 3.4E-07   | 3.2E-07   | 1.4E-07    | 9.2E-08     | 8.0E-08     | 8.1E-08     | 8.1E-08     | 8.1E-08     |
| Diisobutyl phthalate                    | 9.0E-06 | 7.2E-05                   | 3.8E-05   | 3.6E-05   | 1.6E-05    | 1.0E-05     | 9.0E-06     | 9.1E-06     | 9.2E-06     | 9.2E-06     |
| Diisooctylphthalate                     | 8.7E-06 | 7.0E-05                   | 3.7E-05   | 3.5E-05   | 1.5E-05    | 1.0E-05     | 8.7E-06     | 8.8E-06     | 8.8E-06     | 8.8E-06     |
| Di-n-octyl phthalate                    | 5.8E-08 | 4.7E-07                   | 2.5E-07   | 2.4E-07   | 1.0E-07    | 6.7E-08     | 5.9E-08     | 5.9E-08     | 5.9E-08     | 5.9E-08     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 1.2E-04 | 9.3E-04                   | 4.9E-04   | 4.7E-04   | 2.0E-04    | 1.3E-04     | 1.2E-04     | 1.2E-04     | 1.2E-04     | 1.2E-04     |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 2.2E-07 | 1.7E-06                   | 9.1E-07   | 8.7E-07   | 3.8E-07    | 2.5E-07     | 2.2E-07     | 2.2E-07     | 2.2E-07     | 2.2E-07     |
| Dodecane                                | 9.0E-06 | 7.2E-05                   | 3.8E-05   | 3.6E-05   | 1.6E-05    | 1.0E-05     | 9.0E-06     | 9.1E-06     | 9.1E-06     | 9.1E-06     |
| Fluoranthene                            | 3.3E-07 | 2.6E-06                   | 1.4E-06   | 1.3E-06   | 5.7E-07    | 3.8E-07     | 3.3E-07     | 3.3E-07     | 3.3E-07     | 3.3E-07     |
| Fluorene                                | 7.3E-07 | 5.9E-06                   | 3.1E-06   | 3.0E-06   | 1.3E-06    | 8.4E-07     | 7.4E-07     | 7.4E-07     | 7.5E-07     | 7.5E-07     |
| Furan, 2-methyl                         | 2.2E-03 | 1.8E-02                   | 9.5E-03   | 9.0E-03   | 3.9E-03    | 2.6E-03     | 2.2E-03     | 2.3E-03     | 2.3E-03     | 2.3E-03     |
| Heptanal                                | 3.9E-05 | 3.1E-04                   | 1.7E-04   | 1.6E-04   | 6.8E-05    | 4.5E-05     | 3.9E-05     | 4.0E-05     | 4.0E-05     | 4.0E-05     |



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| Chemical                      | CASRN   | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|-------------------------------|---------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                               |         | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Hexadecane                    | 4.7E-05 | 3.8E-04                   | 2.0E-04   | 1.9E-04   | 8.2E-05    | 5.4E-05     | 4.7E-05     | 4.8E-05     | 4.8E-05     | 4.8E-05     |
| 2,5-Hexanedione               | 2.4E-05 | 2.0E-04                   | 1.0E-04   | 9.8E-05   | 4.2E-05    | 2.8E-05     | 2.4E-05     | 2.5E-05     | 2.5E-05     | 2.5E-05     |
| Indan                         | 3.1E-07 | 2.5E-06                   | 1.3E-06   | 1.2E-06   | 5.4E-07    | 3.5E-07     | 3.1E-07     | 3.1E-07     | 3.1E-07     | 3.1E-07     |
| Mesitylene                    | 9.8E-06 | 7.9E-05                   | 4.1E-05   | 3.9E-05   | 1.7E-05    | 1.1E-05     | 9.8E-06     | 9.9E-06     | 9.9E-06     | 9.9E-06     |
| Methacrolein                  | 1.0E-03 | 8.2E-03                   | 4.3E-03   | 4.1E-03   | 1.8E-03    | 1.2E-03     | 1.0E-03     | 1.0E-03     | 1.0E-03     | 1.0E-03     |
| Methyl Isobutyl Ketone        | 4.6E-07 | 3.7E-06                   | 1.9E-06   | 1.9E-06   | 8.0E-07    | 5.3E-07     | 4.6E-07     | 4.7E-07     | 4.7E-07     | 4.7E-07     |
| Naphthalene                   | 2.0E-04 | 1.6E-03                   | 8.5E-04   | 8.1E-04   | 3.5E-04    | 2.3E-04     | 2.0E-04     | 2.0E-04     | 2.0E-04     | 2.0E-04     |
| Naphthalene, 1,2-dimethyl-    | 5.3E-06 | 4.3E-05                   | 2.3E-05   | 2.2E-05   | 9.3E-06    | 6.1E-06     | 5.4E-06     | 5.4E-06     | 5.4E-06     | 5.4E-06     |
| Naphthalene, 1,6-dimethyl-    | 1.9E-05 | 1.5E-04                   | 8.0E-05   | 7.7E-05   | 3.3E-05    | 2.2E-05     | 1.9E-05     | 1.9E-05     | 1.9E-05     | 1.9E-05     |
| Naphthalene, 1-methyl-        | 1.8E-05 | 1.5E-04                   | 7.7E-05   | 7.3E-05   | 3.2E-05    | 2.1E-05     | 1.8E-05     | 1.8E-05     | 1.8E-05     | 1.8E-05     |
| Naphthalene, 2-(bromomethyl)- | 5.3E-06 | 4.2E-05                   | 2.2E-05   | 2.1E-05   | 9.2E-06    | 6.1E-06     | 5.3E-06     | 5.4E-06     | 5.4E-06     | 5.4E-06     |
| Naphthalene, 2,3-dimethyl-    | 1.4E-05 | 1.1E-04                   | 6.0E-05   | 5.8E-05   | 2.5E-05    | 1.6E-05     | 1.4E-05     | 1.4E-05     | 1.5E-05     | 1.5E-05     |
| Naphthalene, 2-methyl-        | 5.2E-05 | 4.2E-04                   | 2.2E-04   | 2.1E-04   | 9.0E-05    | 6.0E-05     | 5.2E-05     | 5.3E-05     | 5.3E-05     | 5.3E-05     |
| 1-Octadecene                  | 4.2E-06 | 3.4E-05                   | 1.8E-05   | 1.7E-05   | 7.3E-06    | 4.8E-06     | 4.2E-06     | 4.3E-06     | 4.3E-06     | 4.3E-06     |
| Octanal                       | 1.1E-04 | 9.0E-04                   | 4.7E-04   | 4.5E-04   | 2.0E-04    | 1.3E-04     | 1.1E-04     | 1.1E-04     | 1.1E-04     | 1.1E-04     |
| Octane                        | 7.5E-05 | 6.0E-04                   | 3.2E-04   | 3.0E-04   | 1.3E-04    | 8.6E-05     | 7.5E-05     | 7.6E-05     | 7.6E-05     | 7.6E-05     |
| 17-Pentatriacontene           | 5.2E-07 | 4.2E-06                   | 2.2E-06   | 2.1E-06   | 9.0E-07    | 6.0E-07     | 5.2E-07     | 5.3E-07     | 5.3E-07     | 5.3E-07     |
| N-Phenylbenzamide             | 1.8E-04 | 1.5E-03                   | 7.7E-04   | 7.4E-04   | 3.2E-04    | 2.1E-04     | 1.8E-04     | 1.9E-04     | 1.9E-04     | 1.9E-04     |
| Phenanthrene                  | 2.1E-07 | 1.7E-06                   | 8.9E-07   | 8.5E-07   | 3.7E-07    | 2.4E-07     | 2.1E-07     | 2.1E-07     | 2.2E-07     | 2.2E-07     |
| Phenanthrene, 1-methyl        | 9.7E-09 | 7.8E-08                   | 4.1E-08   | 3.9E-08   | 1.7E-08    | 1.1E-08     | 9.7E-09     | 9.8E-09     | 9.8E-09     | 9.8E-09     |
| Phenanthrene, 2-methyl-       | 1.9E-08 | 1.5E-07                   | 7.9E-08   | 7.6E-08   | 3.3E-08    | 2.2E-08     | 1.9E-08     | 1.9E-08     | 1.9E-08     | 1.9E-08     |
| Phenanthrene, 3-methyl        | 2.1E-08 | 1.7E-07                   | 9.1E-08   | 8.7E-08   | 3.7E-08    | 2.5E-08     | 2.2E-08     | 2.2E-08     | 2.2E-08     | 2.2E-08     |



| Chemical                                    | CASRN   | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|---|---------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |         | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Pyrene                                      | 3.1E-07 | 2.5E-06                   | 1.3E-06   | 1.3E-06   | 5.4E-07    | 3.6E-07     | 3.1E-07     | 3.2E-07     | 3.2E-07     | 3.2E-07     |
| Pyridine, 2-(4-methylphenyl)-               | 3.2E-08 | 2.5E-07                   | 1.3E-07   | 1.3E-07   | 5.5E-08    | 3.6E-08     | 3.2E-08     | 3.2E-08     | 3.2E-08     | 3.2E-08     |
| Resorcinol                                  | 3.3E-06 | 2.7E-05                   | 1.4E-05   | 1.3E-05   | 5.8E-06    | 3.8E-06     | 3.3E-06     | 3.4E-06     | 3.4E-06     | 3.4E-06     |
| TXIB "Kodaflex"                             | 8.0E-06 | 6.4E-05                   | 3.4E-05   | 3.2E-05   | 1.4E-05    | 9.2E-06     | 8.0E-06     | 8.1E-06     | 8.1E-06     | 8.1E-06     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 3.5E-07 | 2.8E-06                   | 1.5E-06   | 1.4E-06   | 6.1E-07    | 4.0E-07     | 3.5E-07     | 3.5E-07     | 3.5E-07     | 3.5E-07     |
| Undecane                                    | 1.9E-05 | 1.5E-04                   | 7.9E-05   | 7.5E-05   | 3.3E-05    | 2.1E-05     | 1.9E-05     | 1.9E-05     | 1.9E-05     | 1.9E-05     |
| Field-Related Chronic HQ <sub>inh-sum</sub> |         | 5.4E-03                   | 4.3E-02   | 2.3E-02   | 2.2E-02    | 9.4E-03     | 6.2E-03     | 5.4E-03     | 5.5E-03     | 5.5E-03     |

Values are rounded to two significant figures.

Table G-10. **Off-Field** Chronic Inhalation Hazard Quotient for Individual Chemical (Chronic HQ<sub>inh</sub>, unitless), Chronic Inhalation Route Total Hazard Quotients (Chronic HQ<sub>inh-sum</sub>, unitless) for **Non-Field-Related General Chemicals**—Combined Gender Spectators

| Chemical                               | CASRN    | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|--|----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |          | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Benzene                                | 71-43-2  | 4.4E-03                   | 3.5E-02   | 1.8E-02   | 1.8E-02    | 7.6E-03     | 5.0E-03     | 4.4E-03     | 4.4E-03     | 4.4E-03     |
| Benzene, 1,4-dichloro                  | 106-46-7 | 6.0E-06                   | 4.8E-05   | 2.5E-05   | 2.4E-05    | 1.0E-05     | 6.9E-06     | 6.0E-06     | 6.1E-06     | 6.1E-06     |
| Benzene, 1-chloro-4-(trifluoromethyl)- | 98-56-6  | 4.0E-05                   | 3.2E-04   | 1.7E-04   | 1.6E-04    | 6.9E-05     | 4.6E-05     | 4.0E-05     | 4.0E-05     | 4.0E-05     |
| 2-Butoxyethanol                        | 111-76-2 | 1.2E-06                   | 9.8E-06   | 5.2E-06   | 4.9E-06    | 2.1E-06     | 1.4E-06     | 1.2E-06     | 1.2E-06     | 1.2E-06     |
| Cyclotrisiloxane, hexamethyl-          | 541-05-9 | 2.3E-06                   | 1.8E-05   | 9.6E-06   | 9.2E-06    | 4.0E-06     | 2.6E-06     | 2.3E-06     | 2.3E-06     | 2.3E-06     |
| Decanal                                | 112-31-2 | 4.4E-05                   | 3.6E-04   | 1.9E-04   | 1.8E-04    | 7.7E-05     | 5.1E-05     | 4.4E-05     | 4.5E-05     | 4.5E-05     |
| Ethylbenzene                           | 100-41-4 | 1.2E-05                   | 1.0E-04   | 5.3E-05   | 5.0E-05    | 2.2E-05     | 1.4E-05     | 1.3E-05     | 1.3E-05     | 1.3E-05     |
| Heptane                                | 142-82-5 | 1.2E-05                   | 9.6E-05   | 5.0E-05   | 4.8E-05    | 2.1E-05     | 1.4E-05     | 1.2E-05     | 1.2E-05     | 1.2E-05     |
| Hexanal                                | 66-25-1  | 2.2E-03                   | 1.8E-02   | 9.4E-03   | 9.0E-03    | 3.9E-03     | 2.6E-03     | 2.2E-03     | 2.3E-03     | 2.3E-03     |



| Chemical  | CASRN      | Chronic HQ <sub>inh</sub> |           |           |            |             |             |             |             |             |
|---|------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |            | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Hexane  | 110-54-3   | 1.3E-05                   | 1.1E-04   | 5.7E-05   | 5.4E-05    | 2.3E-05     | 1.5E-05     | 1.3E-05     | 1.4E-05     | 1.4E-05     |
| 1-Hexanol, 2-ethyl-                             | 104-76-7   | 9.1E-04                   | 7.3E-03   | 3.8E-03   | 3.7E-03    | 1.6E-03     | 1.0E-03     | 9.1E-04     | 9.2E-04     | 9.2E-04     |
| Nonanal   | 124-19-6   | 0.0E+00                   | 0.0E+00   | 0.0E+00   | 0.0E+00    | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     |
| Phenol  | 108-95-2   | 5.4E-06                   | 4.4E-05   | 2.3E-05   | 2.2E-05    | 9.5E-06     | 6.3E-06     | 5.5E-06     | 5.5E-06     | 5.5E-06     |
| Tetrachloroethylene                             | 127-18-4   | 2.5E-05                   | 2.0E-04   | 1.1E-04   | 1.0E-04    | 4.4E-05     | 2.9E-05     | 2.5E-05     | 2.6E-05     | 2.6E-05     |
| Tetradecane                                     | 629-59-4   | 6.5E-06                   | 5.2E-05   | 2.7E-05   | 2.6E-05    | 1.1E-05     | 7.4E-06     | 6.5E-06     | 6.6E-06     | 6.6E-06     |
| Texanol, TXIB (mono-isomer)                     | 25265-77-4 | 2.0E-04                   | 1.6E-03   | 8.4E-04   | 8.0E-04    | 3.5E-04     | 2.3E-04     | 2.0E-04     | 2.0E-04     | 2.0E-04     |
| Toluene   | 108-88-3   | 6.9E-05                   | 5.5E-04   | 2.9E-04   | 2.8E-04    | 1.2E-04     | 7.9E-05     | 6.9E-05     | 7.0E-05     | 7.0E-05     |
| Trichloroethylene                               | 79-01-6    | 6.8E-07                   | 5.4E-06   | 2.9E-06   | 2.7E-06    | 1.2E-06     | 7.8E-07     | 6.8E-07     | 6.9E-07     | 6.9E-07     |
| Trichloromethane                                | 67-66-3    | 7.2E-05                   | 5.8E-04   | 3.1E-04   | 2.9E-04    | 1.3E-04     | 8.3E-05     | 7.3E-05     | 7.3E-05     | 7.4E-05     |
| m/p-Xylene                                      | 106-42-3   | 1.3E-04                   | 1.0E-03   | 5.4E-04   | 5.1E-04    | 2.2E-04     | 1.5E-04     | 1.3E-04     | 1.3E-04     | 1.3E-04     |
| o-Xylene  | 95-47-6    | 3.9E-05                   | 3.2E-04   | 1.7E-04   | 1.6E-04    | 6.8E-05     | 4.5E-05     | 3.9E-05     | 4.0E-05     | 4.0E-05     |
| Non-Field-Related Chronic HQ <sub>inh-sum</sub> |            | 8.2E-03                   | 6.6E-02   | 3.5E-02   | 3.3E-02    | 1.4E-02     | 9.4E-03     | 8.2E-03     | 8.3E-03     | 8.3E-03     |

Values are rounded to two significant figures.

### **INDIVIDUAL FIELD ASSESSMENT (Table G-35 to Table G-40)**

**Table G-11. On-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for All General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|---------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                 | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years              | 2.0E-02                             | 1.5E-01 | 1.0E-01            | 1.2E-01 | 3.5E-01         | 3.7E-01 |
| Athletes 6<11 years             | 2.7E-02                             | 2.0E-01 | 1.3E-01            | 1.6E-01 | 4.5E-01         | 4.8E-01 |
| Athletes 11<16 years            | 2.6E-02                             | 1.9E-01 | 1.3E-01            | 1.6E-01 | 4.4E-01         | 4.7E-01 |
| Athletes 16<30 years            | 4.9E-02                             | 3.6E-01 | 2.4E-01            | 2.9E-01 | 8.3E-01         | 8.8E-01 |
| Athletes 30<40 years            | 3.2E-02                             | 2.4E-01 | 1.6E-01            | 1.9E-01 | 5.4E-01         | 5.8E-01 |
| Athletes 40<50 years            | 3.1E-02                             | 2.3E-01 | 1.6E-01            | 1.9E-01 | 5.3E-01         | 5.7E-01 |
| Athletes 50<70 years            | 3.1E-02                             | 2.3E-01 | 1.5E-01            | 1.9E-01 | 5.2E-01         | 5.6E-01 |
| Coaches 16<30 years             | 2.0E-02                             | 1.5E-01 | 1.0E-01            | 1.2E-01 | 3.4E-01         | 3.6E-01 |
| Coaches 30<40 years             | 1.8E-02                             | 1.3E-01 | 8.8E-02            | 1.1E-01 | 3.0E-01         | 3.2E-01 |



| Receptor Category and Age Group  | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Coaches 40<50 years              | 1.8E-02                             | 1.3E-01 | 8.9E-02            | 1.1E-01 | 3.0E-01         | 3.2E-01 |
| Coaches 50<70 years              | 1.8E-02                             | 1.3E-01 | 8.9E-02            | 1.1E-01 | 3.0E-01         | 3.2E-01 |
| Referees 16<30 years             | 7.5E-03                             | 5.6E-02 | 3.7E-02            | 4.5E-02 | 1.3E-01         | 1.4E-01 |
| Referees 30<40 years             | 6.5E-03                             | 4.9E-02 | 3.3E-02            | 3.9E-02 | 1.1E-01         | 1.2E-01 |
| Referees 40<50 years             | 6.6E-03                             | 4.9E-02 | 3.3E-02            | 4.0E-02 | 1.1E-01         | 1.2E-01 |
| Referees 50<70 years             | 6.6E-03                             | 4.9E-02 | 3.3E-02            | 4.0E-02 | 1.1E-01         | 1.2E-01 |
| Spectators Third trimester fetus | 2.7E-03                             | 2.0E-02 | 1.4E-02            | 1.6E-02 | 4.6E-02         | 4.9E-02 |
| Spectators 0<2 years             | 2.2E-02                             | 1.6E-01 | 1.1E-01            | 1.3E-01 | 3.7E-01         | 3.9E-01 |
| Spectators 2<6 years             | 1.1E-02                             | 8.5E-02 | 5.7E-02            | 6.9E-02 | 1.9E-01         | 2.1E-01 |
| Spectators 6<11 years            | 1.1E-02                             | 8.1E-02 | 5.5E-02            | 6.6E-02 | 1.9E-01         | 2.0E-01 |
| Spectators 11<16 years           | 4.7E-03                             | 3.5E-02 | 2.4E-02            | 2.8E-02 | 8.0E-02         | 8.5E-02 |
| Spectators 16<30 years           | 3.1E-03                             | 2.3E-02 | 1.6E-02            | 1.9E-02 | 5.3E-02         | 5.6E-02 |
| Spectators 30<40 years           | 2.7E-03                             | 2.0E-02 | 1.4E-02            | 1.6E-02 | 4.6E-02         | 4.9E-02 |
| Spectators 40<50 years           | 2.8E-03                             | 2.0E-02 | 1.4E-02            | 1.7E-02 | 4.7E-02         | 5.0E-02 |
| Spectators 50<70 years           | 2.8E-03                             | 2.0E-02 | 1.4E-02            | 1.7E-02 | 4.7E-02         | 5.0E-02 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

**Table G-12. On-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for Field-Related General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group  | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years               | 3.9E-03                             | 9.7E-02 | 6.1E-02            | 9.1E-02 | 2.0E-01         | 2.3E-01 |
| Athletes 6<11 years              | 5.1E-03                             | 1.3E-01 | 8.0E-02            | 1.2E-01 | 2.6E-01         | 3.0E-01 |
| Athletes 11<16 years             | 4.9E-03                             | 1.2E-01 | 7.8E-02            | 1.1E-01 | 2.5E-01         | 3.0E-01 |
| Athletes 16<30 years             | 9.3E-03                             | 2.3E-01 | 1.5E-01            | 2.2E-01 | 4.7E-01         | 5.6E-01 |
| Athletes 30<40 years             | 6.1E-03                             | 1.5E-01 | 9.6E-02            | 1.4E-01 | 3.1E-01         | 3.7E-01 |
| Athletes 40<50 years             | 6.0E-03                             | 1.5E-01 | 9.4E-02            | 1.4E-01 | 3.0E-01         | 3.6E-01 |
| Athletes 50<70 years             | 5.9E-03                             | 1.5E-01 | 9.3E-02            | 1.4E-01 | 3.0E-01         | 3.5E-01 |
| Coaches 16<30 years              | 3.8E-03                             | 9.5E-02 | 6.1E-02            | 8.9E-02 | 2.0E-01         | 2.3E-01 |
| Coaches 30<40 years              | 3.4E-03                             | 8.3E-02 | 5.3E-02            | 7.8E-02 | 1.7E-01         | 2.0E-01 |
| Coaches 40<50 years              | 3.4E-03                             | 8.4E-02 | 5.3E-02            | 7.9E-02 | 1.7E-01         | 2.0E-01 |
| Coaches 50<70 years              | 3.4E-03                             | 8.4E-02 | 5.4E-02            | 7.9E-02 | 1.7E-01         | 2.0E-01 |
| Referees 16<30 years             | 1.4E-03                             | 3.5E-02 | 2.2E-02            | 3.3E-02 | 7.3E-02         | 8.6E-02 |
| Referees 30<40 years             | 1.2E-03                             | 3.1E-02 | 2.0E-02            | 2.9E-02 | 6.3E-02         | 7.5E-02 |
| Referees 40<50 years             | 1.3E-03                             | 3.1E-02 | 2.0E-02            | 2.9E-02 | 6.4E-02         | 7.6E-02 |
| Referees 50<70 years             | 1.3E-03                             | 3.1E-02 | 2.0E-02            | 2.9E-02 | 6.4E-02         | 7.6E-02 |
| Spectators Third trimester fetus | 5.2E-04                             | 1.3E-02 | 8.1E-03            | 1.2E-02 | 2.6E-02         | 3.1E-02 |
| Spectators 0<2 years             | 4.2E-03                             | 1.0E-01 | 6.6E-02            | 9.7E-02 | 2.1E-01         | 2.5E-01 |
| Spectators 2<6 years             | 2.2E-03                             | 5.4E-02 | 3.4E-02            | 5.1E-02 | 1.1E-01         | 1.3E-01 |



| Receptor Category and Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|---------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                 | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Spectators 6<11 years           | 2.1E-03                             | 5.2E-02 | 3.3E-02            | 4.9E-02 | 1.1E-01         | 1.3E-01 |
| Spectators 11<16 years          | 9.0E-04                             | 2.2E-02 | 1.4E-02            | 2.1E-02 | 4.6E-02         | 5.4E-02 |
| Spectators 16<30 years          | 5.9E-04                             | 1.5E-02 | 9.4E-03            | 1.4E-02 | 3.0E-02         | 3.6E-02 |
| Spectators 30<40 years          | 5.2E-04                             | 1.3E-02 | 8.2E-03            | 1.2E-02 | 2.6E-02         | 3.1E-02 |
| Spectators 40<50 years          | 5.2E-04                             | 1.3E-02 | 8.3E-03            | 1.2E-02 | 2.7E-02         | 3.2E-02 |
| Spectators 50<70 years          | 5.3E-04                             | 1.3E-02 | 8.3E-03            | 1.2E-02 | 2.7E-02         | 3.2E-02 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

**Table G-13. On-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for Non-Field-Related General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group  | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years               | 6.0E-03                             | 5.5E-02 | 4.9E-02            | 3.7E-02 | 1.4E-01         | 2.1E-01 |
| Athletes 6<11 years              | 7.8E-03                             | 7.1E-02 | 6.3E-02            | 4.9E-02 | 1.8E-01         | 2.8E-01 |
| Athletes 11<16 years             | 7.6E-03                             | 7.0E-02 | 6.2E-02            | 4.7E-02 | 1.8E-01         | 2.7E-01 |
| Athletes 16<30 years             | 1.4E-02                             | 1.3E-01 | 1.2E-01            | 8.9E-02 | 3.4E-01         | 5.1E-01 |
| Athletes 30<40 years             | 9.4E-03                             | 8.6E-02 | 7.6E-02            | 5.8E-02 | 2.2E-01         | 3.3E-01 |
| Athletes 40<50 years             | 9.3E-03                             | 8.5E-02 | 7.5E-02            | 5.8E-02 | 2.2E-01         | 3.3E-01 |
| Athletes 50<70 years             | 9.1E-03                             | 8.3E-02 | 7.4E-02            | 5.7E-02 | 2.2E-01         | 3.2E-01 |
| Coaches 16<30 years              | 6.0E-03                             | 5.4E-02 | 4.8E-02            | 3.7E-02 | 1.4E-01         | 2.1E-01 |
| Coaches 30<40 years              | 5.2E-03                             | 4.7E-02 | 4.2E-02            | 3.2E-02 | 1.2E-01         | 1.8E-01 |
| Coaches 40<50 years              | 5.3E-03                             | 4.8E-02 | 4.3E-02            | 3.3E-02 | 1.2E-01         | 1.9E-01 |
| Coaches 50<70 years              | 5.3E-03                             | 4.8E-02 | 4.3E-02            | 3.3E-02 | 1.2E-01         | 1.9E-01 |
| Referees 16<30 years             | 2.2E-03                             | 2.0E-02 | 1.8E-02            | 1.4E-02 | 5.2E-02         | 7.8E-02 |
| Referees 30<40 years             | 1.9E-03                             | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.8E-02 |
| Referees 40<50 years             | 2.0E-03                             | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.9E-02 |
| Referees 50<70 years             | 2.0E-03                             | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.9E-02 |
| Spectators Third trimester fetus | 8.0E-04                             | 7.3E-03 | 6.5E-03            | 5.0E-03 | 1.9E-02         | 2.8E-02 |
| Spectators 0<2 years             | 6.4E-03                             | 5.9E-02 | 5.2E-02            | 4.0E-02 | 1.5E-01         | 2.3E-01 |
| Spectators 2<6 years             | 3.4E-03                             | 3.1E-02 | 2.7E-02            | 2.1E-02 | 8.0E-02         | 1.2E-01 |
| Spectators 6<11 years            | 3.2E-03                             | 3.0E-02 | 2.6E-02            | 2.0E-02 | 7.6E-02         | 1.1E-01 |
| Spectators 11<16 years           | 1.4E-03                             | 1.3E-02 | 1.1E-02            | 8.7E-03 | 3.3E-02         | 4.9E-02 |
| Spectators 16<30 years           | 9.2E-04                             | 8.4E-03 | 7.5E-03            | 5.7E-03 | 2.2E-02         | 3.2E-02 |
| Spectators 30<40 years           | 8.0E-04                             | 7.3E-03 | 6.5E-03            | 5.0E-03 | 1.9E-02         | 2.8E-02 |
| Spectators 40<50 years           | 8.1E-04                             | 7.4E-03 | 6.6E-03            | 5.0E-03 | 1.9E-02         | 2.9E-02 |
| Spectators 50<70 years           | 8.2E-04                             | 7.4E-03 | 6.6E-03            | 5.1E-03 | 1.9E-02         | 2.9E-02 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.



**Table G-14. Off-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for All General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless) for Combined Gender Spectators**

| Spectator Receptor Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                              | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Third trimester fetus        | 9.5E-04                             | 1.3E-02 | 1.3E-02            | 6.9E-03 | 3.4E-02         | 5.5E-02 |
| 0<2 years                    | 7.6E-03                             | 1.1E-01 | 1.0E-01            | 5.6E-02 | 2.7E-01         | 4.5E-01 |
| 2<6 years                    | 4.0E-03                             | 5.6E-02 | 5.5E-02            | 2.9E-02 | 1.4E-01         | 2.3E-01 |
| 6<11 years                   | 3.8E-03                             | 5.3E-02 | 5.3E-02            | 2.8E-02 | 1.4E-01         | 2.2E-01 |
| 11<16 years                  | 1.7E-03                             | 2.3E-02 | 2.3E-02            | 1.2E-02 | 5.9E-02         | 9.6E-02 |
| 16<30 years                  | 1.1E-03                             | 1.5E-02 | 1.5E-02            | 7.9E-03 | 3.9E-02         | 6.4E-02 |
| 30<40 years                  | 9.5E-04                             | 1.3E-02 | 1.3E-02            | 6.9E-03 | 3.4E-02         | 5.6E-02 |
| 40<50 years                  | 9.6E-04                             | 1.3E-02 | 1.3E-02            | 7.0E-03 | 3.4E-02         | 5.6E-02 |
| 50<70 years                  | 9.7E-04                             | 1.3E-02 | 1.3E-02            | 7.0E-03 | 3.4E-02         | 5.6E-02 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

**Table G-15. Off-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for Field-Related General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless) for Combined Gender Spectators**

| Receptor Category and Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|---------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                 | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Third trimester fetus           | 8.9E-06                             | 5.2E-03 | 6.4E-03            | 2.4E-03 | 1.7E-02         | 2.5E-02 |
| 0<2 years                       | 7.1E-05                             | 4.2E-02 | 5.2E-02            | 1.9E-02 | 1.4E-01         | 2.0E-01 |
| 2<6 years                       | 3.7E-05                             | 2.2E-02 | 2.7E-02            | 1.0E-02 | 7.2E-02         | 1.0E-01 |
| 6<11 years                      | 3.6E-05                             | 2.1E-02 | 2.6E-02            | 9.6E-03 | 6.9E-02         | 9.9E-02 |
| 11<16 years                     | 1.5E-05                             | 9.1E-03 | 1.1E-02            | 4.1E-03 | 3.0E-02         | 4.3E-02 |
| 16<30 years                     | 1.0E-05                             | 6.0E-03 | 7.4E-03            | 2.7E-03 | 2.0E-02         | 2.8E-02 |
| 30<40 years                     | 8.9E-06                             | 5.2E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02         | 2.5E-02 |
| 40<50 years                     | 9.0E-06                             | 5.3E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02         | 2.5E-02 |
| 50<70 years                     | 9.0E-06                             | 5.3E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02         | 2.5E-02 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

**Table G-16. Off-Field Field-Specific<sup>a</sup> Chronic Inhalation Route Total Hazard Quotients for Non-Field-Related General Chemicals (Chronic HQ<sub>inh-sum-field</sub>, unitless) for Combined Gender Spectators**

| Spectator Receptor Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                              | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Third trimester fetus        | 1.3E-03                             | 8.2E-03 | 7.9E-03            | 5.0E-03 | 2.2E-02         | 3.6E-02 |
| 0<2 years                    | 1.0E-02                             | 6.6E-02 | 6.3E-02            | 4.0E-02 | 1.8E-01         | 2.9E-01 |
| 2<6 years                    | 5.3E-03                             | 3.5E-02 | 3.3E-02            | 2.1E-02 | 9.3E-02         | 1.5E-01 |
| 6<11 years                   | 5.1E-03                             | 3.3E-02 | 3.2E-02            | 2.0E-02 | 8.9E-02         | 1.5E-01 |
| 11<16 years                  | 2.2E-03                             | 1.4E-02 | 1.4E-02            | 8.6E-03 | 3.8E-02         | 6.3E-02 |



| Spectator Receptor Age Group | Chronic HQ <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                              | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| 16<30 years                  | 1.5E-03                             | 9.4E-03 | 9.1E-03            | 5.7E-03 | 2.5E-02         | 4.2E-02 |
| 30<40 years                  | 1.3E-03                             | 8.2E-03 | 7.9E-03            | 5.0E-03 | 2.2E-02         | 3.7E-02 |
| 40<50 years                  | 1.3E-03                             | 8.3E-03 | 8.0E-03            | 5.0E-03 | 2.2E-02         | 3.7E-02 |
| 50<70 years                  | 1.3E-03                             | 8.3E-03 | 8.0E-03            | 5.0E-03 | 2.2E-02         | 3.7E-02 |

<sup>a</sup> 34 field-specific One-Day HQ<sub>inh-DART-sum-field</sub> are included in this table.

### G.2.5. One-Day Dermal Hazard Quotient (One-Day HQ<sub>der-DART</sub>, unitless) for DART Chemicals

Table G-1. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender **Athletes 2<6 years**

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 1.8E-09 | 8.2E-09            | 0.0E+00 | 5.7E-09                     | 4.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 1.6E-06 | 6.8E-06            | 0.0E+00 | 6.3E-06                     | 4.0E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 2.3E-06 | 2.3E-06            | 1.5E-06 | 6.1E-06                     | 9.5E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 6.6E-07                            | 6.8E-06 | 5.0E-06            | 6.5E-06 | 1.6E-05                     | 1.9E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.4E-07                            | 5.2E-06 | 3.4E-06            | 4.8E-06 | 1.2E-05                     | 1.4E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 7.1E-08 | 4.2E-07            | 0.0E+00 | 0.0E+00                     | 2.5E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 2.4E-08                            | 3.3E-07 | 5.3E-07            | 1.7E-07 | 7.6E-07                     | 3.1E-06 |
| Chrysene                                     | 218-01-9   | 2.2E-06                            | 2.0E-05 | 1.3E-05            | 2.0E-05 | 4.0E-05                     | 4.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.6E-06 | 9.3E-06            | 0.0E+00 | 0.0E+00                     | 5.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 3.6E-07                            | 3.6E-06 | 2.1E-06            | 3.4E-06 | 6.8E-06                     | 8.1E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 9.0E-07 | 1.5E-06            | 6.9E-07 | 1.7E-06                     | 9.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 1.6E-09 | 3.2E-09            | 7.3E-10 | 6.7E-09                     | 1.6E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 9.4E-09 | 3.1E-08            | 0.0E+00 | 1.0E-07                     | 1.2E-07 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 5.3E-07 | 2.4E-06            | 0.0E+00 | 1.7E-06                     | 1.3E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.3E-06 | 1.9E-06            | 2.0E-06 | 5.3E-06                     | 8.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 1.4E-07 | 2.0E-07            | 7.8E-08 | 3.8E-07                     | 1.1E-06 |



| Chemical                                 | CASRN     | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)- | 2772-45-4 | 1.1E-07                            | 1.3E-06 | 1.0E-06            | 9.2E-07 | 3.2E-06                     | 4.9E-06 |
| Phenol, 4-(1-phenylethyl)-               | 1988-89-2 | 1.3E-07                            | 1.4E-06 | 1.6E-06            | 7.9E-07 | 5.2E-06                     | 6.9E-06 |
| 4-tert-Octylphenol                       | 140-66-9  | 0.0E+00                            | 4.3E-07 | 9.1E-07            | 1.2E-07 | 2.1E-06                     | 4.0E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.

**Table G-2. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender **Athletes 6<11 years****

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 1.7E-09 | 7.4E-09            | 0.0E+00 | 5.1E-09                     | 4.1E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 1.5E-06 | 6.3E-06            | 0.0E+00 | 5.7E-06                     | 3.7E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 2.1E-06 | 2.1E-06            | 1.4E-06 | 5.5E-06                     | 8.6E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 6.0E-07                            | 6.2E-06 | 4.6E-06            | 5.9E-06 | 1.5E-05                     | 1.7E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.8E-07                            | 4.7E-06 | 3.0E-06            | 4.4E-06 | 1.0E-05                     | 1.2E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 6.3E-08 | 3.7E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 2.2E-08                            | 3.0E-07 | 4.8E-07            | 1.5E-07 | 6.9E-07                     | 2.8E-06 |
| Chrysene                                     | 218-01-9   | 2.0E-06                            | 1.8E-05 | 1.2E-05            | 1.8E-05 | 3.6E-05                     | 4.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.4E-06 | 8.5E-06            | 0.0E+00 | 0.0E+00                     | 5.0E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 3.3E-07                            | 3.2E-06 | 1.9E-06            | 3.1E-06 | 6.1E-06                     | 7.4E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 8.2E-07 | 1.4E-06            | 6.3E-07 | 1.5E-06                     | 8.2E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 1.4E-09 | 2.9E-09            | 6.6E-10 | 6.0E-09                     | 1.5E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 8.5E-09 | 2.8E-08            | 0.0E+00 | 9.3E-08                     | 1.1E-07 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 4.9E-07 | 2.2E-06            | 0.0E+00 | 1.5E-06                     | 1.2E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 1.7E-06            | 1.8E-06 | 4.8E-06                     | 7.5E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 1.3E-07 | 1.8E-07            | 7.1E-08 | 3.3E-07                     | 9.9E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 9.8E-08                            | 1.2E-06 | 9.4E-07            | 8.3E-07 | 2.9E-06                     | 4.4E-06 |



| Chemical                   | CASRN     | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|----------------------------|-----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                            |           | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Phenol, 4-(1-phenylethyl)- | 1988-89-2 | 1.1E-07                            | 1.3E-06 | 1.5E-06            | 7.1E-07 | 4.7E-06                     | 6.2E-06 |
| 4-tert-Octylphenol         | 140-66-9  | 0.0E+00                            | 3.9E-07 | 8.2E-07            | 1.1E-07 | 1.9E-06                     | 3.6E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.

**Table G-3. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender **Athletes 11<16 years****

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 1.4E-09 | 6.4E-09            | 0.0E+00 | 4.5E-09                     | 3.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 1.3E-06 | 5.3E-06            | 0.0E+00 | 4.9E-06                     | 3.1E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 1.8E-06 | 1.8E-06            | 1.2E-06 | 4.7E-06                     | 7.4E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 5.1E-07                            | 5.3E-06 | 3.9E-06            | 5.1E-06 | 1.3E-05                     | 1.5E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.0E-07                            | 4.0E-06 | 2.6E-06            | 3.7E-06 | 8.9E-06                     | 1.1E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.4E-08 | 3.2E-07            | 0.0E+00 | 0.0E+00                     | 1.9E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.9E-08                            | 2.5E-07 | 4.1E-07            | 1.3E-07 | 5.9E-07                     | 2.4E-06 |
| Chrysene                                     | 218-01-9   | 1.7E-06                            | 1.5E-05 | 9.9E-06            | 1.5E-05 | 3.1E-05                     | 3.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.2E-06 | 7.3E-06            | 0.0E+00 | 0.0E+00                     | 4.3E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.8E-07                            | 2.8E-06 | 1.6E-06            | 2.7E-06 | 5.3E-06                     | 6.3E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 7.0E-07 | 1.2E-06            | 5.4E-07 | 1.3E-06                     | 7.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 1.2E-09 | 2.5E-09            | 5.7E-10 | 5.1E-09                     | 1.3E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 7.3E-09 | 2.4E-08            | 0.0E+00 | 7.9E-08                     | 9.3E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 4.1E-07 | 1.8E-06            | 0.0E+00 | 1.3E-06                     | 1.0E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 1.8E-06 | 1.5E-06            | 1.6E-06 | 4.1E-06                     | 6.5E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 1.1E-07 | 1.5E-07            | 6.1E-08 | 2.9E-07                     | 8.4E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 8.4E-08                            | 9.9E-07 | 8.1E-07            | 7.1E-07 | 2.5E-06                     | 3.8E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 9.8E-08                            | 1.1E-06 | 1.3E-06            | 6.1E-07 | 4.0E-06                     | 5.3E-06 |



| Chemical           | CASRN    | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--------------------|----------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                    |          | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 4-tert-Octylphenol | 140-66-9 | 0.0E+00                            | 3.4E-07 | 7.0E-07            | 9.1E-08 | 1.6E-06                     | 3.1E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.

**Table G-4. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender **Athletes 16<30 years****

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 1.2E-09 | 5.5E-09            | 0.0E+00 | 3.9E-09                     | 3.0E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 1.1E-06 | 4.8E-06            | 0.0E+00 | 4.3E-06                     | 2.8E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 1.6E-06 | 1.6E-06            | 1.0E-06 | 4.1E-06                     | 6.4E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 4.5E-07                            | 4.7E-06 | 3.5E-06            | 4.4E-06 | 1.1E-05                     | 1.3E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.4E-07                            | 3.5E-06 | 2.3E-06            | 3.3E-06 | 7.8E-06                     | 9.3E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 4.9E-08 | 2.9E-07            | 0.0E+00 | 0.0E+00                     | 1.7E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.7E-08                            | 2.2E-07 | 3.6E-07            | 1.2E-07 | 5.2E-07                     | 2.1E-06 |
| Chrysene                                     | 218-01-9   | 1.5E-06                            | 1.4E-05 | 8.8E-06            | 1.4E-05 | 2.7E-05                     | 3.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.1E-06 | 6.3E-06            | 0.0E+00 | 0.0E+00                     | 3.7E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.5E-07                            | 2.4E-06 | 1.4E-06            | 2.3E-06 | 4.7E-06                     | 5.5E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 6.1E-07 | 1.0E-06            | 4.7E-07 | 1.1E-06                     | 6.1E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 1.1E-09 | 2.1E-09            | 5.0E-10 | 4.5E-09                     | 1.1E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 6.4E-09 | 2.1E-08            | 0.0E+00 | 6.9E-08                     | 8.2E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 3.7E-07 | 1.6E-06            | 0.0E+00 | 1.1E-06                     | 9.1E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 1.6E-06 | 1.3E-06            | 1.4E-06 | 3.6E-06                     | 5.7E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 9.6E-08 | 1.4E-07            | 5.3E-08 | 2.5E-07                     | 7.4E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 7.3E-08                            | 8.6E-07 | 7.0E-07            | 6.2E-07 | 2.2E-06                     | 3.3E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 8.5E-08                            | 9.4E-07 | 1.1E-06            | 5.3E-07 | 3.5E-06                     | 4.7E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                            | 2.9E-07 | 6.2E-07            | 8.0E-08 | 1.4E-06                     | 2.7E-06 |



<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.

**Table G-5. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender **Athletes 30<40 years****

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 1.2E-09 | 5.2E-09            | 0.0E+00 | 3.6E-09                     | 2.9E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 1.1E-06 | 4.4E-06            | 0.0E+00 | 4.0E-06                     | 2.6E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 1.5E-06 | 1.5E-06            | 9.7E-07 | 3.9E-06                     | 6.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 4.2E-07                            | 4.4E-06 | 3.2E-06            | 4.1E-06 | 1.0E-05                     | 1.2E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.1E-07                            | 3.3E-06 | 2.1E-06            | 3.1E-06 | 7.3E-06                     | 8.7E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 4.6E-08 | 2.7E-07            | 0.0E+00 | 0.0E+00                     | 1.6E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.6E-08                            | 2.1E-07 | 3.4E-07            | 1.1E-07 | 4.8E-07                     | 2.0E-06 |
| Chrysene                                     | 218-01-9   | 1.4E-06                            | 1.3E-05 | 8.1E-06            | 1.3E-05 | 2.5E-05                     | 2.9E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.0E-06 | 5.9E-06            | 0.0E+00 | 0.0E+00                     | 3.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.3E-07                            | 2.3E-06 | 1.4E-06            | 2.2E-06 | 4.4E-06                     | 5.2E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 5.7E-07 | 9.4E-07            | 4.4E-07 | 1.1E-06                     | 5.7E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 9.9E-10 | 2.0E-09            | 4.6E-10 | 4.2E-09                     | 1.0E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 6.0E-09 | 2.0E-08            | 0.0E+00 | 6.5E-08                     | 7.7E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 3.5E-07 | 1.5E-06            | 0.0E+00 | 1.1E-06                     | 8.5E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 1.5E-06 | 1.2E-06            | 1.3E-06 | 3.4E-06                     | 5.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 8.9E-08 | 1.3E-07            | 5.0E-08 | 2.3E-07                     | 6.9E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 6.8E-08                            | 8.0E-07 | 6.6E-07            | 5.8E-07 | 2.1E-06                     | 3.1E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 8.0E-08                            | 8.8E-07 | 1.0E-06            | 5.0E-07 | 3.3E-06                     | 4.4E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                            | 2.7E-07 | 5.7E-07            | 7.4E-08 | 1.3E-06                     | 2.5E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.



**Table G-6. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender **Athletes 40<50 years****

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 1.2E-09 | 5.2E-09            | 0.0E+00 | 3.6E-09                     | 2.9E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 1.1E-06 | 4.4E-06            | 0.0E+00 | 4.0E-06                     | 2.6E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 1.5E-06 | 1.5E-06            | 9.7E-07 | 3.9E-06                     | 6.1E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 4.2E-07                             | 4.4E-06 | 3.2E-06            | 4.2E-06 | 1.0E-05                     | 1.2E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.1E-07                             | 3.3E-06 | 2.2E-06            | 3.1E-06 | 7.3E-06                     | 8.8E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 4.6E-08 | 2.7E-07            | 0.0E+00 | 0.0E+00                     | 1.6E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.6E-08                             | 2.1E-07 | 3.4E-07            | 1.1E-07 | 4.9E-07                     | 2.0E-06 |
| Chrysene                                     | 218-01-9   | 1.4E-06                             | 1.3E-05 | 8.2E-06            | 1.3E-05 | 2.6E-05                     | 2.9E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 1.0E-06 | 5.9E-06            | 0.0E+00 | 0.0E+00                     | 3.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.3E-07                             | 2.3E-06 | 1.4E-06            | 2.2E-06 | 4.4E-06                     | 5.2E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 5.8E-07 | 9.6E-07            | 4.4E-07 | 1.1E-06                     | 5.8E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 1.0E-09 | 2.1E-09            | 4.7E-10 | 4.2E-09                     | 1.1E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 6.0E-09 | 2.0E-08            | 0.0E+00 | 6.5E-08                     | 7.7E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 3.5E-07 | 1.6E-06            | 0.0E+00 | 1.1E-06                     | 8.6E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 1.5E-06 | 1.2E-06            | 1.3E-06 | 3.4E-06                     | 5.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 9.0E-08 | 1.3E-07            | 5.0E-08 | 2.3E-07                     | 7.0E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 6.9E-08                             | 8.1E-07 | 6.6E-07            | 5.9E-07 | 2.1E-06                     | 3.1E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 8.0E-08                             | 8.8E-07 | 1.0E-06            | 5.0E-07 | 3.3E-06                     | 4.4E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 2.8E-07 | 5.8E-07            | 7.5E-08 | 1.3E-06                     | 2.6E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-7. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender **Athletes 50<70 years****

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 1.2E-09 | 5.2E-09            | 0.0E+00 | 3.6E-09                     | 2.9E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 1.1E-06 | 4.4E-06            | 0.0E+00 | 4.0E-06                     | 2.6E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 1.5E-06 | 1.5E-06            | 9.8E-07 | 3.9E-06                     | 6.1E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 4.2E-07                             | 4.4E-06 | 3.2E-06            | 4.2E-06 | 1.0E-05                     | 1.2E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.1E-07                             | 3.3E-06 | 2.2E-06            | 3.1E-06 | 7.4E-06                     | 8.8E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 4.6E-08 | 2.7E-07            | 0.0E+00 | 0.0E+00                     | 1.6E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.6E-08                             | 2.1E-07 | 3.4E-07            | 1.1E-07 | 4.9E-07                     | 2.0E-06 |
| Chrysene                                     | 218-01-9   | 1.4E-06                             | 1.3E-05 | 8.3E-06            | 1.3E-05 | 2.6E-05                     | 2.9E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 1.0E-06 | 5.9E-06            | 0.0E+00 | 0.0E+00                     | 3.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.3E-07                             | 2.3E-06 | 1.4E-06            | 2.2E-06 | 4.4E-06                     | 5.2E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 5.8E-07 | 9.6E-07            | 4.4E-07 | 1.1E-06                     | 5.8E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 1.0E-09 | 2.1E-09            | 4.7E-10 | 4.2E-09                     | 1.1E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 6.0E-09 | 2.0E-08            | 0.0E+00 | 6.5E-08                     | 7.7E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 3.5E-07 | 1.6E-06            | 0.0E+00 | 1.1E-06                     | 8.6E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 1.5E-06 | 1.2E-06            | 1.3E-06 | 3.4E-06                     | 5.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 9.1E-08 | 1.3E-07            | 5.0E-08 | 2.4E-07                     | 7.0E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 6.9E-08                             | 8.1E-07 | 6.6E-07            | 5.9E-07 | 2.1E-06                     | 3.1E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 8.1E-08                             | 8.8E-07 | 1.0E-06            | 5.0E-07 | 3.3E-06                     | 4.4E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 2.8E-07 | 5.8E-07            | 7.5E-08 | 1.3E-06                     | 2.6E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-8. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Coaches 16<30 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 6.1E-10 | 2.7E-09            | 0.0E+00 | 1.9E-09                     | 1.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.7E-07 | 2.4E-06            | 0.0E+00 | 2.1E-06                     | 1.4E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.8E-07 | 7.7E-07            | 5.1E-07 | 2.1E-06                     | 3.2E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.2E-07                             | 2.3E-06 | 1.7E-06            | 2.2E-06 | 5.5E-06                     | 6.3E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.2E-07                             | 1.7E-06 | 1.1E-06            | 1.6E-06 | 3.8E-06                     | 4.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.3E-08 | 1.4E-07            | 0.0E+00 | 0.0E+00                     | 8.2E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 8.2E-09                             | 1.1E-07 | 1.9E-07            | 5.7E-08 | 2.5E-07                     | 1.1E-06 |
| Chrysene                                     | 218-01-9   | 7.3E-07                             | 6.7E-06 | 4.3E-06            | 6.7E-06 | 1.3E-05                     | 1.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.4E-07 | 3.2E-06            | 0.0E+00 | 0.0E+00                     | 1.9E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.2E-06 | 7.1E-07            | 1.2E-06 | 2.3E-06                     | 2.7E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 3.0E-07 | 5.0E-07            | 2.3E-07 | 5.6E-07                     | 3.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.3E-10 | 1.1E-09            | 2.5E-10 | 2.2E-09                     | 5.5E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.1E-09 | 1.0E-08            | 0.0E+00 | 3.4E-08                     | 4.0E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.8E-07 | 8.2E-07            | 0.0E+00 | 5.7E-07                     | 4.5E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.6E-07 | 6.4E-07            | 6.8E-07 | 1.8E-06                     | 2.8E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.7E-08 | 6.7E-08            | 2.6E-08 | 1.2E-07                     | 3.7E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.6E-08                             | 4.3E-07 | 3.5E-07            | 3.1E-07 | 1.1E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.2E-08                             | 4.7E-07 | 5.5E-07            | 2.6E-07 | 1.8E-06                     | 2.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 3.0E-07            | 3.9E-08 | 7.1E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-9. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Coaches 30<40 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.3E-07 | 7.2E-07            | 4.8E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                             | 2.2E-06 | 1.6E-06            | 2.0E-06 | 5.2E-06                     | 5.9E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.0E-07                             | 1.6E-06 | 1.1E-06            | 1.5E-06 | 3.6E-06                     | 4.3E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.7E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.7E-09                             | 1.0E-07 | 1.7E-07            | 5.3E-08 | 2.4E-07                     | 9.9E-07 |
| Chrysene                                     | 218-01-9   | 6.8E-07                             | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 4.9E-07 | 2.9E-06            | 0.0E+00 | 0.0E+00                     | 1.7E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.1E-07                             | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.8E-07 | 4.6E-07            | 2.2E-07 | 5.2E-07                     | 2.8E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.0E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 2.9E-09 | 9.8E-09            | 0.0E+00 | 3.2E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.7E-07 | 7.6E-07            | 0.0E+00 | 5.4E-07                     | 4.2E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.1E-07 | 5.9E-07            | 6.3E-07 | 1.7E-06                     | 2.6E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.4E-08 | 6.2E-08            | 2.5E-08 | 1.2E-07                     | 3.4E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                             | 4.0E-07 | 3.2E-07            | 2.9E-07 | 1.0E-06                     | 1.5E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                             | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.6E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-10. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender **Coaches 40<50 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.4E-07 | 7.2E-07            | 4.8E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                             | 2.2E-06 | 1.6E-06            | 2.1E-06 | 5.2E-06                     | 5.9E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.0E-07                             | 1.7E-06 | 1.1E-06            | 1.5E-06 | 3.7E-06                     | 4.4E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.8E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.8E-09                             | 1.0E-07 | 1.7E-07            | 5.4E-08 | 2.4E-07                     | 1.0E-06 |
| Chrysene                                     | 218-01-9   | 6.9E-07                             | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.1E-07 | 3.0E-06            | 0.0E+00 | 0.0E+00                     | 1.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.9E-07 | 4.8E-07            | 2.2E-07 | 5.3E-07                     | 2.9E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.1E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.0E-09 | 9.9E-09            | 0.0E+00 | 3.2E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.7E-07 | 7.8E-07            | 0.0E+00 | 5.4E-07                     | 4.3E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.2E-07 | 6.0E-07            | 6.4E-07 | 1.7E-06                     | 2.6E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.5E-08 | 6.4E-08            | 2.5E-08 | 1.2E-07                     | 3.5E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                             | 4.1E-07 | 3.4E-07            | 2.9E-07 | 1.0E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                             | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.7E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-11. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender **Coaches 50<70 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.4E-07 | 7.3E-07            | 4.9E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                             | 2.2E-06 | 1.6E-06            | 2.1E-06 | 5.3E-06                     | 6.0E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.1E-07                             | 1.7E-06 | 1.1E-06            | 1.5E-06 | 3.7E-06                     | 4.4E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.8E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.8E-09                             | 1.0E-07 | 1.7E-07            | 5.4E-08 | 2.4E-07                     | 1.0E-06 |
| Chrysene                                     | 218-01-9   | 6.9E-07                             | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.1E-07 | 3.0E-06            | 0.0E+00 | 0.0E+00                     | 1.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.9E-07 | 4.8E-07            | 2.2E-07 | 5.3E-07                     | 2.9E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.1E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.0E-09 | 1.0E-08            | 0.0E+00 | 3.3E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.7E-07 | 7.8E-07            | 0.0E+00 | 5.4E-07                     | 4.3E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.3E-07 | 6.1E-07            | 6.4E-07 | 1.7E-06                     | 2.7E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.5E-08 | 6.4E-08            | 2.5E-08 | 1.2E-07                     | 3.5E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                             | 4.1E-07 | 3.4E-07            | 2.9E-07 | 1.0E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                             | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.7E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-12. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender Referees 16<30 years**

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 6.1E-10 | 2.7E-09            | 0.0E+00 | 1.9E-09                     | 1.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 5.7E-07 | 2.4E-06            | 0.0E+00 | 2.1E-06                     | 1.4E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 7.8E-07 | 7.7E-07            | 5.1E-07 | 2.1E-06                     | 3.2E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.2E-07                            | 2.3E-06 | 1.7E-06            | 2.2E-06 | 5.5E-06                     | 6.3E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.2E-07                            | 1.7E-06 | 1.1E-06            | 1.6E-06 | 3.8E-06                     | 4.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.3E-08 | 1.4E-07            | 0.0E+00 | 0.0E+00                     | 8.2E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 8.2E-09                            | 1.1E-07 | 1.9E-07            | 5.7E-08 | 2.5E-07                     | 1.1E-06 |
| Chrysene                                     | 218-01-9   | 7.3E-07                            | 6.7E-06 | 4.3E-06            | 6.7E-06 | 1.3E-05                     | 1.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 5.4E-07 | 3.2E-06            | 0.0E+00 | 0.0E+00                     | 1.9E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                            | 1.2E-06 | 7.1E-07            | 1.2E-06 | 2.3E-06                     | 2.7E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 3.0E-07 | 5.0E-07            | 2.3E-07 | 5.6E-07                     | 3.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 5.3E-10 | 1.1E-09            | 2.5E-10 | 2.2E-09                     | 5.5E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 3.1E-09 | 1.0E-08            | 0.0E+00 | 3.4E-08                     | 4.0E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 1.8E-07 | 8.2E-07            | 0.0E+00 | 5.7E-07                     | 4.5E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 7.6E-07 | 6.4E-07            | 6.8E-07 | 1.8E-06                     | 2.8E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 4.7E-08 | 6.7E-08            | 2.6E-08 | 1.2E-07                     | 3.7E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.6E-08                            | 4.3E-07 | 3.5E-07            | 3.1E-07 | 1.1E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.2E-08                            | 4.7E-07 | 5.5E-07            | 2.6E-07 | 1.8E-06                     | 2.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                            | 1.4E-07 | 3.0E-07            | 3.9E-08 | 7.1E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.



**Table G-13. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>der-DART-field</sub>, unitless)— Combined Gender Referees 30<40 years**

| Chemical                                     | CASRN      | OneDayHQ <sub>der-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                            | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                            | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                            | 7.3E-07 | 7.2E-07            | 4.8E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                            | 2.2E-06 | 1.6E-06            | 2.0E-06 | 5.2E-06                     | 5.9E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.0E-07                            | 1.6E-06 | 1.1E-06            | 1.5E-06 | 3.6E-06                     | 4.3E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.7E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.7E-09                            | 1.0E-07 | 1.7E-07            | 5.3E-08 | 2.4E-07                     | 9.9E-07 |
| Chrysene                                     | 218-01-9   | 6.8E-07                            | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 4.9E-07 | 2.9E-06            | 0.0E+00 | 0.0E+00                     | 1.7E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.1E-07                            | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.8E-07 | 4.6E-07            | 2.2E-07 | 5.2E-07                     | 2.8E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                            | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.0E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 2.9E-09 | 9.8E-09            | 0.0E+00 | 3.2E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                            | 1.7E-07 | 7.6E-07            | 0.0E+00 | 5.4E-07                     | 4.2E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 7.1E-07 | 5.9E-07            | 6.3E-07 | 1.7E-06                     | 2.6E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                            | 4.4E-08 | 6.2E-08            | 2.5E-08 | 1.2E-07                     | 3.4E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                            | 4.0E-07 | 3.2E-07            | 2.9E-07 | 1.0E-06                     | 1.5E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                            | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                            | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.6E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-field</sub> are included in this table.



**Table G-14. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Referees 40<50 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.4E-07 | 7.2E-07            | 4.8E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                             | 2.2E-06 | 1.6E-06            | 2.1E-06 | 5.2E-06                     | 5.9E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.0E-07                             | 1.7E-06 | 1.1E-06            | 1.5E-06 | 3.7E-06                     | 4.4E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.8E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.8E-09                             | 1.0E-07 | 1.7E-07            | 5.4E-08 | 2.4E-07                     | 1.0E-06 |
| Chrysene                                     | 218-01-9   | 6.9E-07                             | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.1E-07 | 3.0E-06            | 0.0E+00 | 0.0E+00                     | 1.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.9E-07 | 4.8E-07            | 2.2E-07 | 5.3E-07                     | 2.9E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.1E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.0E-09 | 9.9E-09            | 0.0E+00 | 3.2E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.7E-07 | 7.8E-07            | 0.0E+00 | 5.4E-07                     | 4.3E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.2E-07 | 6.0E-07            | 6.4E-07 | 1.7E-06                     | 2.6E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.5E-08 | 6.4E-08            | 2.5E-08 | 1.2E-07                     | 3.5E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                             | 4.1E-07 | 3.4E-07            | 2.9E-07 | 1.0E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                             | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.7E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-15. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Referees 50<70 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.7E-10 | 2.5E-09            | 0.0E+00 | 1.8E-09                     | 1.4E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.3E-07 | 2.2E-06            | 0.0E+00 | 2.0E-06                     | 1.3E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.4E-07 | 7.3E-07            | 4.9E-07 | 1.9E-06                     | 3.0E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.1E-07                             | 2.2E-06 | 1.6E-06            | 2.1E-06 | 5.3E-06                     | 6.0E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.1E-07                             | 1.7E-06 | 1.1E-06            | 1.5E-06 | 3.7E-06                     | 4.4E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.2E-08 | 1.3E-07            | 0.0E+00 | 0.0E+00                     | 7.8E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.8E-09                             | 1.0E-07 | 1.7E-07            | 5.4E-08 | 2.4E-07                     | 1.0E-06 |
| Chrysene                                     | 218-01-9   | 6.9E-07                             | 6.3E-06 | 4.1E-06            | 6.3E-06 | 1.3E-05                     | 1.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.1E-07 | 3.0E-06            | 0.0E+00 | 0.0E+00                     | 1.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.1E-06 | 6.7E-07            | 1.1E-06 | 2.2E-06                     | 2.6E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.9E-07 | 4.8E-07            | 2.2E-07 | 5.3E-07                     | 2.9E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.0E-10 | 1.0E-09            | 2.3E-10 | 2.1E-09                     | 5.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.0E-09 | 1.0E-08            | 0.0E+00 | 3.3E-08                     | 3.8E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.7E-07 | 7.8E-07            | 0.0E+00 | 5.4E-07                     | 4.3E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.3E-07 | 6.1E-07            | 6.4E-07 | 1.7E-06                     | 2.7E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.5E-08 | 6.4E-08            | 2.5E-08 | 1.2E-07                     | 3.5E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.4E-08                             | 4.1E-07 | 3.4E-07            | 2.9E-07 | 1.0E-06                     | 1.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.0E-08                             | 4.4E-07 | 5.2E-07            | 2.5E-07 | 1.7E-06                     | 2.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.4E-07 | 2.9E-07            | 3.7E-08 | 6.7E-07                     | 1.3E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-16. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender **Spectators Third Trimester Fetus**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 4.5E-10 | 2.0E-09            | 0.0E+00 | 1.4E-09                     | 1.1E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 4.1E-07 | 1.7E-06            | 0.0E+00 | 1.6E-06                     | 1.0E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 5.9E-07 | 5.8E-07            | 3.9E-07 | 1.5E-06                     | 2.4E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 1.7E-07                             | 1.7E-06 | 1.3E-06            | 1.6E-06 | 4.2E-06                     | 4.7E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.6E-07                             | 1.3E-06 | 8.6E-07            | 1.2E-06 | 3.0E-06                     | 3.5E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 1.8E-08 | 1.0E-07            | 0.0E+00 | 0.0E+00                     | 6.2E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 6.2E-09                             | 8.4E-08 | 1.4E-07            | 4.3E-08 | 1.9E-07                     | 8.0E-07 |
| Chrysene                                     | 218-01-9   | 5.5E-07                             | 5.0E-06 | 3.2E-06            | 5.0E-06 | 1.0E-05                     | 1.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 4.0E-07 | 2.4E-06            | 0.0E+00 | 0.0E+00                     | 1.4E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 9.2E-08                             | 9.1E-07 | 5.4E-07            | 8.7E-07 | 1.8E-06                     | 2.1E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.3E-07 | 3.8E-07            | 1.7E-07 | 4.3E-07                     | 2.3E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 4.0E-10 | 8.1E-10            | 1.9E-10 | 1.7E-09                     | 4.2E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 2.4E-09 | 8.0E-09            | 0.0E+00 | 2.6E-08                     | 3.1E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.4E-07 | 6.2E-07            | 0.0E+00 | 4.2E-07                     | 3.4E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 5.8E-07 | 4.8E-07            | 5.1E-07 | 1.3E-06                     | 2.1E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 3.6E-08 | 5.1E-08            | 2.0E-08 | 9.5E-08                     | 2.8E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 2.7E-08                             | 3.2E-07 | 2.6E-07            | 2.3E-07 | 8.1E-07                     | 1.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 3.2E-08                             | 3.5E-07 | 4.1E-07            | 2.0E-07 | 1.3E-06                     | 1.7E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.1E-07 | 2.3E-07            | 3.0E-08 | 5.3E-07                     | 1.0E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-17. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 0<2 years

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 2.5E-09 | 1.1E-08            | 0.0E+00 | 7.8E-09                     | 6.1E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 2.3E-06 | 9.4E-06            | 0.0E+00 | 8.6E-06                     | 5.5E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 3.2E-06 | 3.1E-06            | 2.1E-06 | 8.2E-06                     | 1.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.0E-07                             | 9.4E-06 | 6.9E-06            | 8.8E-06 | 2.3E-05                     | 2.5E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 8.7E-07                             | 7.1E-06 | 4.7E-06            | 6.5E-06 | 1.6E-05                     | 1.9E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 9.4E-08 | 5.6E-07            | 0.0E+00 | 0.0E+00                     | 3.3E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 3.3E-08                             | 4.5E-07 | 7.3E-07            | 2.3E-07 | 1.1E-06                     | 4.3E-06 |
| Chrysene                                     | 218-01-9   | 3.0E-06                             | 2.7E-05 | 1.7E-05            | 2.7E-05 | 5.4E-05                     | 6.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 2.1E-06 | 1.3E-05            | 0.0E+00 | 0.0E+00                     | 7.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 4.9E-07                             | 4.8E-06 | 2.9E-06            | 4.7E-06 | 9.2E-06                     | 1.1E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 1.2E-06 | 2.0E-06            | 9.4E-07 | 2.3E-06                     | 1.2E-05 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 2.1E-09 | 4.3E-09            | 9.9E-10 | 8.8E-09                     | 2.2E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 1.3E-08 | 4.2E-08            | 0.0E+00 | 1.4E-07                     | 1.6E-07 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 7.3E-07 | 3.3E-06            | 0.0E+00 | 2.3E-06                     | 1.8E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 3.1E-06 | 2.6E-06            | 2.7E-06 | 7.3E-06                     | 1.1E-05 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 1.9E-07 | 2.7E-07            | 1.1E-07 | 5.1E-07                     | 1.5E-06 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.5E-07                             | 1.7E-06 | 1.4E-06            | 1.2E-06 | 4.4E-06                     | 6.6E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 1.7E-07                             | 1.9E-06 | 2.2E-06            | 1.1E-06 | 7.1E-06                     | 9.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 5.9E-07 | 1.2E-06            | 1.6E-07 | 2.9E-06                     | 5.4E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-18. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 2<6 years

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 1.8E-09 | 8.2E-09            | 0.0E+00 | 5.7E-09                     | 4.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 1.6E-06 | 6.8E-06            | 0.0E+00 | 6.3E-06                     | 4.0E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 2.3E-06 | 2.3E-06            | 1.5E-06 | 6.1E-06                     | 9.5E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 6.6E-07                             | 6.8E-06 | 5.0E-06            | 6.5E-06 | 1.6E-05                     | 1.9E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.4E-07                             | 5.2E-06 | 3.4E-06            | 4.8E-06 | 1.2E-05                     | 1.4E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 7.1E-08 | 4.2E-07            | 0.0E+00 | 0.0E+00                     | 2.5E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 2.4E-08                             | 3.3E-07 | 5.3E-07            | 1.7E-07 | 7.6E-07                     | 3.1E-06 |
| Chrysene                                     | 218-01-9   | 2.2E-06                             | 2.0E-05 | 1.3E-05            | 2.0E-05 | 4.0E-05                     | 4.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 1.6E-06 | 9.3E-06            | 0.0E+00 | 0.0E+00                     | 5.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 3.6E-07                             | 3.6E-06 | 2.1E-06            | 3.4E-06 | 6.8E-06                     | 8.1E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 9.0E-07 | 1.5E-06            | 6.9E-07 | 1.7E-06                     | 9.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 1.6E-09 | 3.2E-09            | 7.3E-10 | 6.7E-09                     | 1.6E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 9.4E-09 | 3.1E-08            | 0.0E+00 | 1.0E-07                     | 1.2E-07 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 5.3E-07 | 2.4E-06            | 0.0E+00 | 1.7E-06                     | 1.3E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 2.3E-06 | 1.9E-06            | 2.0E-06 | 5.3E-06                     | 8.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 1.4E-07 | 2.0E-07            | 7.8E-08 | 3.8E-07                     | 1.1E-06 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.1E-07                             | 1.3E-06 | 1.0E-06            | 9.2E-07 | 3.2E-06                     | 4.9E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 1.3E-07                             | 1.4E-06 | 1.6E-06            | 7.9E-07 | 5.2E-06                     | 6.9E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 4.3E-07 | 9.1E-07            | 1.2E-07 | 2.1E-06                     | 4.0E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-19. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 6<11 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 1.7E-09 | 7.4E-09            | 0.0E+00 | 5.1E-09                     | 4.1E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 1.5E-06 | 6.3E-06            | 0.0E+00 | 5.7E-06                     | 3.7E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 2.1E-06 | 2.1E-06            | 1.4E-06 | 5.5E-06                     | 8.6E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 6.0E-07                             | 6.2E-06 | 4.6E-06            | 5.9E-06 | 1.5E-05                     | 1.7E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.8E-07                             | 4.7E-06 | 3.0E-06            | 4.4E-06 | 1.0E-05                     | 1.2E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 6.3E-08 | 3.7E-07            | 0.0E+00 | 0.0E+00                     | 2.2E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 2.2E-08                             | 3.0E-07 | 4.8E-07            | 1.5E-07 | 6.9E-07                     | 2.8E-06 |
| Chrysene                                     | 218-01-9   | 2.0E-06                             | 1.8E-05 | 1.2E-05            | 1.8E-05 | 3.6E-05                     | 4.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 1.4E-06 | 8.5E-06            | 0.0E+00 | 0.0E+00                     | 5.0E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 3.3E-07                             | 3.2E-06 | 1.9E-06            | 3.1E-06 | 6.1E-06                     | 7.4E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 8.2E-07 | 1.4E-06            | 6.3E-07 | 1.5E-06                     | 8.2E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 1.4E-09 | 2.9E-09            | 6.6E-10 | 6.0E-09                     | 1.5E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 8.5E-09 | 2.8E-08            | 0.0E+00 | 9.3E-08                     | 1.1E-07 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 4.9E-07 | 2.2E-06            | 0.0E+00 | 1.5E-06                     | 1.2E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 2.1E-06 | 1.7E-06            | 1.8E-06 | 4.8E-06                     | 7.5E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 1.3E-07 | 1.8E-07            | 7.1E-08 | 3.3E-07                     | 9.9E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 9.8E-08                             | 1.2E-06 | 9.4E-07            | 8.3E-07 | 2.9E-06                     | 4.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 1.1E-07                             | 1.3E-06 | 1.5E-06            | 7.1E-07 | 4.7E-06                     | 6.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 3.9E-07 | 8.2E-07            | 1.1E-07 | 1.9E-06                     | 3.6E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-20. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 11<16 years

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 1.4E-09 | 6.4E-09            | 0.0E+00 | 4.5E-09                     | 3.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 1.3E-06 | 5.3E-06            | 0.0E+00 | 4.9E-06                     | 3.1E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 1.8E-06 | 1.8E-06            | 1.2E-06 | 4.7E-06                     | 7.4E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 5.1E-07                             | 5.3E-06 | 3.9E-06            | 5.1E-06 | 1.3E-05                     | 1.5E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.0E-07                             | 4.0E-06 | 2.6E-06            | 3.7E-06 | 8.9E-06                     | 1.1E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 5.4E-08 | 3.2E-07            | 0.0E+00 | 0.0E+00                     | 1.9E-06 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 1.9E-08                             | 2.5E-07 | 4.1E-07            | 1.3E-07 | 5.9E-07                     | 2.4E-06 |
| Chrysene                                     | 218-01-9   | 1.7E-06                             | 1.5E-05 | 9.9E-06            | 1.5E-05 | 3.1E-05                     | 3.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 1.2E-06 | 7.3E-06            | 0.0E+00 | 0.0E+00                     | 4.3E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.8E-07                             | 2.8E-06 | 1.6E-06            | 2.7E-06 | 5.3E-06                     | 6.3E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 7.0E-07 | 1.2E-06            | 5.4E-07 | 1.3E-06                     | 7.0E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 1.2E-09 | 2.5E-09            | 5.7E-10 | 5.1E-09                     | 1.3E-08 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 7.3E-09 | 2.4E-08            | 0.0E+00 | 7.9E-08                     | 9.3E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 4.1E-07 | 1.8E-06            | 0.0E+00 | 1.3E-06                     | 1.0E-05 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 1.8E-06 | 1.5E-06            | 1.6E-06 | 4.1E-06                     | 6.5E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 1.1E-07 | 1.5E-07            | 6.1E-08 | 2.9E-07                     | 8.4E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 8.4E-08                             | 9.9E-07 | 8.1E-07            | 7.1E-07 | 2.5E-06                     | 3.8E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 9.8E-08                             | 1.1E-06 | 1.3E-06            | 6.1E-07 | 4.0E-06                     | 5.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 3.4E-07 | 7.0E-07            | 9.1E-08 | 1.6E-06                     | 3.1E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-21. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 16<30 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 6.1E-10 | 2.7E-09            | 0.0E+00 | 1.9E-09                     | 1.5E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 5.7E-07 | 2.4E-06            | 0.0E+00 | 2.1E-06                     | 1.4E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 7.9E-07 | 7.7E-07            | 5.2E-07 | 2.1E-06                     | 3.2E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.2E-07                             | 2.3E-06 | 1.7E-06            | 2.2E-06 | 5.6E-06                     | 6.4E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.2E-07                             | 1.8E-06 | 1.2E-06            | 1.6E-06 | 3.9E-06                     | 4.7E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.4E-08 | 1.4E-07            | 0.0E+00 | 0.0E+00                     | 8.3E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 8.3E-09                             | 1.1E-07 | 1.9E-07            | 5.8E-08 | 2.6E-07                     | 1.1E-06 |
| Chrysene                                     | 218-01-9   | 7.4E-07                             | 6.7E-06 | 4.3E-06            | 6.8E-06 | 1.4E-05                     | 1.5E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 5.4E-07 | 3.2E-06            | 0.0E+00 | 0.0E+00                     | 1.9E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.2E-07                             | 1.2E-06 | 7.2E-07            | 1.2E-06 | 2.3E-06                     | 2.8E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 3.1E-07 | 5.1E-07            | 2.3E-07 | 5.7E-07                     | 3.1E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 5.4E-10 | 1.1E-09            | 2.5E-10 | 2.3E-09                     | 5.6E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 3.2E-09 | 1.1E-08            | 0.0E+00 | 3.5E-08                     | 4.1E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.9E-07 | 8.3E-07            | 0.0E+00 | 5.7E-07                     | 4.6E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 7.7E-07 | 6.4E-07            | 6.9E-07 | 1.8E-06                     | 2.8E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.8E-08 | 6.8E-08            | 2.7E-08 | 1.3E-07                     | 3.7E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.7E-08                             | 4.4E-07 | 3.6E-07            | 3.1E-07 | 1.1E-06                     | 1.7E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 4.3E-08                             | 4.7E-07 | 5.5E-07            | 2.7E-07 | 1.8E-06                     | 2.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.5E-07 | 3.2E-07            | 4.0E-08 | 7.2E-07                     | 1.4E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-22. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 30<40 years

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.3E-10 | 2.4E-09            | 0.0E+00 | 1.6E-09                     | 1.3E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 4.9E-07 | 2.1E-06            | 0.0E+00 | 1.8E-06                     | 1.2E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 6.8E-07 | 6.7E-07            | 4.5E-07 | 1.8E-06                     | 2.8E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 1.9E-07                             | 2.0E-06 | 1.5E-06            | 1.9E-06 | 4.8E-06                     | 5.5E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.9E-07                             | 1.5E-06 | 9.9E-07            | 1.4E-06 | 3.4E-06                     | 4.0E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.1E-08 | 1.2E-07            | 0.0E+00 | 0.0E+00                     | 7.2E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.2E-09                             | 9.6E-08 | 1.6E-07            | 5.0E-08 | 2.2E-07                     | 9.2E-07 |
| Chrysene                                     | 218-01-9   | 6.4E-07                             | 5.8E-06 | 3.8E-06            | 5.8E-06 | 1.2E-05                     | 1.3E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 4.6E-07 | 2.7E-06            | 0.0E+00 | 0.0E+00                     | 1.6E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.1E-07                             | 1.0E-06 | 6.3E-07            | 1.0E-06 | 2.0E-06                     | 2.4E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.6E-07 | 4.3E-07            | 2.0E-07 | 4.9E-07                     | 2.6E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 4.6E-10 | 9.3E-10            | 2.1E-10 | 1.9E-09                     | 4.8E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 2.7E-09 | 9.1E-09            | 0.0E+00 | 3.0E-08                     | 3.5E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.6E-07 | 7.1E-07            | 0.0E+00 | 5.1E-07                     | 3.9E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 6.7E-07 | 5.5E-07            | 5.9E-07 | 1.5E-06                     | 2.4E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.1E-08 | 5.8E-08            | 2.3E-08 | 1.1E-07                     | 3.2E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.2E-08                             | 3.7E-07 | 3.0E-07            | 2.7E-07 | 9.4E-07                     | 1.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 3.7E-08                             | 4.0E-07 | 4.7E-07            | 2.3E-07 | 1.5E-06                     | 2.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.3E-07 | 2.7E-07            | 3.4E-08 | 6.1E-07                     | 1.2E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



Table G-23. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 40<50 years

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.3E-10 | 2.4E-09            | 0.0E+00 | 1.7E-09                     | 1.3E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 4.9E-07 | 2.1E-06            | 0.0E+00 | 1.8E-06                     | 1.2E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 6.9E-07 | 6.8E-07            | 4.5E-07 | 1.8E-06                     | 2.8E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 2.0E-07                             | 2.0E-06 | 1.5E-06            | 1.9E-06 | 4.9E-06                     | 5.5E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.9E-07                             | 1.5E-06 | 1.0E-06            | 1.4E-06 | 3.4E-06                     | 4.1E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.1E-08 | 1.2E-07            | 0.0E+00 | 0.0E+00                     | 7.3E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 7.3E-09                             | 9.8E-08 | 1.6E-07            | 5.0E-08 | 2.3E-07                     | 9.3E-07 |
| Chrysene                                     | 218-01-9   | 6.4E-07                             | 5.9E-06 | 3.8E-06            | 5.9E-06 | 1.2E-05                     | 1.3E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 4.6E-07 | 2.7E-06            | 0.0E+00 | 0.0E+00                     | 1.6E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.1E-07                             | 1.1E-06 | 6.3E-07            | 1.0E-06 | 2.0E-06                     | 2.4E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.7E-07 | 4.5E-07            | 2.0E-07 | 5.0E-07                     | 2.7E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 4.7E-10 | 9.4E-10            | 2.2E-10 | 1.9E-09                     | 4.9E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 2.8E-09 | 9.2E-09            | 0.0E+00 | 3.0E-08                     | 3.6E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.6E-07 | 7.3E-07            | 0.0E+00 | 5.1E-07                     | 4.0E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 6.8E-07 | 5.7E-07            | 6.0E-07 | 1.6E-06                     | 2.5E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 4.2E-08 | 5.9E-08            | 2.3E-08 | 1.1E-07                     | 3.2E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.2E-08                             | 3.8E-07 | 3.0E-07            | 2.7E-07 | 9.5E-07                     | 1.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 3.7E-08                             | 4.1E-07 | 4.9E-07            | 2.3E-07 | 1.6E-06                     | 2.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.3E-07 | 2.7E-07            | 3.5E-08 | 6.2E-07                     | 1.2E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.



**Table G-24. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day  $HQ_{\text{der-DART-field}}$ , unitless)— Combined Gender Spectators 50<70 years**

| Chemical                                     | CASRN      | OneDay $HQ_{\text{der-DART-field}}$ |         |                    |         |                             |         |
|--|------------|-------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                             | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 2-Azacyclotridecanone                        | 947-04-6   | 0.0E+00                             | 5.2E-10 | 2.3E-09            | 0.0E+00 | 1.6E-09                     | 1.3E-08 |
| 1,4-Benzenediamine, N,N'-diphenyl-           | 74-31-7    | 0.0E+00                             | 4.5E-07 | 1.9E-06            | 0.0E+00 | 1.7E-06                     | 1.1E-05 |
| Benzo[a]pyrene                               | 50-32-8    | 0.0E+00                             | 6.5E-07 | 6.3E-07            | 4.3E-07 | 1.7E-06                     | 2.6E-06 |
| Benzo[e]pyrene                               | 192-97-2   | 1.8E-07                             | 1.9E-06 | 1.4E-06            | 1.8E-06 | 4.6E-06                     | 5.2E-06 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.8E-07                             | 1.5E-06 | 9.4E-07            | 1.3E-06 | 3.2E-06                     | 3.8E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                             | 2.0E-08 | 1.2E-07            | 0.0E+00 | 0.0E+00                     | 6.9E-07 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 6.8E-09                             | 9.2E-08 | 1.5E-07            | 4.8E-08 | 2.1E-07                     | 8.8E-07 |
| Chrysene                                     | 218-01-9   | 6.1E-07                             | 5.5E-06 | 3.6E-06            | 5.6E-06 | 1.1E-05                     | 1.3E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                             | 4.3E-07 | 2.5E-06            | 0.0E+00 | 0.0E+00                     | 1.5E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.0E-07                             | 1.0E-06 | 6.0E-07            | 9.6E-07 | 1.9E-06                     | 2.3E-06 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                             | 2.5E-07 | 4.1E-07            | 1.9E-07 | 4.6E-07                     | 2.5E-06 |
| N,N-Dicyclohexylmethylamine                  | 7560-83-0  | 0.0E+00                             | 4.4E-10 | 8.9E-10            | 2.0E-10 | 1.9E-09                     | 4.6E-09 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                             | 2.7E-09 | 8.8E-09            | 0.0E+00 | 2.9E-08                     | 3.4E-08 |
| 1,3-Diphenylguanidine                        | 102-06-7   | 0.0E+00                             | 1.5E-07 | 6.7E-07            | 0.0E+00 | 4.8E-07                     | 3.7E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                             | 6.4E-07 | 5.3E-07            | 5.6E-07 | 1.5E-06                     | 2.3E-06 |
| Methyl stearate                              | 112-61-8   | 0.0E+00                             | 3.9E-08 | 5.5E-08            | 2.2E-08 | 1.0E-07                     | 3.0E-07 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.0E-08                             | 3.6E-07 | 2.9E-07            | 2.6E-07 | 9.0E-07                     | 1.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 3.5E-08                             | 3.9E-07 | 4.6E-07            | 2.2E-07 | 1.5E-06                     | 1.9E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 0.0E+00                             | 1.2E-07 | 2.6E-07            | 3.3E-08 | 6.0E-07                     | 1.1E-06 |

<sup>a</sup> 35 field-specific One-Day  $HQ_{\text{der-DART-field}}$  are included in this table.

**INDIVIDUAL FIELD ASSESSMENT (Table G-93)**



**Table G-25. Field-Specific<sup>a</sup> One-Day Dermal Route Total Hazard Quotients for Field-Related DARTs (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group  | One-Day HQ <sub>der-DART-sum-field</sub> |         |                    |         |                             |         |
|----------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                  | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years               | 6.3E-06                                  | 4.8E-05 | 3.1E-05            | 4.3E-05 | 9.7E-05                     | 1.2E-04 |
| Athletes 6<11 years              | 5.7E-06                                  | 4.4E-05 | 2.8E-05            | 3.9E-05 | 8.8E-05                     | 1.0E-04 |
| Athletes 11<16 years             | 4.9E-06                                  | 3.8E-05 | 2.4E-05            | 3.3E-05 | 7.6E-05                     | 9.0E-05 |
| Athletes 16<30 years             | 4.3E-06                                  | 3.3E-05 | 2.1E-05            | 2.9E-05 | 6.6E-05                     | 7.8E-05 |
| Athletes 30<40 years             | 4.0E-06                                  | 3.1E-05 | 2.0E-05            | 2.7E-05 | 6.2E-05                     | 7.3E-05 |
| Athletes 40<50 years             | 4.0E-06                                  | 3.1E-05 | 2.0E-05            | 2.7E-05 | 6.2E-05                     | 7.4E-05 |
| Athletes 50<70 years             | 4.0E-06                                  | 3.1E-05 | 2.0E-05            | 2.7E-05 | 6.2E-05                     | 7.4E-05 |
| Coaches 16<30 years              | 2.1E-06                                  | 1.6E-05 | 1.0E-05            | 1.4E-05 | 3.3E-05                     | 3.9E-05 |
| Coaches 30<40 years              | 2.0E-06                                  | 1.5E-05 | 9.8E-06            | 1.3E-05 | 3.1E-05                     | 3.6E-05 |
| Coaches 40<50 years              | 2.0E-06                                  | 1.5E-05 | 9.9E-06            | 1.4E-05 | 3.1E-05                     | 3.7E-05 |
| Coaches 50<70 years              | 2.0E-06                                  | 1.5E-05 | 1.0E-05            | 1.4E-05 | 3.1E-05                     | 3.7E-05 |
| Referees 16<30 years             | 2.1E-06                                  | 1.6E-05 | 1.0E-05            | 1.4E-05 | 3.3E-05                     | 3.9E-05 |
| Referees 30<40 years             | 2.0E-06                                  | 1.5E-05 | 9.8E-06            | 1.3E-05 | 3.1E-05                     | 3.6E-05 |
| Referees 40<50 years             | 2.0E-06                                  | 1.5E-05 | 9.9E-06            | 1.4E-05 | 3.1E-05                     | 3.7E-05 |
| Referees 50<70 years             | 2.0E-06                                  | 1.5E-05 | 1.0E-05            | 1.4E-05 | 3.1E-05                     | 3.7E-05 |
| Spectators Third trimester fetus | 1.6E-06                                  | 1.2E-05 | 7.9E-06            | 1.1E-05 | 2.5E-05                     | 2.9E-05 |
| Spectators 0<2 years             | 8.5E-06                                  | 6.6E-05 | 4.2E-05            | 5.8E-05 | 1.3E-04                     | 1.6E-04 |
| Spectators 2<6 years             | 6.3E-06                                  | 4.8E-05 | 3.1E-05            | 4.3E-05 | 9.7E-05                     | 1.2E-04 |
| Spectators 6<11 years            | 5.7E-06                                  | 4.4E-05 | 2.8E-05            | 3.9E-05 | 8.8E-05                     | 1.0E-04 |
| Spectators 11<16 years           | 4.9E-06                                  | 3.8E-05 | 2.4E-05            | 3.3E-05 | 7.6E-05                     | 9.0E-05 |
| Spectators 16<30 years           | 2.1E-06                                  | 1.6E-05 | 1.1E-05            | 1.5E-05 | 3.3E-05                     | 3.9E-05 |
| Spectators 30<40 years           | 1.8E-06                                  | 1.4E-05 | 9.2E-06            | 1.3E-05 | 2.9E-05                     | 3.4E-05 |
| Spectators 40<50 years           | 1.9E-06                                  | 1.4E-05 | 9.3E-06            | 1.3E-05 | 2.9E-05                     | 3.4E-05 |
| Spectators 50<70 years           | 1.8E-06                                  | 1.4E-05 | 8.7E-06            | 1.2E-05 | 2.7E-05                     | 3.2E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-sum-field</sub> are included in this table.



## G.2.6. Chronic Dermal Hazard Quotient for General Chemicals (Chronic HQ<sub>der</sub>)

Table G-1. Chronic Dermal Hazard Quotient for Individual Chemical (Chronic HQ<sub>der</sub>, unitless), Chronic Dermal Route Total Hazard Quotients (Chronic HQ<sub>der-sum</sub>, unitless) for **Field-Related General Chemicals—Combined Gender Athletes**

| Chemical   | CASRN     | Chronic HQ <sub>der</sub> |               |                |                |                |                |                |
|--|-----------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|  |           | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Acenaphthylene                                       | 208-96-8  | 1.3E-10                   | 1.1E-10       | 1.1E-10        | 1.4E-10        | 1.0E-10        | 8.4E-11        | 8.5E-11        |
| Aniline  | 62-53-3   | 3.7E-08                   | 2.9E-08       | 3.1E-08        | 3.9E-08        | 2.7E-08        | 2.3E-08        | 2.3E-08        |
| Anthracene   | 120-12-7  | 3.0E-10                   | 2.3E-10       | 2.5E-10        | 3.1E-10        | 2.2E-10        | 1.9E-10        | 1.9E-10        |
| Anthracene, 2-methyl-                                | 613-12-7  | 4.3E-10                   | 3.4E-10       | 3.5E-10        | 4.5E-10        | 3.2E-10        | 2.7E-10        | 2.7E-10        |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1 | 5.8E-11                   | 4.6E-11       | 4.9E-11        | 6.1E-11        | 4.3E-11        | 3.7E-11        | 3.7E-11        |
| Anthracene, 9-phenyl                                 | 602-55-1  | 1.4E-10                   | 1.1E-10       | 1.2E-10        | 1.5E-10        | 1.1E-10        | 9.2E-11        | 9.2E-11        |
| Benz[a]anthracene                                    | 56-55-3   | 1.2E-09                   | 9.3E-10       | 9.8E-10        | 1.2E-09        | 8.7E-10        | 7.4E-10        | 7.5E-10        |
| Benzene, n-butyl-                                    | 104-51-8  | 1.1E-11                   | 8.3E-12       | 8.8E-12        | 1.1E-11        | 7.9E-12        | 6.7E-12        | 6.7E-12        |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 7.9E-06                   | 6.3E-06       | 6.6E-06        | 8.3E-06        | 5.9E-06        | 5.0E-06        | 5.1E-06        |
| Benzo[b]fluoranthene                                 | 205-99-2  | 1.2E-08                   | 9.9E-09       | 1.0E-08        | 1.3E-08        | 9.3E-09        | 7.9E-09        | 8.0E-09        |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 1.1E-09                   | 8.6E-10       | 9.1E-10        | 1.1E-09        | 8.1E-10        | 6.9E-10        | 6.9E-10        |
| Benzo[k]fluoranthene                                 | 207-08-9  | 5.4E-09                   | 4.3E-09       | 4.5E-09        | 5.7E-09        | 4.1E-09        | 3.5E-09        | 3.5E-09        |
| Benzothiazole  | 95-16-9   | 5.7E-04                   | 4.5E-04       | 4.7E-04        | 6.0E-04        | 4.2E-04        | 3.6E-04        | 3.6E-04        |
| Benzothiazole, 2-phenyl-                             | 883-93-2  | 1.4E-05                   | 1.1E-05       | 1.2E-05        | 1.5E-05        | 1.0E-05        | 8.7E-06        | 8.8E-06        |
| 1,3-Benzothiazole-2-thiol                            | 149-30-4  | 4.7E-07                   | 3.7E-07       | 3.9E-07        | 5.0E-07        | 3.5E-07        | 3.0E-07        | 3.0E-07        |
| Benzothiazolone                                      | 934-34-9  | 1.6E-03                   | 1.3E-03       | 1.3E-03        | 1.7E-03        | 1.2E-03        | 1.0E-03        | 1.0E-03        |
| Benzyl butyl phthalate                               | 85-68-7   | 1.6E-08                   | 1.3E-08       | 1.4E-08        | 1.7E-08        | 1.2E-08        | 1.0E-08        | 1.0E-08        |
| Cyclohexyl isothiocyanate                            | 1122-82-3 | 6.0E-08                   | 4.7E-08       | 5.0E-08        | 6.3E-08        | 4.5E-08        | 3.8E-08        | 3.8E-08        |
| Dibenz[a,h]anthracene                                | 53-70-3   | 4.3E-10                   | 3.4E-10       | 3.6E-10        | 4.5E-10        | 3.2E-10        | 2.7E-10        | 2.8E-10        |
| Dibenzothiophene                                     | 132-65-0  | 7.8E-09                   | 6.1E-09       | 6.5E-09        | 8.2E-09        | 5.8E-09        | 4.9E-09        | 5.0E-09        |
| Diethyl Phthalate                                    | 84-66-2   | 7.4E-10                   | 5.8E-10       | 6.2E-10        | 7.8E-10        | 5.5E-10        | 4.7E-10        | 4.7E-10        |
| Diisobutyl Phthalate                                 | 84-69-5   | 4.9E-08                   | 3.9E-08       | 4.1E-08        | 5.2E-08        | 3.7E-08        | 3.1E-08        | 3.2E-08        |



| Chemical                                | CASRN      | Chronic HQ <sub>der</sub> |               |                |                |                |                |                |
|---|------------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|   |            | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Diisooctylphthalate                     | 27554-26-3 | 1.6E-06                   | 1.3E-06       | 1.4E-06        | 1.7E-06        | 1.2E-06        | 1.0E-06        | 1.0E-06        |
| Di-n-octyl phthalate                    | 117-84-0   | 3.5E-07                   | 2.7E-07       | 2.9E-07        | 3.6E-07        | 2.6E-07        | 2.2E-07        | 2.2E-07        |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 1.5E-09                   | 1.2E-09       | 1.3E-09        | 1.6E-09        | 1.1E-09        | 9.6E-10        | 9.7E-10        |
| 3,5-Di-tert-butyl-4-hydroxybenzaldehyde | 1620-98-0  | 5.0E-08                   | 4.0E-08       | 4.2E-08        | 5.3E-08        | 3.8E-08        | 3.2E-08        | 3.2E-08        |
| Fluoranthene                            | 206-44-0   | 6.7E-08                   | 5.3E-08       | 5.6E-08        | 7.1E-08        | 5.0E-08        | 4.3E-08        | 4.3E-08        |
| Fluorene                                | 86-73-7    | 2.9E-10                   | 2.3E-10       | 2.4E-10        | 3.0E-10        | 2.1E-10        | 1.8E-10        | 1.8E-10        |
| Hexanoic Acid, 2-ethyl                  | 149-57-5   | 6.5E-12                   | 5.2E-12       | 5.5E-12        | 6.9E-12        | 4.9E-12        | 4.1E-12        | 4.2E-12        |
| 1-Hydroxypyrene                         | 5315-79-7  | 2.5E-08                   | 2.0E-08       | 2.1E-08        | 2.7E-08        | 1.9E-08        | 1.6E-08        | 1.6E-08        |
| 2-(Methylthio)benzothiazole             | 615-22-5   | 2.6E-06                   | 2.1E-06       | 2.2E-06        | 2.7E-06        | 1.9E-06        | 1.7E-06        | 1.7E-06        |
| Naphthalene                             | 91-20-3    | 8.4E-10                   | 6.6E-10       | 7.0E-10        | 8.8E-10        | 6.2E-10        | 5.3E-10        | 5.3E-10        |
| Naphthalene, 1,2-dimethyl-              | 573-98-8   | 5.9E-11                   | 4.7E-11       | 4.9E-11        | 6.2E-11        | 4.4E-11        | 3.7E-11        | 3.8E-11        |
| Naphthalene, 1,6-dimethyl-              | 575-43-9   | 6.2E-10                   | 4.9E-10       | 5.2E-10        | 6.6E-10        | 4.7E-10        | 3.9E-10        | 4.0E-10        |
| Naphthalene, 1-methyl-                  | 90-12-0    | 3.8E-10                   | 3.0E-10       | 3.2E-10        | 4.0E-10        | 2.8E-10        | 2.4E-10        | 2.4E-10        |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4   | 2.4E-08                   | 1.9E-08       | 2.0E-08        | 2.6E-08        | 1.8E-08        | 1.6E-08        | 1.6E-08        |
| Naphthalene, 2,3-dimethyl-              | 581-40-8   | 7.3E-09                   | 5.7E-09       | 6.1E-09        | 7.6E-09        | 5.4E-09        | 4.6E-09        | 4.6E-09        |
| Naphthalene, 2-methyl                   | 91-57-6    | 6.4E-10                   | 5.1E-10       | 5.4E-10        | 6.8E-10        | 4.8E-10        | 4.1E-10        | 4.1E-10        |
| 1-Octadecene                            | 112-88-9   | 2.8E-06                   | 2.2E-06       | 2.3E-06        | 2.9E-06        | 2.1E-06        | 1.8E-06        | 1.8E-06        |
| Phenanthrene                            | 85-01-8    | 1.9E-09                   | 1.5E-09       | 1.6E-09        | 2.0E-09        | 1.4E-09        | 1.2E-09        | 1.2E-09        |
| Phenanthrene, 1-methyl                  | 832-69-9   | 1.0E-09                   | 8.0E-10       | 8.4E-10        | 1.1E-09        | 7.5E-10        | 6.4E-10        | 6.4E-10        |
| Phenanthrene, 2-methyl-                 | 2531-84-2  | 1.2E-09                   | 9.6E-10       | 1.0E-09        | 1.3E-09        | 9.1E-10        | 7.7E-10        | 7.8E-10        |
| Phenanthrene, 3-methyl                  | 832-71-3   | 4.4E-10                   | 3.5E-10       | 3.7E-10        | 4.7E-10        | 3.3E-10        | 2.8E-10        | 2.8E-10        |
| N-Phenylbenzamide                       | 93-98-1    | 1.2E-07                   | 9.4E-08       | 9.9E-08        | 1.3E-07        | 8.9E-08        | 7.5E-08        | 7.6E-08        |
| Phthalimide                             | 85-41-6    | 5.4E-08                   | 4.3E-08       | 4.5E-08        | 5.7E-08        | 4.0E-08        | 3.4E-08        | 3.5E-08        |
| Pyrene                                  | 129-00-0   | 2.4E-07                   | 1.9E-07       | 2.0E-07        | 2.6E-07        | 1.8E-07        | 1.5E-07        | 1.6E-07        |
| Pyridine, 2-(4-methylphenyl)-           | 4467-06-5  | 2.7E-07                   | 2.1E-07       | 2.2E-07        | 2.8E-07        | 2.0E-07        | 1.7E-07        | 1.7E-07        |



| Chemical                                    | CASRN    | Chronic HQ <sub>der</sub> |            |             |             |             |             |             |
|---|----------|---------------------------|------------|-------------|-------------|-------------|-------------|-------------|
|   |          | 2<6 years                 | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Triethylene glycol monobutyl ether          | 143-22-6 | 1.4E-08                   | 1.1E-08    | 1.2E-08     | 1.5E-08     | 1.0E-08     | 8.9E-09     | 8.9E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8 | 1.1E-08                   | 8.8E-09    | 9.2E-09     | 1.2E-08     | 8.3E-09     | 7.0E-09     | 7.1E-09     |
| Field-Related Chronic HQ <sub>der-sum</sub> |          | 2.2E-03                   | 1.7E-03    | 1.8E-03     | 2.3E-03     | 1.6E-03     | 1.4E-03     | 1.4E-03     |

Table G-2. Chronic Dermal Hazard Quotient for Individual Chemical (Chronic HQ<sub>der</sub>, unitless), Chronic Dermal Route Total Hazard Quotients (Chronic HQ<sub>der-sum</sub>, unitless) for **Field-Related General Chemicals—Combined Gender Coaches**

| Chemical   | CASRN     | Chronic HQ <sub>der</sub> |             |             |             |
|--|-----------|---------------------------|-------------|-------------|-------------|
|  |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8  | 6.9E-11                   | 6.5E-11     | 6.6E-11     | 6.6E-11     |
| Aniline  | 62-53-3   | 1.9E-08                   | 1.8E-08     | 1.8E-08     | 1.8E-08     |
| Anthracene   | 120-12-7  | 1.5E-10                   | 1.4E-10     | 1.5E-10     | 1.5E-10     |
| Anthracene, 2-methyl-                                | 613-12-7  | 2.2E-10                   | 2.1E-10     | 2.1E-10     | 2.1E-10     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1 | 3.0E-11                   | 2.8E-11     | 2.9E-11     | 2.9E-11     |
| Anthracene, 9-phenyl                                 | 602-55-1  | 7.5E-11                   | 7.0E-11     | 7.1E-11     | 7.1E-11     |
| Benz[a]anthracene                                    | 56-55-3   | 6.1E-10                   | 5.7E-10     | 5.8E-10     | 5.8E-10     |
| Benzene, n-butyl-                                    | 104-51-8  | 5.5E-12                   | 5.1E-12     | 5.2E-12     | 5.2E-12     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 4.1E-06                   | 3.9E-06     | 3.9E-06     | 3.9E-06     |
| Benzo[b]fluoranthene                                 | 205-99-2  | 6.5E-09                   | 6.1E-09     | 6.1E-09     | 6.1E-09     |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 5.7E-10                   | 5.3E-10     | 5.4E-10     | 5.4E-10     |
| Benzo[k]fluoranthene                                 | 207-08-9  | 2.8E-09                   | 2.7E-09     | 2.7E-09     | 2.7E-09     |
| Benzothiazole  | 95-16-9   | 3.0E-04                   | 2.8E-04     | 2.8E-04     | 2.8E-04     |
| Benzothiazole, 2-phenyl-                             | 883-93-2  | 7.2E-06                   | 6.7E-06     | 6.8E-06     | 6.8E-06     |
| 1,3-Benzothiazole-2-thiol                            | 149-30-4  | 2.4E-07                   | 2.3E-07     | 2.3E-07     | 2.3E-07     |
| Benzothiazolone                                      | 934-34-9  | 8.3E-04                   | 7.8E-04     | 7.8E-04     | 7.9E-04     |
| Benzyl butyl phthalate                               | 85-68-7   | 8.4E-09                   | 7.9E-09     | 8.0E-09     | 8.0E-09     |
| Cyclohexyl isothiocyanate                            | 1122-82-3 | 3.1E-08                   | 2.9E-08     | 2.9E-08     | 3.0E-08     |



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| Chemical                                | CASRN      | Chronic HQ <sub>der</sub> |             |             |             |
|---|------------|---------------------------|-------------|-------------|-------------|
|   |            | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Dibenz[a,h]anthracene                   | 53-70-3    | 2.2E-10                   | 2.1E-10     | 2.1E-10     | 2.1E-10     |
| Dibenzothiophene                        | 132-65-0   | 4.0E-09                   | 3.8E-09     | 3.8E-09     | 3.8E-09     |
| Diethyl Phthalate                       | 84-66-2    | 3.8E-10                   | 3.6E-10     | 3.6E-10     | 3.6E-10     |
| Diisobutyl Phthalate                    | 84-69-5    | 2.6E-08                   | 2.4E-08     | 2.4E-08     | 2.4E-08     |
| Diisooctylphthalate                     | 27554-26-3 | 8.5E-07                   | 7.9E-07     | 8.0E-07     | 8.0E-07     |
| Di-n-octyl phthalate                    | 117-84-0   | 1.8E-07                   | 1.7E-07     | 1.7E-07     | 1.7E-07     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 7.9E-10                   | 7.4E-10     | 7.5E-10     | 7.5E-10     |
| 3,5-Di-tert-butyl-4-hydroxybenzaldehyde | 1620-98-0  | 2.6E-08                   | 2.5E-08     | 2.5E-08     | 2.5E-08     |
| Fluoranthene                            | 206-44-0   | 3.5E-08                   | 3.3E-08     | 3.3E-08     | 3.3E-08     |
| Fluorene                                | 86-73-7    | 1.5E-10                   | 1.4E-10     | 1.4E-10     | 1.4E-10     |
| Hexanoic Acid, 2-ethyl                  | 149-57-5   | 3.4E-12                   | 3.2E-12     | 3.2E-12     | 3.2E-12     |
| 1-Hydroxypyrene                         | 5315-79-7  | 1.3E-08                   | 1.2E-08     | 1.2E-08     | 1.2E-08     |
| 2-(Methylthio)benzothiazole             | 615-22-5   | 1.4E-06                   | 1.3E-06     | 1.3E-06     | 1.3E-06     |
| Naphthalene                             | 91-20-3    | 4.3E-10                   | 4.1E-10     | 4.1E-10     | 4.1E-10     |
| Naphthalene, 1,2-dimethyl-              | 573-98-8   | 3.1E-11                   | 2.9E-11     | 2.9E-11     | 2.9E-11     |
| Naphthalene, 1,6-dimethyl-              | 575-43-9   | 3.2E-10                   | 3.0E-10     | 3.1E-10     | 3.1E-10     |
| Naphthalene, 1-methyl-                  | 90-12-0    | 2.0E-10                   | 1.8E-10     | 1.9E-10     | 1.9E-10     |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4   | 1.3E-08                   | 1.2E-08     | 1.2E-08     | 1.2E-08     |
| Naphthalene, 2,3-dimethyl-              | 581-40-8   | 3.8E-09                   | 3.5E-09     | 3.6E-09     | 3.6E-09     |
| Naphthalene, 2-methyl                   | 91-57-6    | 3.3E-10                   | 3.1E-10     | 3.2E-10     | 3.2E-10     |
| 1-Octadecene                            | 112-88-9   | 1.5E-06                   | 1.4E-06     | 1.4E-06     | 1.4E-06     |
| Phenanthrene                            | 85-01-8    | 1.0E-09                   | 9.4E-10     | 9.5E-10     | 9.5E-10     |
| Phenanthrene, 1-methyl                  | 832-69-9   | 5.2E-10                   | 4.9E-10     | 5.0E-10     | 5.0E-10     |
| Phenanthrene, 2-methyl-                 | 2531-84-2  | 6.3E-10                   | 5.9E-10     | 6.0E-10     | 6.0E-10     |
| Phenanthrene, 3-methyl                  | 832-71-3   | 2.3E-10                   | 2.2E-10     | 2.2E-10     | 2.2E-10     |
| N-Phenylbenzamide                       | 93-98-1    | 6.2E-08                   | 5.8E-08     | 5.9E-08     | 5.9E-08     |



| Chemical                                    | CASRN     | Chronic HQ <sub>der</sub> |             |             |             |
|---|-----------|---------------------------|-------------|-------------|-------------|
|   |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Phthalimide                                 | 85-41-6   | 2.8E-08                   | 2.6E-08     | 2.7E-08     | 2.7E-08     |
| Pyrene                                      | 129-00-0  | 1.3E-07                   | 1.2E-07     | 1.2E-07     | 1.2E-07     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 1.4E-07                   | 1.3E-07     | 1.3E-07     | 1.3E-07     |
| Triethylene glycol monobutyl ether          | 143-22-6  | 7.3E-09                   | 6.8E-09     | 6.9E-09     | 6.9E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 5.8E-09                   | 5.4E-09     | 5.4E-09     | 5.5E-09     |
| Field-Related Chronic HQ <sub>der-sum</sub> |           | 1.1E-03                   | 1.1E-03     | 1.1E-03     | 1.1E-03     |

**Table G-3. Chronic Dermal Hazard Quotient for Individual Chemical (Chronic HQ<sub>der</sub>, unitless), Chronic Dermal Route Total Hazard Quotients (Chronic HQ<sub>der-sum</sub>, unitless) for Field-Related General Chemicals—Combined Gender Referees**

| Chemical   | CASRN     | Chronic HQ <sub>der</sub> |             |             |             |
|--|-----------|---------------------------|-------------|-------------|-------------|
|  |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8  | 2.8E-11                   | 2.6E-11     | 2.6E-11     | 2.6E-11     |
| Aniline  | 62-53-3   | 7.7E-09                   | 7.2E-09     | 7.3E-09     | 7.3E-09     |
| Anthracene   | 120-12-7  | 6.2E-11                   | 5.8E-11     | 5.9E-11     | 5.9E-11     |
| Anthracene, 2-methyl-                                | 613-12-7  | 8.9E-11                   | 8.3E-11     | 8.4E-11     | 8.4E-11     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1 | 1.2E-11                   | 1.1E-11     | 1.2E-11     | 1.2E-11     |
| Anthracene, 9-phenyl                                 | 602-55-1  | 3.0E-11                   | 2.8E-11     | 2.9E-11     | 2.9E-11     |
| Benz[a]anthracene                                    | 56-55-3   | 2.4E-10                   | 2.3E-10     | 2.3E-10     | 2.3E-10     |
| Benzene, n-butyl-                                    | 104-51-8  | 2.2E-12                   | 2.1E-12     | 2.1E-12     | 2.1E-12     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 1.7E-06                   | 1.6E-06     | 1.6E-06     | 1.6E-06     |
| Benzo[b]fluoranthene                                 | 205-99-2  | 2.6E-09                   | 2.4E-09     | 2.5E-09     | 2.5E-09     |
| 7H-Benzo[c]fluorene                                  | 205-12-9  | 2.3E-10                   | 2.1E-10     | 2.2E-10     | 2.2E-10     |
| Benzo[k]fluoranthene                                 | 207-08-9  | 1.1E-09                   | 1.1E-09     | 1.1E-09     | 1.1E-09     |
| Benzothiazole  | 95-16-9   | 1.2E-04                   | 1.1E-04     | 1.1E-04     | 1.1E-04     |
| Benzothiazole, 2-phenyl-                             | 883-93-2  | 2.9E-06                   | 2.7E-06     | 2.7E-06     | 2.7E-06     |
| 1,3-Benzothiazole-2-thiol                            | 149-30-4  | 9.9E-08                   | 9.2E-08     | 9.3E-08     | 9.4E-08     |



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| Chemical                                | CASRN      | Chronic HQ <sub>der</sub> |             |             |             |
|---|------------|---------------------------|-------------|-------------|-------------|
|   |            | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Benzothiazolone                         | 934-34-9   | 3.3E-04                   | 3.1E-04     | 3.2E-04     | 3.2E-04     |
| Benzyl butyl phthalate                  | 85-68-7    | 3.4E-09                   | 3.2E-09     | 3.2E-09     | 3.2E-09     |
| Cyclohexyl isothiocyanate               | 1122-82-3  | 1.3E-08                   | 1.2E-08     | 1.2E-08     | 1.2E-08     |
| Dibenz[a,h]anthracene                   | 53-70-3    | 9.0E-11                   | 8.5E-11     | 8.5E-11     | 8.6E-11     |
| Dibenzothiophene                        | 132-65-0   | 1.6E-09                   | 1.5E-09     | 1.5E-09     | 1.5E-09     |
| Diethyl Phthalate                       | 84-66-2    | 1.5E-10                   | 1.4E-10     | 1.5E-10     | 1.5E-10     |
| Diisobutyl Phthalate                    | 84-69-5    | 1.0E-08                   | 9.7E-09     | 9.8E-09     | 9.8E-09     |
| Diisooctylphthalate                     | 27554-26-3 | 3.4E-07                   | 3.2E-07     | 3.2E-07     | 3.2E-07     |
| Di-n-octyl phthalate                    | 117-84-0   | 7.2E-08                   | 6.8E-08     | 6.8E-08     | 6.9E-08     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 3.2E-10                   | 3.0E-10     | 3.0E-10     | 3.0E-10     |
| 3,5-Di-tert-butyl-4-hydroxybenzaldehyde | 1620-98-0  | 1.1E-08                   | 9.9E-09     | 1.0E-08     | 1.0E-08     |
| Fluoranthene                            | 206-44-0   | 1.4E-08                   | 1.3E-08     | 1.3E-08     | 1.3E-08     |
| Fluorene                                | 86-73-7    | 6.0E-11                   | 5.6E-11     | 5.7E-11     | 5.7E-11     |
| Hexanoic Acid, 2-ethyl                  | 149-57-5   | 1.4E-12                   | 1.3E-12     | 1.3E-12     | 1.3E-12     |
| 1-Hydroxypyrene                         | 5315-79-7  | 5.3E-09                   | 5.0E-09     | 5.0E-09     | 5.0E-09     |
| 2-(Methylthio)benzothiazole             | 615-22-5   | 5.4E-07                   | 5.1E-07     | 5.2E-07     | 5.2E-07     |
| Naphthalene                             | 91-20-3    | 1.7E-10                   | 1.6E-10     | 1.7E-10     | 1.7E-10     |
| Naphthalene, 1,2-dimethyl-              | 573-98-8   | 1.2E-11                   | 1.2E-11     | 1.2E-11     | 1.2E-11     |
| Naphthalene, 1,6-dimethyl-              | 575-43-9   | 1.3E-10                   | 1.2E-10     | 1.2E-10     | 1.2E-10     |
| Naphthalene, 1-methyl-                  | 90-12-0    | 7.9E-11                   | 7.4E-11     | 7.5E-11     | 7.5E-11     |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4   | 5.1E-09                   | 4.8E-09     | 4.8E-09     | 4.9E-09     |
| Naphthalene, 2,3-dimethyl-              | 581-40-8   | 1.5E-09                   | 1.4E-09     | 1.4E-09     | 1.4E-09     |
| Naphthalene, 2-methyl                   | 91-57-6    | 1.3E-10                   | 1.3E-10     | 1.3E-10     | 1.3E-10     |
| 1-Octadecene                            | 112-88-9   | 5.8E-07                   | 5.5E-07     | 5.5E-07     | 5.5E-07     |
| Phenanthrene                            | 85-01-8    | 4.0E-10                   | 3.8E-10     | 3.8E-10     | 3.8E-10     |
| Phenanthrene, 1-methyl                  | 832-69-9   | 2.1E-10                   | 2.0E-10     | 2.0E-10     | 2.0E-10     |



| Chemical                                    | CASRN     | Chronic HQ <sub>der</sub> |             |             |             |
|---|-----------|---------------------------|-------------|-------------|-------------|
|   |           | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Phenanthrene, 2-methyl-                     | 2531-84-2 | 2.6E-10                   | 2.4E-10     | 2.4E-10     | 2.4E-10     |
| Phenanthrene, 3-methyl                      | 832-71-3  | 9.3E-11                   | 8.7E-11     | 8.8E-11     | 8.8E-11     |
| N-Phenylbenzamide                           | 93-98-1   | 2.5E-08                   | 2.3E-08     | 2.4E-08     | 2.4E-08     |
| Phthalimide                                 | 85-41-6   | 1.1E-08                   | 1.1E-08     | 1.1E-08     | 1.1E-08     |
| Pyrene                                      | 129-00-0  | 5.1E-08                   | 4.8E-08     | 4.8E-08     | 4.8E-08     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 5.6E-08                   | 5.3E-08     | 5.3E-08     | 5.3E-08     |
| Triethylene glycol monobutyl ether          | 143-22-6  | 2.9E-09                   | 2.7E-09     | 2.8E-09     | 2.8E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 2.3E-09                   | 2.2E-09     | 2.2E-09     | 2.2E-09     |
| Field-Related Chronic HQ <sub>der-sum</sub> |           | 4.6E-04                   | 4.3E-04     | 4.3E-04     | 4.3E-04     |

Table G-4. Chronic Dermal Hazard Quotient for Individual Chemical (Chronic HQ<sub>der</sub>, unitless), Chronic Dermal Route Total Hazard Quotients (Chronic HQ<sub>der-sum</sub>, unitless) for **Field-Related General Chemicals—Combined Gender Spectators**

| Chemical   | CASRN     | Chronic HQ <sub>der</sub> |           |           |            |             |             |             |             |             |
|--|-----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |           | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8  | 3.9E-11                   | 2.1E-10   | 1.5E-10   | 1.4E-10    | 1.2E-10     | 5.3E-11     | 4.5E-11     | 4.6E-11     | 4.3E-11     |
| Aniline  | 62-53-3   | 1.1E-08                   | 5.8E-08   | 4.3E-08   | 3.9E-08    | 3.3E-08     | 1.4E-08     | 1.2E-08     | 1.3E-08     | 1.2E-08     |
| Anthracene   | 120-12-7  | 8.7E-11                   | 4.7E-10   | 3.4E-10   | 3.1E-10    | 2.7E-10     | 1.2E-10     | 1.0E-10     | 1.0E-10     | 9.6E-11     |
| Anthracene, 2-methyl-                                | 613-12-7  | 1.3E-10                   | 6.7E-10   | 4.9E-10   | 4.5E-10    | 3.8E-10     | 1.7E-10     | 1.5E-10     | 1.5E-10     | 1.4E-10     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1 | 1.7E-11                   | 9.2E-11   | 6.8E-11   | 6.1E-11    | 5.3E-11     | 2.3E-11     | 2.0E-11     | 2.0E-11     | 1.9E-11     |
| Anthracene, 9-phenyl                                 | 602-55-1  | 4.3E-11                   | 2.3E-10   | 1.7E-10   | 1.5E-10    | 1.3E-10     | 5.7E-11     | 4.9E-11     | 5.0E-11     | 4.7E-11     |
| Benz[a]anthracene                                    | 56-55-3   | 3.5E-10                   | 1.9E-09   | 1.4E-09   | 1.2E-09    | 1.1E-09     | 4.6E-10     | 4.0E-10     | 4.0E-10     | 3.8E-10     |
| Benzene, n-butyl-                                    | 104-51-8  | 3.1E-12                   | 1.7E-11   | 1.2E-11   | 1.1E-11    | 9.5E-12     | 4.2E-12     | 3.6E-12     | 3.6E-12     | 3.4E-12     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8  | 2.3E-06                   | 1.3E-05   | 9.2E-06   | 8.4E-06    | 7.1E-06     | 3.1E-06     | 2.7E-06     | 2.7E-06     | 2.6E-06     |



| Chemical                                | CASRN      | Chronic HQ <sub>der</sub> |           |           |            |             |             |             |             |             |
|---|------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |            | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Benzo[b]fluoranthene                    | 205-99-2   | 3.7E-09                   | 2.0E-08   | 1.4E-08   | 1.3E-08    | 1.1E-08     | 4.9E-09     | 4.3E-09     | 4.3E-09     | 4.0E-09     |
| 7H-Benzo[c]fluorene                     | 205-12-9   | 3.2E-10                   | 1.7E-09   | 1.3E-09   | 1.1E-09    | 9.8E-10     | 4.3E-10     | 3.7E-10     | 3.8E-10     | 3.5E-10     |
| Benzo[k]fluoranthene                    | 207-08-9   | 1.6E-09                   | 8.6E-09   | 6.3E-09   | 5.7E-09    | 4.9E-09     | 2.2E-09     | 1.9E-09     | 1.9E-09     | 1.8E-09     |
| Benzothiazole                           | 95-16-9    | 1.7E-04                   | 9.0E-04   | 6.6E-04   | 6.0E-04    | 5.1E-04     | 2.2E-04     | 1.9E-04     | 2.0E-04     | 1.8E-04     |
| Benzothiazole, 2-phenyl-                | 883-93-2   | 4.1E-06                   | 2.2E-05   | 1.6E-05   | 1.5E-05    | 1.2E-05     | 5.5E-06     | 4.7E-06     | 4.8E-06     | 4.5E-06     |
| 1,3-Benzothiazole-2-thiol               | 149-30-4   | 1.4E-07                   | 7.4E-07   | 5.5E-07   | 5.0E-07    | 4.3E-07     | 1.9E-07     | 1.6E-07     | 1.6E-07     | 1.5E-07     |
| Benzothiazolone                         | 934-34-9   | 4.7E-04                   | 2.5E-03   | 1.9E-03   | 1.7E-03    | 1.4E-03     | 6.3E-04     | 5.4E-04     | 5.5E-04     | 5.2E-04     |
| Benzyl butyl phthalate                  | 85-68-7    | 4.8E-09                   | 2.6E-08   | 1.9E-08   | 1.7E-08    | 1.5E-08     | 6.4E-09     | 5.5E-09     | 5.6E-09     | 5.3E-09     |
| Cyclohexyl isothiocyanate               | 1122-82-3  | 1.8E-08                   | 9.5E-08   | 7.0E-08   | 6.3E-08    | 5.4E-08     | 2.4E-08     | 2.0E-08     | 2.1E-08     | 1.9E-08     |
| Dibenz[a,h]anthracene                   | 53-70-3    | 1.3E-10                   | 6.8E-10   | 5.0E-10   | 4.6E-10    | 3.9E-10     | 1.7E-10     | 1.5E-10     | 1.5E-10     | 1.4E-10     |
| Dibenzothiophene                        | 132-65-0   | 2.3E-09                   | 1.2E-08   | 9.0E-09   | 8.2E-09    | 7.0E-09     | 3.1E-09     | 2.7E-09     | 2.7E-09     | 2.5E-09     |
| Diethyl Phthalate                       | 84-66-2    | 2.2E-10                   | 1.2E-09   | 8.6E-10   | 7.8E-10    | 6.7E-10     | 2.9E-10     | 2.5E-10     | 2.5E-10     | 2.4E-10     |
| Diisobutyl Phthalate                    | 84-69-5    | 1.5E-08                   | 7.8E-08   | 5.7E-08   | 5.2E-08    | 4.5E-08     | 2.0E-08     | 1.7E-08     | 1.7E-08     | 1.6E-08     |
| Diisooctylphthalate                     | 27554-26-3 | 4.8E-07                   | 2.6E-06   | 1.9E-06   | 1.7E-06    | 1.5E-06     | 6.4E-07     | 5.6E-07     | 5.6E-07     | 5.3E-07     |
| Di-n-octyl phthalate                    | 117-84-0   | 1.0E-07                   | 5.5E-07   | 4.0E-07   | 3.6E-07    | 3.1E-07     | 1.4E-07     | 1.2E-07     | 1.2E-07     | 1.1E-07     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7  | 4.5E-10                   | 2.4E-09   | 1.8E-09   | 1.6E-09    | 1.4E-09     | 6.0E-10     | 5.2E-10     | 5.2E-10     | 4.9E-10     |
| 3,5-Di-tert-butyl-4-hydroxybenzaldehyde | 1620-98-0  | 1.5E-08                   | 8.0E-08   | 5.9E-08   | 5.3E-08    | 4.5E-08     | 2.0E-08     | 1.7E-08     | 1.7E-08     | 1.6E-08     |
| Fluoranthene                            | 206-44-0   | 2.0E-08                   | 1.1E-07   | 7.8E-08   | 7.1E-08    | 6.1E-08     | 2.7E-08     | 2.3E-08     | 2.3E-08     | 2.2E-08     |
| Fluorene                                | 86-73-7    | 8.4E-11                   | 4.5E-10   | 3.3E-10   | 3.0E-10    | 2.6E-10     | 1.1E-10     | 9.8E-11     | 9.9E-11     | 9.3E-11     |
| Hexanoic Acid, 2-ethyl                  | 149-57-5   | 1.9E-12                   | 1.0E-11   | 7.6E-12   | 6.9E-12    | 5.9E-12     | 2.6E-12     | 2.2E-12     | 2.3E-12     | 2.1E-12     |
| 1-Hydroxypyrene                         | 5315-79-7  | 7.5E-09                   | 4.0E-08   | 2.9E-08   | 2.7E-08    | 2.3E-08     | 1.0E-08     | 8.6E-09     | 8.7E-09     | 8.2E-09     |
| 2-(Methylthio)benzothiazole             | 615-22-5   | 7.7E-07                   | 4.1E-06   | 3.0E-06   | 2.7E-06    | 2.4E-06     | 1.0E-06     | 8.9E-07     | 9.0E-07     | 8.5E-07     |



| Chemical                                    | CASRN     | Chronic HQ <sub>der</sub> |           |           |            |             |             |             |             |             |
|---|-----------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |           | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Naphthalene                                 | 91-20-3   | 2.5E-10                   | 1.3E-09   | 9.7E-10   | 8.8E-10    | 7.5E-10     | 3.3E-10     | 2.9E-10     | 2.9E-10     | 2.7E-10     |
| Naphthalene, 1,2-dimethyl-                  | 573-98-8  | 1.7E-11                   | 9.3E-11   | 6.9E-11   | 6.2E-11    | 5.3E-11     | 2.3E-11     | 2.0E-11     | 2.0E-11     | 1.9E-11     |
| Naphthalene, 1,6-dimethyl-                  | 575-43-9  | 1.8E-10                   | 9.9E-10   | 7.2E-10   | 6.6E-10    | 5.6E-10     | 2.5E-10     | 2.1E-10     | 2.1E-10     | 2.0E-10     |
| Naphthalene, 1-methyl-                      | 90-12-0   | 1.1E-10                   | 6.0E-10   | 4.4E-10   | 4.0E-10    | 3.4E-10     | 1.5E-10     | 1.3E-10     | 1.3E-10     | 1.2E-10     |
| Naphthalene, 2-(bromomethyl)-               | 939-26-4  | 7.2E-09                   | 3.9E-08   | 2.8E-08   | 2.6E-08    | 2.2E-08     | 9.7E-09     | 8.4E-09     | 8.4E-09     | 8.0E-09     |
| Naphthalene, 2,3-dimethyl-                  | 581-40-8  | 2.1E-09                   | 1.1E-08   | 8.4E-09   | 7.7E-09    | 6.6E-09     | 2.9E-09     | 2.5E-09     | 2.5E-09     | 2.4E-09     |
| Naphthalene, 2-methyl                       | 91-57-6   | 1.9E-10                   | 1.0E-09   | 7.5E-10   | 6.8E-10    | 5.8E-10     | 2.5E-10     | 2.2E-10     | 2.2E-10     | 2.1E-10     |
| 1-Octadecene                                | 112-88-9  | 8.2E-07                   | 4.4E-06   | 3.2E-06   | 2.9E-06    | 2.5E-06     | 1.1E-06     | 9.5E-07     | 9.6E-07     | 9.1E-07     |
| Phenanthrene                                | 85-01-8   | 5.7E-10                   | 3.0E-09   | 2.2E-09   | 2.0E-09    | 1.7E-09     | 7.6E-10     | 6.6E-10     | 6.6E-10     | 6.3E-10     |
| Phenanthrene, 1-methyl                      | 832-69-9  | 3.0E-10                   | 1.6E-09   | 1.2E-09   | 1.1E-09    | 9.1E-10     | 4.0E-10     | 3.4E-10     | 3.5E-10     | 3.3E-10     |
| Phenanthrene, 2-methyl-                     | 2531-84-2 | 3.6E-10                   | 1.9E-09   | 1.4E-09   | 1.3E-09    | 1.1E-09     | 4.8E-10     | 4.2E-10     | 4.2E-10     | 4.0E-10     |
| Phenanthrene, 3-methyl                      | 832-71-3  | 1.3E-10                   | 7.0E-10   | 5.2E-10   | 4.7E-10    | 4.0E-10     | 1.8E-10     | 1.5E-10     | 1.5E-10     | 1.4E-10     |
| N-Phenylbenzamide                           | 93-98-1   | 3.5E-08                   | 1.9E-07   | 1.4E-07   | 1.3E-07    | 1.1E-07     | 4.7E-08     | 4.1E-08     | 4.1E-08     | 3.9E-08     |
| Phthalimide                                 | 85-41-6   | 1.6E-08                   | 8.6E-08   | 6.3E-08   | 5.7E-08    | 4.9E-08     | 2.1E-08     | 1.9E-08     | 1.9E-08     | 1.8E-08     |
| Pyrene                                      | 129-00-0  | 7.2E-08                   | 3.8E-07   | 2.8E-07   | 2.6E-07    | 2.2E-07     | 9.6E-08     | 8.3E-08     | 8.4E-08     | 7.9E-08     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5 | 7.9E-08                   | 4.3E-07   | 3.1E-07   | 2.8E-07    | 2.4E-07     | 1.1E-07     | 9.2E-08     | 9.3E-08     | 8.7E-08     |
| Triethylene glycol monobutyl ether          | 143-22-6  | 4.1E-09                   | 2.2E-08   | 1.6E-08   | 1.5E-08    | 1.3E-08     | 5.5E-09     | 4.8E-09     | 4.8E-09     | 4.5E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8  | 3.3E-09                   | 1.7E-08   | 1.3E-08   | 1.2E-08    | 1.0E-08     | 4.4E-09     | 3.8E-09     | 3.8E-09     | 3.6E-09     |
| Field-Related Chronic HQ <sub>der-sum</sub> |           | 6.5E-04                   | 3.5E-03   | 2.5E-03   | 2.3E-03    | 2.0E-03     | 8.7E-04     | 7.5E-04     | 7.6E-04     | 7.1E-04     |

**INDIVIDUAL FIELD ASSESSMENT (Table G-98)**



**Table G-5. Field-Specific<sup>a</sup> Chronic Dermal Route Total Hazard Quotients for Field-Related General Chemicals (Chronic HQ<sub>der-sum-field</sub>, unitless)—Combined Gender**

| Receptor Category and Age Group  | Chronic HQ <sub>der-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years               | 8.4E-04                             | 2.2E-03 | 6.2E-04            | 2.3E-03 | 2.9E-03         | 3.4E-03 |
| Athletes 6<11 years              | 6.6E-04                             | 1.7E-03 | 4.9E-04            | 1.9E-03 | 2.3E-03         | 2.7E-03 |
| Athletes 11<16 years             | 7.0E-04                             | 1.8E-03 | 5.2E-04            | 2.0E-03 | 2.4E-03         | 2.8E-03 |
| Athletes 16<30 years             | 8.8E-04                             | 2.3E-03 | 6.5E-04            | 2.5E-03 | 3.0E-03         | 3.6E-03 |
| Athletes 30<40 years             | 6.2E-04                             | 1.6E-03 | 4.6E-04            | 1.8E-03 | 2.2E-03         | 2.5E-03 |
| Athletes 40<50 years             | 5.3E-04                             | 1.4E-03 | 3.9E-04            | 1.5E-03 | 1.8E-03         | 2.1E-03 |
| Athletes 50<70 years             | 5.3E-04                             | 1.4E-03 | 4.0E-04            | 1.5E-03 | 1.8E-03         | 2.2E-03 |
| Coaches 16<30 years              | 4.3E-04                             | 1.1E-03 | 3.2E-04            | 1.2E-03 | 1.5E-03         | 1.8E-03 |
| Coaches 30<40 years              | 4.1E-04                             | 1.1E-03 | 3.0E-04            | 1.1E-03 | 1.4E-03         | 1.6E-03 |
| Coaches 40<50 years              | 4.1E-04                             | 1.1E-03 | 3.1E-04            | 1.2E-03 | 1.4E-03         | 1.7E-03 |
| Coaches 50<70 years              | 4.1E-04                             | 1.1E-03 | 3.1E-04            | 1.2E-03 | 1.4E-03         | 1.7E-03 |
| Referees 16<30 years             | 1.7E-04                             | 4.6E-04 | 1.3E-04            | 4.9E-04 | 6.0E-04         | 7.1E-04 |
| Referees 30<40 years             | 1.6E-04                             | 4.3E-04 | 1.2E-04            | 4.6E-04 | 5.7E-04         | 6.6E-04 |
| Referees 40<50 years             | 1.7E-04                             | 4.3E-04 | 1.2E-04            | 4.7E-04 | 5.7E-04         | 6.7E-04 |
| Referees 50<70 years             | 1.7E-04                             | 4.3E-04 | 1.2E-04            | 4.7E-04 | 5.7E-04         | 6.7E-04 |
| Spectators Third trimester fetus | 2.5E-04                             | 6.5E-04 | 1.8E-04            | 6.9E-04 | 8.5E-04         | 1.0E-03 |
| Spectators 0<2 years             | 1.3E-03                             | 3.5E-03 | 9.8E-04            | 3.7E-03 | 4.6E-03         | 5.3E-03 |
| Spectators 2<6 years             | 9.7E-04                             | 2.5E-03 | 7.2E-04            | 2.7E-03 | 3.4E-03         | 3.9E-03 |
| Spectators 6<11 years            | 8.8E-04                             | 2.3E-03 | 6.5E-04            | 2.5E-03 | 3.1E-03         | 3.6E-03 |
| Spectators 11<16 years           | 7.6E-04                             | 2.0E-03 | 5.6E-04            | 2.1E-03 | 2.6E-03         | 3.1E-03 |
| Spectators 16<30 years           | 3.3E-04                             | 8.7E-04 | 2.5E-04            | 9.3E-04 | 1.1E-03         | 1.3E-03 |
| Spectators 30<40 years           | 2.9E-04                             | 7.5E-04 | 2.1E-04            | 8.0E-04 | 9.9E-04         | 1.2E-03 |
| Spectators 40<50 years           | 2.9E-04                             | 7.6E-04 | 2.1E-04            | 8.1E-04 | 1.0E-03         | 1.2E-03 |
| Spectators 50<70 years           | 2.7E-04                             | 7.1E-04 | 2.0E-04            | 7.6E-04 | 9.4E-04         | 1.1E-03 |

<sup>a</sup> 35 field-specific Chronic HQ<sub>der-sum-field</sub> are included in this table.

### G.2.7. One-Day Ingestion Hazard Quotient for DARTs (One-Day HQ<sub>ing-DART</sub>)

**Table G-1. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual Field-Related DARTs (One-Day HQ<sub>ing-DART-field</sub>, unitless)— Combined Gender Athletes 2<6 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 5.1E-03                            | 4.4E-02 | 3.1E-02            | 3.9E-02 | 7.9E-02                     | 1.7E-01 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 1.0E-05 | 4.2E-05            | 0.0E+00 | 3.8E-05                     | 2.3E-04 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.3E-05                            | 1.2E-04 | 9.7E-05            | 8.4E-05 | 3.3E-04                     | 3.5E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 1.1E-04                            | 3.5E-04 | 2.1E-04            | 2.7E-04 | 7.2E-04                     | 7.9E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.6E-05                            | 2.4E-04 | 1.5E-04            | 2.1E-04 | 4.8E-04                     | 6.6E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 8.2E-06 | 7.5E-06            | 5.8E-06 | 2.5E-05                     | 3.0E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 6.5E-06 | 1.9E-05            | 0.0E+00 | 6.0E-05                     | 7.0E-05 |
| Boron  |            | 0.0E+00                            | 3.4E-06 | 3.8E-06            | 1.5E-06 | 9.9E-06                     | 1.3E-05 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 7.2E-08 | 4.2E-07            | 0.0E+00 | 0.0E+00                     | 2.5E-06 |
| Chrysene                                     | 218-01-9   | 1.6E-04                            | 6.4E-04 | 3.4E-04            | 6.4E-04 | 1.1E-03                     | 1.8E-03 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 8.8E-05 | 2.5E-04            | 0.0E+00 | 3.7E-04                     | 1.4E-03 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.4E-05                            | 1.4E-04 | 1.3E-04            | 1.2E-04 | 3.6E-04                     | 6.5E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 3.0E-06 | 2.5E-06            | 2.9E-06 | 7.0E-06                     | 8.4E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.4E-07 | 4.7E-07            | 0.0E+00 | 1.2E-06                     | 2.2E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.4E-05 | 4.2E-05            | 0.0E+00 | 1.0E-04                     | 1.6E-04 |
| Methyl stearate                              | 112-61-8   | 1.3E-06                            | 5.3E-06 | 4.7E-06            | 4.1E-06 | 1.3E-05                     | 2.5E-05 |
| Nickel                                       |            | 2.8E-05                            | 1.3E-04 | 1.1E-04            | 9.1E-05 | 3.7E-04                     | 5.0E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.2E-06                            | 9.5E-06 | 5.8E-06            | 8.5E-06 | 1.9E-05                     | 2.6E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 5.4E-06 | 7.0E-06            | 3.0E-06 | 1.8E-05                     | 3.5E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 2.0E-06                            | 2.6E-05 | 3.5E-05            | 1.1E-05 | 1.0E-04                     | 1.6E-04 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-2. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 6<11 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 3.3E-03                            | 2.8E-02 | 2.0E-02            | 2.5E-02 | 5.0E-02                     | 1.1E-01 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 6.5E-06 | 2.6E-05            | 0.0E+00 | 2.4E-05                     | 1.5E-04 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 1.5E-05                            | 7.5E-05 | 6.2E-05            | 5.3E-05 | 2.1E-04                     | 2.2E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 6.7E-05                            | 2.2E-04 | 1.3E-04            | 1.7E-04 | 4.6E-04                     | 5.0E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.0E-05                            | 1.5E-04 | 9.5E-05            | 1.4E-04 | 3.0E-04                     | 4.2E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 5.2E-06 | 4.8E-06            | 3.7E-06 | 1.6E-05                     | 1.9E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 4.2E-06 | 1.2E-05            | 0.0E+00 | 3.8E-05                     | 4.4E-05 |
| Boron  |            | 0.0E+00                            | 2.1E-06 | 2.4E-06            | 9.6E-07 | 6.3E-06                     | 8.4E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 4.6E-08 | 2.7E-07            | 0.0E+00 | 0.0E+00                     | 1.6E-06 |
| Chrysene                                     | 218-01-9   | 1.0E-04                            | 4.1E-04 | 2.2E-04            | 4.1E-04 | 7.0E-04                     | 1.1E-03 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 5.6E-05 | 1.6E-04            | 0.0E+00 | 2.4E-04                     | 8.7E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.5E-05                            | 8.7E-05 | 8.1E-05            | 7.5E-05 | 2.3E-04                     | 4.1E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.9E-06 | 1.6E-06            | 1.9E-06 | 4.4E-06                     | 5.3E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 8.8E-08 | 3.0E-07            | 0.0E+00 | 7.9E-07                     | 1.4E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 1.5E-05 | 2.7E-05            | 0.0E+00 | 6.5E-05                     | 1.0E-04 |
| Methyl stearate                              | 112-61-8   | 8.4E-07                            | 3.4E-06 | 3.0E-06            | 2.6E-06 | 8.0E-06                     | 1.6E-05 |
| Nickel                                       |            | 1.8E-05                            | 8.3E-05 | 6.8E-05            | 5.8E-05 | 2.3E-04                     | 3.2E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 7.4E-07                            | 6.0E-06 | 3.7E-06            | 5.4E-06 | 1.2E-05                     | 1.7E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 3.4E-06 | 4.5E-06            | 1.9E-06 | 1.2E-05                     | 2.2E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.2E-06                            | 1.6E-05 | 2.2E-05            | 7.2E-06 | 6.4E-05                     | 1.0E-04 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-3. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 11<16 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 2.1E-03                            | 1.8E-02 | 1.2E-02            | 1.6E-02 | 3.2E-02                     | 6.8E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 4.1E-06 | 1.7E-05            | 0.0E+00 | 1.5E-05                     | 9.4E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 9.4E-06                            | 4.8E-05 | 3.9E-05            | 3.4E-05 | 1.3E-04                     | 1.4E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 4.3E-05                            | 1.4E-04 | 8.5E-05            | 1.1E-04 | 2.9E-04                     | 3.2E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.6E-06                            | 9.7E-05 | 6.0E-05            | 8.7E-05 | 1.9E-04                     | 2.7E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 3.3E-06 | 3.0E-06            | 2.3E-06 | 9.9E-06                     | 1.2E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.6E-06 | 7.7E-06            | 0.0E+00 | 2.4E-05                     | 2.8E-05 |
| Boron  |            | 0.0E+00                            | 1.4E-06 | 1.5E-06            | 6.1E-07 | 4.0E-06                     | 5.3E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.9E-08 | 1.7E-07            | 0.0E+00 | 0.0E+00                     | 1.0E-06 |
| Chrysene                                     | 218-01-9   | 6.5E-05                            | 2.6E-04 | 1.4E-04            | 2.6E-04 | 4.4E-04                     | 7.1E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.5E-05 | 1.0E-04            | 0.0E+00 | 1.5E-04                     | 5.5E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 9.8E-06                            | 5.5E-05 | 5.1E-05            | 4.8E-05 | 1.5E-04                     | 2.6E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.2E-06 | 1.0E-06            | 1.2E-06 | 2.8E-06                     | 3.4E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 5.6E-08 | 1.9E-07            | 0.0E+00 | 5.0E-07                     | 8.8E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 9.7E-06 | 1.7E-05            | 0.0E+00 | 4.1E-05                     | 6.6E-05 |
| Methyl stearate                              | 112-61-8   | 5.3E-07                            | 2.1E-06 | 1.9E-06            | 1.7E-06 | 5.1E-06                     | 1.0E-05 |
| Nickel                                       |            | 1.1E-05                            | 5.3E-05 | 4.3E-05            | 3.7E-05 | 1.5E-04                     | 2.0E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.7E-07                            | 3.8E-06 | 2.3E-06            | 3.4E-06 | 7.8E-06                     | 1.0E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 2.2E-06 | 2.8E-06            | 1.2E-06 | 7.4E-06                     | 1.4E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 7.9E-07                            | 1.0E-05 | 1.4E-05            | 4.6E-06 | 4.0E-05                     | 6.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-4. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 16<30 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.6E-03                            | 1.4E-02 | 9.9E-03            | 1.3E-02 | 2.5E-02                     | 5.4E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 3.3E-06 | 1.3E-05            | 0.0E+00 | 1.2E-05                     | 7.5E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 7.5E-06                            | 3.8E-05 | 3.1E-05            | 2.7E-05 | 1.1E-04                     | 1.1E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 3.4E-05                            | 1.1E-04 | 6.7E-05            | 8.8E-05 | 2.3E-04                     | 2.5E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.3E-06                            | 7.7E-05 | 4.8E-05            | 6.9E-05 | 1.5E-04                     | 2.1E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.7E-06 | 2.4E-06            | 1.9E-06 | 7.9E-06                     | 9.7E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.1E-06 | 6.1E-06            | 0.0E+00 | 1.9E-05                     | 2.3E-05 |
| Boron  |            | 0.0E+00                            | 1.1E-06 | 1.2E-06            | 4.9E-07 | 3.2E-06                     | 4.2E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.3E-08 | 1.4E-07            | 0.0E+00 | 0.0E+00                     | 8.1E-07 |
| Chrysene                                     | 218-01-9   | 5.2E-05                            | 2.1E-04 | 1.1E-04            | 2.1E-04 | 3.5E-04                     | 5.7E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 2.8E-05 | 8.2E-05            | 0.0E+00 | 1.2E-04                     | 4.4E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 7.8E-06                            | 4.4E-05 | 4.1E-05            | 3.8E-05 | 1.2E-04                     | 2.1E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 9.8E-07 | 8.1E-07            | 9.4E-07 | 2.2E-06                     | 2.7E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 4.4E-08 | 1.5E-07            | 0.0E+00 | 4.0E-07                     | 7.1E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 7.7E-06 | 1.3E-05            | 0.0E+00 | 3.3E-05                     | 5.3E-05 |
| Methyl stearate                              | 112-61-8   | 4.3E-07                            | 1.7E-06 | 1.5E-06            | 1.3E-06 | 4.1E-06                     | 8.1E-06 |
| Nickel                                       |            | 9.0E-06                            | 4.2E-05 | 3.4E-05            | 2.9E-05 | 1.2E-04                     | 1.6E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.8E-07                            | 3.1E-06 | 1.9E-06            | 2.7E-06 | 6.2E-06                     | 8.3E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.7E-06 | 2.3E-06            | 9.7E-07 | 5.9E-06                     | 1.1E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 6.3E-07                            | 8.2E-06 | 1.1E-05            | 3.6E-06 | 3.2E-05                     | 5.2E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-5. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 30<40 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.4E-03                            | 1.2E-02 | 8.5E-03            | 1.1E-02 | 2.2E-02                     | 4.6E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 2.8E-06 | 1.1E-05            | 0.0E+00 | 1.1E-05                     | 6.4E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 6.4E-06                            | 3.3E-05 | 2.7E-05            | 2.3E-05 | 9.0E-05                     | 9.6E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 2.9E-05                            | 9.7E-05 | 5.8E-05            | 7.6E-05 | 2.0E-04                     | 2.2E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.5E-06                            | 6.6E-05 | 4.1E-05            | 5.9E-05 | 1.3E-04                     | 1.8E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.3E-06 | 2.1E-06            | 1.6E-06 | 6.8E-06                     | 8.3E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 1.8E-06 | 5.3E-06            | 0.0E+00 | 1.7E-05                     | 1.9E-05 |
| Boron  |            | 0.0E+00                            | 9.3E-07 | 1.0E-06            | 4.2E-07 | 2.7E-06                     | 3.6E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.0E-08 | 1.2E-07            | 0.0E+00 | 0.0E+00                     | 6.9E-07 |
| Chrysene                                     | 218-01-9   | 4.5E-05                            | 1.8E-04 | 9.4E-05            | 1.8E-04 | 3.0E-04                     | 4.8E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 2.4E-05 | 7.0E-05            | 0.0E+00 | 1.0E-04                     | 3.8E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 6.7E-06                            | 3.8E-05 | 3.5E-05            | 3.3E-05 | 1.0E-04                     | 1.8E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 8.4E-07 | 6.9E-07            | 8.0E-07 | 1.9E-06                     | 2.3E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 3.8E-08 | 1.3E-07            | 0.0E+00 | 3.4E-07                     | 6.1E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 6.6E-06 | 1.2E-05            | 0.0E+00 | 2.8E-05                     | 4.5E-05 |
| Methyl stearate                              | 112-61-8   | 3.7E-07                            | 1.5E-06 | 1.3E-06            | 1.1E-06 | 3.5E-06                     | 6.9E-06 |
| Nickel                                       |            | 7.7E-06                            | 3.6E-05 | 3.0E-05            | 2.5E-05 | 1.0E-04                     | 1.4E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.2E-07                            | 2.6E-06 | 1.6E-06            | 2.4E-06 | 5.3E-06                     | 7.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.5E-06 | 1.9E-06            | 8.3E-07 | 5.1E-06                     | 9.7E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 5.4E-07                            | 7.1E-06 | 9.7E-06            | 3.1E-06 | 2.8E-05                     | 4.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-6. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 40<50 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.4E-03                            | 1.2E-02 | 8.3E-03            | 1.1E-02 | 2.1E-02                     | 4.5E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 2.8E-06 | 1.1E-05            | 0.0E+00 | 1.0E-05                     | 6.3E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 6.3E-06                            | 3.2E-05 | 2.6E-05            | 2.3E-05 | 8.8E-05                     | 9.4E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 2.9E-05                            | 9.5E-05 | 5.7E-05            | 7.4E-05 | 2.0E-04                     | 2.1E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.5E-06                            | 6.5E-05 | 4.1E-05            | 5.8E-05 | 1.3E-04                     | 1.8E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.2E-06 | 2.0E-06            | 1.6E-06 | 6.7E-06                     | 8.2E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 1.8E-06 | 5.2E-06            | 0.0E+00 | 1.6E-05                     | 1.9E-05 |
| Boron  |            | 0.0E+00                            | 9.1E-07 | 1.0E-06            | 4.1E-07 | 2.7E-06                     | 3.6E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 1.9E-08 | 1.1E-07            | 0.0E+00 | 0.0E+00                     | 6.8E-07 |
| Chrysene                                     | 218-01-9   | 4.4E-05                            | 1.7E-04 | 9.2E-05            | 1.7E-04 | 3.0E-04                     | 4.8E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 2.4E-05 | 6.9E-05            | 0.0E+00 | 1.0E-04                     | 3.7E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 6.6E-06                            | 3.7E-05 | 3.4E-05            | 3.2E-05 | 9.8E-05                     | 1.7E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 8.2E-07 | 6.8E-07            | 7.9E-07 | 1.9E-06                     | 2.3E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 3.7E-08 | 1.3E-07            | 0.0E+00 | 3.4E-07                     | 5.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 6.5E-06 | 1.1E-05            | 0.0E+00 | 2.8E-05                     | 4.5E-05 |
| Methyl stearate                              | 112-61-8   | 3.6E-07                            | 1.4E-06 | 1.3E-06            | 1.1E-06 | 3.4E-06                     | 6.8E-06 |
| Nickel                                       |            | 7.6E-06                            | 3.5E-05 | 2.9E-05            | 2.5E-05 | 9.9E-05                     | 1.4E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.2E-07                            | 2.6E-06 | 1.6E-06            | 2.3E-06 | 5.2E-06                     | 7.0E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.5E-06 | 1.9E-06            | 8.2E-07 | 5.0E-06                     | 9.5E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 5.3E-07                            | 6.9E-06 | 9.5E-06            | 3.1E-06 | 2.7E-05                     | 4.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-7. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Athletes 50<70 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.4E-03                            | 1.2E-02 | 8.4E-03            | 1.1E-02 | 2.1E-02                     | 4.6E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 2.8E-06 | 1.1E-05            | 0.0E+00 | 1.0E-05                     | 6.3E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 6.3E-06                            | 3.2E-05 | 2.6E-05            | 2.3E-05 | 8.9E-05                     | 9.4E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 2.9E-05                            | 9.6E-05 | 5.7E-05            | 7.5E-05 | 2.0E-04                     | 2.1E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.5E-06                            | 6.5E-05 | 4.1E-05            | 5.8E-05 | 1.3E-04                     | 1.8E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.2E-06 | 2.0E-06            | 1.6E-06 | 6.7E-06                     | 8.2E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 1.8E-06 | 5.2E-06            | 0.0E+00 | 1.6E-05                     | 1.9E-05 |
| Boron  |            | 0.0E+00                            | 9.1E-07 | 1.0E-06            | 4.1E-07 | 2.7E-06                     | 3.6E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 1.9E-08 | 1.2E-07            | 0.0E+00 | 0.0E+00                     | 6.8E-07 |
| Chrysene                                     | 218-01-9   | 4.4E-05                            | 1.7E-04 | 9.2E-05            | 1.7E-04 | 3.0E-04                     | 4.8E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 2.4E-05 | 6.9E-05            | 0.0E+00 | 1.0E-04                     | 3.7E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 6.6E-06                            | 3.7E-05 | 3.5E-05            | 3.2E-05 | 9.8E-05                     | 1.8E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 8.3E-07 | 6.8E-07            | 7.9E-07 | 1.9E-06                     | 2.3E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 3.8E-08 | 1.3E-07            | 0.0E+00 | 3.4E-07                     | 6.0E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 6.5E-06 | 1.1E-05            | 0.0E+00 | 2.8E-05                     | 4.5E-05 |
| Methyl stearate                              | 112-61-8   | 3.6E-07                            | 1.4E-06 | 1.3E-06            | 1.1E-06 | 3.4E-06                     | 6.8E-06 |
| Nickel                                       |            | 7.6E-06                            | 3.6E-05 | 2.9E-05            | 2.5E-05 | 1.0E-04                     | 1.4E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.2E-07                            | 2.6E-06 | 1.6E-06            | 2.3E-06 | 5.3E-06                     | 7.0E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.5E-06 | 1.9E-06            | 8.2E-07 | 5.0E-06                     | 9.5E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 5.3E-07                            | 6.9E-06 | 9.5E-06            | 3.1E-06 | 2.7E-05                     | 4.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-8. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Coaches 16<30 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.8E-04                            | 4.1E-03 | 2.9E-03            | 3.7E-03 | 7.4E-03                     | 1.6E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 9.6E-07 | 3.9E-06            | 0.0E+00 | 3.6E-06                     | 2.2E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.2E-06                            | 1.1E-05 | 9.1E-06            | 7.9E-06 | 3.1E-05                     | 3.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.9E-06                            | 3.3E-05 | 2.0E-05            | 2.6E-05 | 6.8E-05                     | 7.4E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.5E-06                            | 2.2E-05 | 1.4E-05            | 2.0E-05 | 4.5E-05                     | 6.2E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.7E-07 | 7.0E-07            | 5.4E-07 | 2.3E-06                     | 2.8E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 6.1E-07 | 1.8E-06            | 0.0E+00 | 5.7E-06                     | 6.5E-06 |
| Boron  |            | 0.0E+00                            | 3.1E-07 | 3.5E-07            | 1.4E-07 | 9.2E-07                     | 1.2E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.7E-09 | 4.0E-08            | 0.0E+00 | 0.0E+00                     | 2.4E-07 |
| Chrysene                                     | 218-01-9   | 1.5E-05                            | 6.0E-05 | 3.2E-05            | 6.0E-05 | 1.0E-04                     | 1.6E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 8.2E-06 | 2.4E-05            | 0.0E+00 | 3.5E-05                     | 1.3E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.3E-06                            | 1.3E-05 | 1.2E-05            | 1.1E-05 | 3.4E-05                     | 6.1E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.8E-07 | 2.3E-07            | 2.7E-07 | 6.5E-07                     | 7.9E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.3E-08 | 4.4E-08            | 0.0E+00 | 1.2E-07                     | 2.1E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.3E-06 | 3.9E-06            | 0.0E+00 | 9.6E-06                     | 1.5E-05 |
| Methyl stearate                              | 112-61-8   | 1.2E-07                            | 5.0E-07 | 4.4E-07            | 3.9E-07 | 1.2E-06                     | 2.4E-06 |
| Nickel                                       |            | 2.6E-06                            | 1.2E-05 | 1.0E-05            | 8.5E-06 | 3.4E-05                     | 4.7E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.1E-07                            | 8.9E-07 | 5.4E-07            | 8.0E-07 | 1.8E-06                     | 2.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 5.0E-07 | 6.6E-07            | 2.8E-07 | 1.7E-06                     | 3.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.8E-07                            | 2.4E-06 | 3.3E-06            | 1.1E-06 | 9.4E-06                     | 1.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-9. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Coaches 30<40 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.5E-04                            | 3.8E-03 | 2.7E-03            | 3.5E-03 | 6.9E-03                     | 1.5E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 9.0E-07 | 3.6E-06            | 0.0E+00 | 3.4E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.5E-06            | 7.4E-06 | 2.9E-05                     | 3.1E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.3E-06                            | 3.1E-05 | 1.8E-05            | 2.4E-05 | 6.4E-05                     | 7.0E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.2E-05                     | 5.8E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.3E-07 | 6.6E-07            | 5.1E-07 | 2.2E-06                     | 2.7E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.8E-07 | 1.7E-06            | 0.0E+00 | 5.3E-06                     | 6.1E-06 |
| Boron  |            | 0.0E+00                            | 3.0E-07 | 3.3E-07            | 1.3E-07 | 8.7E-07                     | 1.2E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.3E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.6E-05 | 3.0E-05            | 5.6E-05 | 9.6E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.7E-06 | 2.2E-05            | 0.0E+00 | 3.3E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.2E-05                     | 5.7E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.7E-07 | 2.2E-07            | 2.6E-07 | 6.2E-07                     | 7.4E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.1E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.7E-06            | 0.0E+00 | 8.9E-06                     | 1.5E-05 |
| Methyl stearate                              | 112-61-8   | 1.2E-07                            | 4.7E-07 | 4.1E-07            | 3.6E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.5E-06                            | 1.1E-05 | 9.4E-06            | 8.0E-06 | 3.2E-05                     | 4.4E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.4E-07 | 5.1E-07            | 7.5E-07 | 1.7E-06                     | 2.3E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.7E-07 | 6.2E-07            | 2.7E-07 | 1.6E-06                     | 3.1E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.3E-06 | 3.1E-06            | 9.9E-07 | 8.8E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-10. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Coaches 40<50 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.4E-04                            | 3.8E-03 | 2.7E-03            | 3.4E-03 | 6.8E-03                     | 1.4E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 8.9E-07 | 3.6E-06            | 0.0E+00 | 3.3E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.3E-06            | 7.2E-06 | 2.8E-05                     | 3.0E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.1E-06                            | 3.0E-05 | 1.8E-05            | 2.4E-05 | 6.2E-05                     | 6.8E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.1E-05                     | 5.7E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.1E-07 | 6.5E-07            | 5.0E-07 | 2.1E-06                     | 2.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.6E-07 | 1.6E-06            | 0.0E+00 | 5.2E-06                     | 6.0E-06 |
| Boron  |            | 0.0E+00                            | 2.9E-07 | 3.2E-07            | 1.3E-07 | 8.5E-07                     | 1.1E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.2E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.5E-05 | 2.9E-05            | 5.5E-05 | 9.4E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.6E-06 | 2.2E-05            | 0.0E+00 | 3.2E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.1E-05                     | 5.6E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.6E-07 | 2.2E-07            | 2.5E-07 | 6.0E-07                     | 7.2E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.0E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.6E-06            | 0.0E+00 | 8.8E-06                     | 1.4E-05 |
| Methyl stearate                              | 112-61-8   | 1.1E-07                            | 4.6E-07 | 4.0E-07            | 3.5E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.4E-06                            | 1.1E-05 | 9.2E-06            | 7.8E-06 | 3.2E-05                     | 4.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.2E-07 | 5.0E-07            | 7.3E-07 | 1.7E-06                     | 2.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.6E-07 | 6.0E-07            | 2.6E-07 | 1.6E-06                     | 3.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.2E-06 | 3.0E-06            | 9.7E-07 | 8.6E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-11. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Coaches 50<70 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.4E-04                            | 3.8E-03 | 2.7E-03            | 3.4E-03 | 6.8E-03                     | 1.4E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 8.9E-07 | 3.6E-06            | 0.0E+00 | 3.3E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.4E-06            | 7.3E-06 | 2.8E-05                     | 3.0E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.2E-06                            | 3.0E-05 | 1.8E-05            | 2.4E-05 | 6.2E-05                     | 6.8E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.1E-05                     | 5.7E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.1E-07 | 6.5E-07            | 5.0E-07 | 2.1E-06                     | 2.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.6E-07 | 1.6E-06            | 0.0E+00 | 5.2E-06                     | 6.0E-06 |
| Boron  |            | 0.0E+00                            | 2.9E-07 | 3.2E-07            | 1.3E-07 | 8.5E-07                     | 1.1E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.2E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.5E-05 | 2.9E-05            | 5.5E-05 | 9.5E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.6E-06 | 2.2E-05            | 0.0E+00 | 3.2E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.1E-05                     | 5.6E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.6E-07 | 2.2E-07            | 2.5E-07 | 6.0E-07                     | 7.3E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.0E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.6E-06            | 0.0E+00 | 8.8E-06                     | 1.4E-05 |
| Methyl stearate                              | 112-61-8   | 1.1E-07                            | 4.6E-07 | 4.0E-07            | 3.6E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.4E-06                            | 1.1E-05 | 9.2E-06            | 7.8E-06 | 3.2E-05                     | 4.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.2E-07 | 5.0E-07            | 7.4E-07 | 1.7E-06                     | 2.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.6E-07 | 6.1E-07            | 2.6E-07 | 1.6E-06                     | 3.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.2E-06 | 3.0E-06            | 9.7E-07 | 8.7E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-12. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Referees 16<30 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.8E-04                            | 4.1E-03 | 2.9E-03            | 3.7E-03 | 7.4E-03                     | 1.6E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 9.6E-07 | 3.9E-06            | 0.0E+00 | 3.6E-06                     | 2.2E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.2E-06                            | 1.1E-05 | 9.1E-06            | 7.9E-06 | 3.1E-05                     | 3.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.9E-06                            | 3.3E-05 | 2.0E-05            | 2.6E-05 | 6.8E-05                     | 7.4E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.5E-06                            | 2.2E-05 | 1.4E-05            | 2.0E-05 | 4.5E-05                     | 6.2E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.7E-07 | 7.0E-07            | 5.4E-07 | 2.3E-06                     | 2.8E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 6.1E-07 | 1.8E-06            | 0.0E+00 | 5.7E-06                     | 6.5E-06 |
| Boron  |            | 0.0E+00                            | 3.1E-07 | 3.5E-07            | 1.4E-07 | 9.2E-07                     | 1.2E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.7E-09 | 4.0E-08            | 0.0E+00 | 0.0E+00                     | 2.4E-07 |
| Chrysene                                     | 218-01-9   | 1.5E-05                            | 6.0E-05 | 3.2E-05            | 6.0E-05 | 1.0E-04                     | 1.6E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 8.2E-06 | 2.4E-05            | 0.0E+00 | 3.5E-05                     | 1.3E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.3E-06                            | 1.3E-05 | 1.2E-05            | 1.1E-05 | 3.4E-05                     | 6.1E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.8E-07 | 2.3E-07            | 2.7E-07 | 6.5E-07                     | 7.9E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.3E-08 | 4.4E-08            | 0.0E+00 | 1.2E-07                     | 2.1E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.3E-06 | 3.9E-06            | 0.0E+00 | 9.6E-06                     | 1.5E-05 |
| Methyl stearate                              | 112-61-8   | 1.2E-07                            | 5.0E-07 | 4.4E-07            | 3.9E-07 | 1.2E-06                     | 2.4E-06 |
| Nickel                                       |            | 2.6E-06                            | 1.2E-05 | 1.0E-05            | 8.5E-06 | 3.4E-05                     | 4.7E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.1E-07                            | 8.9E-07 | 5.4E-07            | 8.0E-07 | 1.8E-06                     | 2.4E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 5.0E-07 | 6.6E-07            | 2.8E-07 | 1.7E-06                     | 3.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.8E-07                            | 2.4E-06 | 3.3E-06            | 1.1E-06 | 9.4E-06                     | 1.5E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-13. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Referees 30<40 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.5E-04                            | 3.8E-03 | 2.7E-03            | 3.5E-03 | 6.9E-03                     | 1.5E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 9.0E-07 | 3.6E-06            | 0.0E+00 | 3.4E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.5E-06            | 7.4E-06 | 2.9E-05                     | 3.1E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.3E-06                            | 3.1E-05 | 1.8E-05            | 2.4E-05 | 6.4E-05                     | 7.0E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.2E-05                     | 5.8E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.3E-07 | 6.6E-07            | 5.1E-07 | 2.2E-06                     | 2.7E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.8E-07 | 1.7E-06            | 0.0E+00 | 5.3E-06                     | 6.1E-06 |
| Boron  |            | 0.0E+00                            | 3.0E-07 | 3.3E-07            | 1.3E-07 | 8.7E-07                     | 1.2E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.3E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.6E-05 | 3.0E-05            | 5.6E-05 | 9.6E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.7E-06 | 2.2E-05            | 0.0E+00 | 3.3E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.2E-05                     | 5.7E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.7E-07 | 2.2E-07            | 2.6E-07 | 6.2E-07                     | 7.4E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.1E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.7E-06            | 0.0E+00 | 8.9E-06                     | 1.5E-05 |
| Methyl stearate                              | 112-61-8   | 1.2E-07                            | 4.7E-07 | 4.1E-07            | 3.6E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.5E-06                            | 1.1E-05 | 9.4E-06            | 8.0E-06 | 3.2E-05                     | 4.4E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.4E-07 | 5.1E-07            | 7.5E-07 | 1.7E-06                     | 2.3E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.7E-07 | 6.2E-07            | 2.7E-07 | 1.6E-06                     | 3.1E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.3E-06 | 3.1E-06            | 9.9E-07 | 8.8E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-14. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Referees 40<50 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.4E-04                            | 3.8E-03 | 2.7E-03            | 3.4E-03 | 6.8E-03                     | 1.4E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 8.9E-07 | 3.6E-06            | 0.0E+00 | 3.3E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.3E-06            | 7.2E-06 | 2.8E-05                     | 3.0E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.1E-06                            | 3.0E-05 | 1.8E-05            | 2.4E-05 | 6.2E-05                     | 6.8E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.1E-05                     | 5.7E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.1E-07 | 6.5E-07            | 5.0E-07 | 2.1E-06                     | 2.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.6E-07 | 1.6E-06            | 0.0E+00 | 5.2E-06                     | 6.0E-06 |
| Boron  |            | 0.0E+00                            | 2.9E-07 | 3.2E-07            | 1.3E-07 | 8.5E-07                     | 1.1E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.2E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.5E-05 | 2.9E-05            | 5.5E-05 | 9.4E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.6E-06 | 2.2E-05            | 0.0E+00 | 3.2E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.1E-05                     | 5.6E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.6E-07 | 2.2E-07            | 2.5E-07 | 6.0E-07                     | 7.2E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.0E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.6E-06            | 0.0E+00 | 8.8E-06                     | 1.4E-05 |
| Methyl stearate                              | 112-61-8   | 1.1E-07                            | 4.6E-07 | 4.0E-07            | 3.5E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.4E-06                            | 1.1E-05 | 9.2E-06            | 7.8E-06 | 3.2E-05                     | 4.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.2E-07 | 5.0E-07            | 7.3E-07 | 1.7E-06                     | 2.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.6E-07 | 6.0E-07            | 2.6E-07 | 1.6E-06                     | 3.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.2E-06 | 3.0E-06            | 9.7E-07 | 8.6E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-15. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Referees 50<70 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.4E-04                            | 3.8E-03 | 2.7E-03            | 3.4E-03 | 6.8E-03                     | 1.4E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 8.9E-07 | 3.6E-06            | 0.0E+00 | 3.3E-06                     | 2.0E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-06                            | 1.0E-05 | 8.4E-06            | 7.3E-06 | 2.8E-05                     | 3.0E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 9.2E-06                            | 3.0E-05 | 1.8E-05            | 2.4E-05 | 6.2E-05                     | 6.8E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-06                            | 2.1E-05 | 1.3E-05            | 1.9E-05 | 4.1E-05                     | 5.7E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.1E-07 | 6.5E-07            | 5.0E-07 | 2.1E-06                     | 2.6E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.6E-07 | 1.6E-06            | 0.0E+00 | 5.2E-06                     | 6.0E-06 |
| Boron  |            | 0.0E+00                            | 2.9E-07 | 3.2E-07            | 1.3E-07 | 8.5E-07                     | 1.1E-06 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.2E-09 | 3.7E-08            | 0.0E+00 | 0.0E+00                     | 2.2E-07 |
| Chrysene                                     | 218-01-9   | 1.4E-05                            | 5.5E-05 | 2.9E-05            | 5.5E-05 | 9.5E-05                     | 1.5E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.6E-06 | 2.2E-05            | 0.0E+00 | 3.2E-05                     | 1.2E-04 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.1E-06                            | 1.2E-05 | 1.1E-05            | 1.0E-05 | 3.1E-05                     | 5.6E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.6E-07 | 2.2E-07            | 2.5E-07 | 6.0E-07                     | 7.3E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-08 | 4.0E-08            | 0.0E+00 | 1.1E-07                     | 1.9E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.1E-06 | 3.6E-06            | 0.0E+00 | 8.8E-06                     | 1.4E-05 |
| Methyl stearate                              | 112-61-8   | 1.1E-07                            | 4.6E-07 | 4.0E-07            | 3.6E-07 | 1.1E-06                     | 2.2E-06 |
| Nickel                                       |            | 2.4E-06                            | 1.1E-05 | 9.2E-06            | 7.8E-06 | 3.2E-05                     | 4.3E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.0E-07                            | 8.2E-07 | 5.0E-07            | 7.4E-07 | 1.7E-06                     | 2.2E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.6E-07 | 6.1E-07            | 2.6E-07 | 1.6E-06                     | 3.0E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-07                            | 2.2E-06 | 3.0E-06            | 9.7E-07 | 8.7E-06                     | 1.4E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-16. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators Third Trimester Fetus**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.9E-04                            | 1.6E-03 | 1.2E-03            | 1.5E-03 | 3.0E-03                     | 6.3E-03 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 3.9E-07 | 1.6E-06            | 0.0E+00 | 1.4E-06                     | 8.8E-06 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 8.7E-07                            | 4.4E-06 | 3.6E-06            | 3.2E-06 | 1.2E-05                     | 1.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 4.0E-06                            | 1.3E-05 | 7.9E-06            | 1.0E-05 | 2.7E-05                     | 3.0E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.2E-07                            | 9.0E-06 | 5.7E-06            | 8.1E-06 | 1.8E-05                     | 2.5E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 3.1E-07 | 2.8E-07            | 2.2E-07 | 9.3E-07                     | 1.1E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.5E-07 | 7.2E-07            | 0.0E+00 | 2.3E-06                     | 2.6E-06 |
| Boron  |            | 0.0E+00                            | 1.3E-07 | 1.4E-07            | 5.7E-08 | 3.7E-07                     | 5.0E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.7E-09 | 1.6E-08            | 0.0E+00 | 0.0E+00                     | 9.5E-08 |
| Chrysene                                     | 218-01-9   | 6.1E-06                            | 2.4E-05 | 1.3E-05            | 2.4E-05 | 4.1E-05                     | 6.6E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.3E-06 | 9.6E-06            | 0.0E+00 | 1.4E-05                     | 5.2E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 9.1E-07                            | 5.2E-06 | 4.8E-06            | 4.5E-06 | 1.4E-05                     | 2.4E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.1E-07 | 9.4E-08            | 1.1E-07 | 2.6E-07                     | 3.2E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 5.2E-09 | 1.8E-08            | 0.0E+00 | 4.7E-08                     | 8.3E-08 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 9.1E-07 | 1.6E-06            | 0.0E+00 | 3.8E-06                     | 6.2E-06 |
| Methyl stearate                              | 112-61-8   | 5.0E-08                            | 2.0E-07 | 1.8E-07            | 1.6E-07 | 4.7E-07                     | 9.5E-07 |
| Nickel                                       |            | 1.1E-06                            | 4.9E-06 | 4.0E-06            | 3.4E-06 | 1.4E-05                     | 1.9E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.4E-08                            | 3.6E-07 | 2.2E-07            | 3.2E-07 | 7.3E-07                     | 9.8E-07 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 2.0E-07 | 2.6E-07            | 1.1E-07 | 6.9E-07                     | 1.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 7.4E-08                            | 9.6E-07 | 1.3E-06            | 4.3E-07 | 3.8E-06                     | 6.1E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-17. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 0<2 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.3E-02                            | 1.1E-01 | 7.8E-02            | 1.0E-01 | 2.0E-01                     | 4.3E-01 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 2.6E-05 | 1.1E-04            | 0.0E+00 | 9.7E-05                     | 5.9E-04 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 5.9E-05                            | 3.0E-04 | 2.5E-04            | 2.1E-04 | 8.3E-04                     | 8.8E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 2.7E-04                            | 8.9E-04 | 5.3E-04            | 7.0E-04 | 1.8E-03                     | 2.0E-03 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 4.2E-05                            | 6.1E-04 | 3.8E-04            | 5.4E-04 | 1.2E-03                     | 1.7E-03 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.1E-05 | 1.9E-05            | 1.5E-05 | 6.2E-05                     | 7.6E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 1.7E-05 | 4.8E-05            | 0.0E+00 | 1.5E-04                     | 1.8E-04 |
| Boron  |            | 0.0E+00                            | 8.5E-06 | 9.5E-06            | 3.8E-06 | 2.5E-05                     | 3.3E-05 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 1.8E-07 | 1.1E-06            | 0.0E+00 | 0.0E+00                     | 6.4E-06 |
| Chrysene                                     | 218-01-9   | 4.1E-04                            | 1.6E-03 | 8.6E-04            | 1.6E-03 | 2.8E-03                     | 4.5E-03 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 2.2E-04 | 6.4E-04            | 0.0E+00 | 9.4E-04                     | 3.5E-03 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 6.1E-05                            | 3.5E-04 | 3.2E-04            | 3.0E-04 | 9.2E-04                     | 1.6E-03 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 7.7E-06 | 6.3E-06            | 7.4E-06 | 1.8E-05                     | 2.1E-05 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 3.5E-07 | 1.2E-06            | 0.0E+00 | 3.1E-06                     | 5.6E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 6.1E-05 | 1.1E-04            | 0.0E+00 | 2.6E-04                     | 4.2E-04 |
| Methyl stearate                              | 112-61-8   | 3.4E-06                            | 1.3E-05 | 1.2E-05            | 1.0E-05 | 3.2E-05                     | 6.4E-05 |
| Nickel                                       |            | 7.1E-05                            | 3.3E-04 | 2.7E-04            | 2.3E-04 | 9.3E-04                     | 1.3E-03 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 3.0E-06                            | 2.4E-05 | 1.5E-05            | 2.2E-05 | 4.9E-05                     | 6.6E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.4E-05 | 1.8E-05            | 7.6E-06 | 4.7E-05                     | 8.9E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 5.0E-06                            | 6.5E-05 | 8.9E-05            | 2.9E-05 | 2.5E-04                     | 4.1E-04 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-18. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 2<6 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 6.2E-03                            | 5.2E-02 | 3.7E-02            | 4.7E-02 | 9.4E-02                     | 2.0E-01 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 1.2E-05 | 5.0E-05            | 0.0E+00 | 4.6E-05                     | 2.8E-04 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.8E-05                            | 1.4E-04 | 1.2E-04            | 1.0E-04 | 3.9E-04                     | 4.2E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 1.3E-04                            | 4.2E-04 | 2.5E-04            | 3.3E-04 | 8.7E-04                     | 9.5E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 2.0E-05                            | 2.9E-04 | 1.8E-04            | 2.6E-04 | 5.8E-04                     | 8.0E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 9.9E-06 | 9.1E-06            | 6.9E-06 | 3.0E-05                     | 3.6E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 7.9E-06 | 2.3E-05            | 0.0E+00 | 7.3E-05                     | 8.4E-05 |
| Boron  |            | 0.0E+00                            | 4.0E-06 | 4.5E-06            | 1.8E-06 | 1.2E-05                     | 1.6E-05 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 8.6E-08 | 5.1E-07            | 0.0E+00 | 0.0E+00                     | 3.0E-06 |
| Chrysene                                     | 218-01-9   | 1.9E-04                            | 7.7E-04 | 4.1E-04            | 7.7E-04 | 1.3E-03                     | 2.1E-03 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 1.1E-04 | 3.1E-04            | 0.0E+00 | 4.5E-04                     | 1.7E-03 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.9E-05                            | 1.7E-04 | 1.5E-04            | 1.4E-04 | 4.4E-04                     | 7.8E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 3.7E-06 | 3.0E-06            | 3.5E-06 | 8.4E-06                     | 1.0E-05 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.7E-07 | 5.6E-07            | 0.0E+00 | 1.5E-06                     | 2.6E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.9E-05 | 5.0E-05            | 0.0E+00 | 1.2E-04                     | 2.0E-04 |
| Methyl stearate                              | 112-61-8   | 1.6E-06                            | 6.4E-06 | 5.6E-06            | 4.9E-06 | 1.5E-05                     | 3.0E-05 |
| Nickel                                       |            | 3.4E-05                            | 1.6E-04 | 1.3E-04            | 1.1E-04 | 4.4E-04                     | 6.0E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 1.4E-06                            | 1.1E-05 | 6.9E-06            | 1.0E-05 | 2.3E-05                     | 3.1E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 6.5E-06 | 8.5E-06            | 3.6E-06 | 2.2E-05                     | 4.2E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 2.4E-06                            | 3.1E-05 | 4.2E-05            | 1.4E-05 | 1.2E-04                     | 1.9E-04 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-19. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 6<11 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 4.3E-03                            | 3.7E-02 | 2.6E-02            | 3.3E-02 | 6.6E-02                     | 1.4E-01 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 8.7E-06 | 3.5E-05            | 0.0E+00 | 3.2E-05                     | 2.0E-04 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 2.0E-05                            | 1.0E-04 | 8.2E-05            | 7.1E-05 | 2.8E-04                     | 2.9E-04 |
| Benzo[e]pyrene                               | 192-97-2   | 9.0E-05                            | 3.0E-04 | 1.8E-04            | 2.3E-04 | 6.1E-04                     | 6.7E-04 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.4E-05                            | 2.0E-04 | 1.3E-04            | 1.8E-04 | 4.1E-04                     | 5.6E-04 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 7.0E-06 | 6.4E-06            | 4.9E-06 | 2.1E-05                     | 2.6E-05 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 5.5E-06 | 1.6E-05            | 0.0E+00 | 5.1E-05                     | 5.9E-05 |
| Boron  |            | 0.0E+00                            | 2.8E-06 | 3.2E-06            | 1.3E-06 | 8.3E-06                     | 1.1E-05 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 6.1E-08 | 3.6E-07            | 0.0E+00 | 0.0E+00                     | 2.1E-06 |
| Chrysene                                     | 218-01-9   | 1.4E-04                            | 5.4E-04 | 2.9E-04            | 5.4E-04 | 9.3E-04                     | 1.5E-03 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 7.4E-05 | 2.1E-04            | 0.0E+00 | 3.1E-04                     | 1.2E-03 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 2.0E-05                            | 1.2E-04 | 1.1E-04            | 1.0E-04 | 3.1E-04                     | 5.5E-04 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.6E-06 | 2.1E-06            | 2.5E-06 | 5.9E-06                     | 7.1E-06 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 1.2E-07 | 4.0E-07            | 0.0E+00 | 1.0E-06                     | 1.9E-06 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 2.0E-05 | 3.5E-05            | 0.0E+00 | 8.6E-05                     | 1.4E-04 |
| Methyl stearate                              | 112-61-8   | 1.1E-06                            | 4.5E-06 | 3.9E-06            | 3.5E-06 | 1.1E-05                     | 2.1E-05 |
| Nickel                                       |            | 2.4E-05                            | 1.1E-04 | 9.1E-05            | 7.7E-05 | 3.1E-04                     | 4.2E-04 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 9.9E-07                            | 8.1E-06 | 4.9E-06            | 7.2E-06 | 1.6E-05                     | 2.2E-05 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 4.5E-06 | 5.9E-06            | 2.6E-06 | 1.6E-05                     | 3.0E-05 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.7E-06                            | 2.2E-05 | 3.0E-05            | 9.5E-06 | 8.5E-05                     | 1.4E-04 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-20. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 11<16 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 3.5E-04                            | 3.0E-03 | 2.1E-03            | 2.7E-03 | 5.4E-03                     | 1.1E-02 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 7.0E-07 | 2.8E-06            | 0.0E+00 | 2.6E-06                     | 1.6E-05 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 1.6E-06                            | 8.0E-06 | 6.6E-06            | 5.7E-06 | 2.2E-05                     | 2.4E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 7.2E-06                            | 2.4E-05 | 1.4E-05            | 1.9E-05 | 4.9E-05                     | 5.4E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 1.1E-06                            | 1.6E-05 | 1.0E-05            | 1.5E-05 | 3.3E-05                     | 4.5E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 5.6E-07 | 5.1E-07            | 3.9E-07 | 1.7E-06                     | 2.1E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 4.5E-07 | 1.3E-06            | 0.0E+00 | 4.1E-06                     | 4.8E-06 |
| Boron  |            | 0.0E+00                            | 2.3E-07 | 2.6E-07            | 1.0E-07 | 6.7E-07                     | 9.0E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 4.9E-09 | 2.9E-08            | 0.0E+00 | 0.0E+00                     | 1.7E-07 |
| Chrysene                                     | 218-01-9   | 1.1E-05                            | 4.4E-05 | 2.3E-05            | 4.4E-05 | 7.5E-05                     | 1.2E-04 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 6.0E-06 | 1.7E-05            | 0.0E+00 | 2.5E-05                     | 9.4E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 1.7E-06                            | 9.4E-06 | 8.7E-06            | 8.1E-06 | 2.5E-05                     | 4.4E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 2.1E-07 | 1.7E-07            | 2.0E-07 | 4.8E-07                     | 5.7E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 9.4E-09 | 3.2E-08            | 0.0E+00 | 8.4E-08                     | 1.5E-07 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 1.6E-06 | 2.9E-06            | 0.0E+00 | 6.9E-06                     | 1.1E-05 |
| Methyl stearate                              | 112-61-8   | 9.0E-08                            | 3.6E-07 | 3.2E-07            | 2.8E-07 | 8.6E-07                     | 1.7E-06 |
| Nickel                                       |            | 1.9E-06                            | 8.9E-06 | 7.3E-06            | 6.2E-06 | 2.5E-05                     | 3.4E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 8.0E-08                            | 6.5E-07 | 3.9E-07            | 5.8E-07 | 1.3E-06                     | 1.8E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 3.7E-07 | 4.8E-07            | 2.1E-07 | 1.3E-06                     | 2.4E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 1.3E-07                            | 1.7E-06 | 2.4E-06            | 7.7E-07 | 6.8E-06                     | 1.1E-05 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-21. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 16<30 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 2.0E-04                            | 1.7E-03 | 1.2E-03            | 1.5E-03 | 3.0E-03                     | 6.5E-03 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 4.0E-07 | 1.6E-06            | 0.0E+00 | 1.5E-06                     | 9.0E-06 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 9.0E-07                            | 4.6E-06 | 3.8E-06            | 3.3E-06 | 1.3E-05                     | 1.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 4.1E-06                            | 1.4E-05 | 8.1E-06            | 1.1E-05 | 2.8E-05                     | 3.1E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.4E-07                            | 9.3E-06 | 5.8E-06            | 8.3E-06 | 1.9E-05                     | 2.6E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 3.2E-07 | 2.9E-07            | 2.2E-07 | 9.5E-07                     | 1.2E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.5E-07 | 7.4E-07            | 0.0E+00 | 2.3E-06                     | 2.7E-06 |
| Boron  |            | 0.0E+00                            | 1.3E-07 | 1.5E-07            | 5.9E-08 | 3.8E-07                     | 5.1E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.8E-09 | 1.6E-08            | 0.0E+00 | 0.0E+00                     | 9.7E-08 |
| Chrysene                                     | 218-01-9   | 6.3E-06                            | 2.5E-05 | 1.3E-05            | 2.5E-05 | 4.3E-05                     | 6.8E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.4E-06 | 9.8E-06            | 0.0E+00 | 1.4E-05                     | 5.3E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 9.4E-07                            | 5.3E-06 | 4.9E-06            | 4.6E-06 | 1.4E-05                     | 2.5E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.2E-07 | 9.7E-08            | 1.1E-07 | 2.7E-07                     | 3.3E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 5.4E-09 | 1.8E-08            | 0.0E+00 | 4.8E-08                     | 8.5E-08 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 9.3E-07 | 1.6E-06            | 0.0E+00 | 3.9E-06                     | 6.4E-06 |
| Methyl stearate                              | 112-61-8   | 5.1E-08                            | 2.1E-07 | 1.8E-07            | 1.6E-07 | 4.9E-07                     | 9.8E-07 |
| Nickel                                       |            | 1.1E-06                            | 5.1E-06 | 4.2E-06            | 3.5E-06 | 1.4E-05                     | 2.0E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.5E-08                            | 3.7E-07 | 2.2E-07            | 3.3E-07 | 7.5E-07                     | 1.0E-06 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 2.1E-07 | 2.7E-07            | 1.2E-07 | 7.1E-07                     | 1.4E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 7.6E-08                            | 9.9E-07 | 1.4E-06            | 4.4E-07 | 3.9E-06                     | 6.2E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-22. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 30<40 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.9E-04                            | 1.6E-03 | 1.1E-03            | 1.4E-03 | 2.9E-03                     | 6.1E-03 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 3.8E-07 | 1.5E-06            | 0.0E+00 | 1.4E-06                     | 8.5E-06 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 8.5E-07                            | 4.3E-06 | 3.6E-06            | 3.1E-06 | 1.2E-05                     | 1.3E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 3.9E-06                            | 1.3E-05 | 7.7E-06            | 1.0E-05 | 2.7E-05                     | 2.9E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 6.0E-07                            | 8.8E-06 | 5.5E-06            | 7.9E-06 | 1.8E-05                     | 2.4E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 3.0E-07 | 2.8E-07            | 2.1E-07 | 9.0E-07                     | 1.1E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.4E-07 | 7.0E-07            | 0.0E+00 | 2.2E-06                     | 2.6E-06 |
| Boron  |            | 0.0E+00                            | 1.2E-07 | 1.4E-07            | 5.5E-08 | 3.6E-07                     | 4.8E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.6E-09 | 1.6E-08            | 0.0E+00 | 0.0E+00                     | 9.2E-08 |
| Chrysene                                     | 218-01-9   | 5.9E-06                            | 2.3E-05 | 1.2E-05            | 2.3E-05 | 4.0E-05                     | 6.4E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.2E-06 | 9.3E-06            | 0.0E+00 | 1.4E-05                     | 5.0E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 8.9E-07                            | 5.0E-06 | 4.7E-06            | 4.4E-06 | 1.3E-05                     | 2.4E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.1E-07 | 9.2E-08            | 1.1E-07 | 2.6E-07                     | 3.1E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 5.1E-09 | 1.7E-08            | 0.0E+00 | 4.5E-08                     | 8.0E-08 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 8.8E-07 | 1.5E-06            | 0.0E+00 | 3.7E-06                     | 6.0E-06 |
| Methyl stearate                              | 112-61-8   | 4.9E-08                            | 1.9E-07 | 1.7E-07            | 1.5E-07 | 4.6E-07                     | 9.2E-07 |
| Nickel                                       |            | 1.0E-06                            | 4.8E-06 | 3.9E-06            | 3.3E-06 | 1.3E-05                     | 1.8E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.3E-08                            | 3.5E-07 | 2.1E-07            | 3.1E-07 | 7.1E-07                     | 9.5E-07 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 2.0E-07 | 2.6E-07            | 1.1E-07 | 6.8E-07                     | 1.3E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 7.2E-08                            | 9.4E-07 | 1.3E-06            | 4.1E-07 | 3.7E-06                     | 5.9E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-23. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 40<50 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.8E-04                            | 1.5E-03 | 1.1E-03            | 1.4E-03 | 2.7E-03                     | 5.8E-03 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 3.6E-07 | 1.4E-06            | 0.0E+00 | 1.3E-06                     | 8.1E-06 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 8.0E-07                            | 4.1E-06 | 3.4E-06            | 2.9E-06 | 1.1E-05                     | 1.2E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 3.7E-06                            | 1.2E-05 | 7.3E-06            | 9.5E-06 | 2.5E-05                     | 2.7E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.7E-07                            | 8.3E-06 | 5.2E-06            | 7.4E-06 | 1.7E-05                     | 2.3E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.9E-07 | 2.6E-07            | 2.0E-07 | 8.5E-07                     | 1.0E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.3E-07 | 6.6E-07            | 0.0E+00 | 2.1E-06                     | 2.4E-06 |
| Boron  |            | 0.0E+00                            | 1.2E-07 | 1.3E-07            | 5.2E-08 | 3.4E-07                     | 4.6E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.5E-09 | 1.5E-08            | 0.0E+00 | 0.0E+00                     | 8.7E-08 |
| Chrysene                                     | 218-01-9   | 5.6E-06                            | 2.2E-05 | 1.2E-05            | 2.2E-05 | 3.8E-05                     | 6.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.0E-06 | 8.8E-06            | 0.0E+00 | 1.3E-05                     | 4.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 8.4E-07                            | 4.8E-06 | 4.4E-06            | 4.1E-06 | 1.3E-05                     | 2.2E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.1E-07 | 8.7E-08            | 1.0E-07 | 2.4E-07                     | 2.9E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 4.8E-09 | 1.6E-08            | 0.0E+00 | 4.3E-08                     | 7.6E-08 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 8.3E-07 | 1.5E-06            | 0.0E+00 | 3.5E-06                     | 5.7E-06 |
| Methyl stearate                              | 112-61-8   | 4.6E-08                            | 1.8E-07 | 1.6E-07            | 1.4E-07 | 4.4E-07                     | 8.7E-07 |
| Nickel                                       |            | 9.7E-07                            | 4.5E-06 | 3.7E-06            | 3.2E-06 | 1.3E-05                     | 1.7E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.1E-08                            | 3.3E-07 | 2.0E-07            | 3.0E-07 | 6.7E-07                     | 9.0E-07 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.9E-07 | 2.4E-07            | 1.1E-07 | 6.4E-07                     | 1.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 6.8E-08                            | 8.9E-07 | 1.2E-06            | 3.9E-07 | 3.5E-06                     | 5.6E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

Table G-24. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for Individual **Field-Related DARTs** (One-Day HQ<sub>der-DART-sum-field</sub>, unitless)— Combined Gender **Spectators 50<70 years**

| Chemical                           | CASRN   | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|------------------------------------|---------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                    |         | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Arsenic                            |         | 1.8E-04                            | 1.5E-03 | 1.1E-03            | 1.4E-03 | 2.7E-03                     | 5.8E-03 |
| 1,4-Benzenediamine, N,N'-diphenyl- | 74-31-7 | 0.0E+00                            | 3.6E-07 | 1.4E-06            | 0.0E+00 | 1.3E-06                     | 8.1E-06 |



| Chemical                                     | CASRN      | OneDayHQ <sub>ing-DART-field</sub> |         |                    |         |                             |         |
|--|------------|------------------------------------|---------|--------------------|---------|-----------------------------|---------|
|  |            | Minimum                            | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Benzo[a]pyrene                               | 50-32-8    | 8.1E-07                            | 4.1E-06 | 3.4E-06            | 2.9E-06 | 1.1E-05                     | 1.2E-05 |
| Benzo[e]pyrene                               | 192-97-2   | 3.7E-06                            | 1.2E-05 | 7.3E-06            | 9.6E-06 | 2.5E-05                     | 2.8E-05 |
| Benzo[g,h,i]perylene                         | 191-24-2   | 5.7E-07                            | 8.4E-06 | 5.2E-06            | 7.5E-06 | 1.7E-05                     | 2.3E-05 |
| Bis(2-Ethylhexyl)adipate                     | 103-23-1   | 0.0E+00                            | 2.9E-07 | 2.6E-07            | 2.0E-07 | 8.6E-07                     | 1.1E-06 |
| Bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate | 52829-07-9 | 0.0E+00                            | 2.3E-07 | 6.6E-07            | 0.0E+00 | 2.1E-06                     | 2.4E-06 |
| Boron  |            | 0.0E+00                            | 1.2E-07 | 1.3E-07            | 5.3E-08 | 3.4E-07                     | 4.6E-07 |
| n-Caproic acid vinyl ester                   | 3050-69-9  | 0.0E+00                            | 2.5E-09 | 1.5E-08            | 0.0E+00 | 0.0E+00                     | 8.7E-08 |
| Chrysene                                     | 218-01-9   | 5.6E-06                            | 2.2E-05 | 1.2E-05            | 2.2E-05 | 3.8E-05                     | 6.1E-05 |
| Coronene                                     | 191-07-1   | 0.0E+00                            | 3.1E-06 | 8.8E-06            | 0.0E+00 | 1.3E-05                     | 4.8E-05 |
| Cyclopenta[cd]pyrene                         | 27208-37-3 | 8.4E-07                            | 4.8E-06 | 4.4E-06            | 4.1E-06 | 1.3E-05                     | 2.3E-05 |
| Dicyclohexylamine                            | 101-83-7   | 0.0E+00                            | 1.1E-07 | 8.7E-08            | 1.0E-07 | 2.4E-07                     | 2.9E-07 |
| Dimethyl phthalate                           | 131-11-3   | 0.0E+00                            | 4.8E-09 | 1.6E-08            | 0.0E+00 | 4.3E-08                     | 7.6E-08 |
| Indeno[1,2,3-cd]pyrene                       | 193-39-5   | 0.0E+00                            | 8.4E-07 | 1.5E-06            | 0.0E+00 | 3.5E-06                     | 5.7E-06 |
| Methyl stearate                              | 112-61-8   | 4.6E-08                            | 1.8E-07 | 1.6E-07            | 1.4E-07 | 4.4E-07                     | 8.8E-07 |
| Nickel                                       |            | 9.7E-07                            | 4.5E-06 | 3.7E-06            | 3.2E-06 | 1.3E-05                     | 1.8E-05 |
| Phenol, 2,4-bis(1-methyl-1-phenylethyl)-     | 2772-45-4  | 4.1E-08                            | 3.3E-07 | 2.0E-07            | 3.0E-07 | 6.7E-07                     | 9.0E-07 |
| Phenol, 4-(1-phenylethyl)-                   | 1988-89-2  | 0.0E+00                            | 1.9E-07 | 2.4E-07            | 1.1E-07 | 6.4E-07                     | 1.2E-06 |
| 4-tert-Octylphenol                           | 140-66-9   | 6.8E-08                            | 8.9E-07 | 1.2E-06            | 3.9E-07 | 3.5E-06                     | 5.6E-06 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>ing-DART-field</sub> are included in this table.

### **INDIVIDUAL FIELD ASSESSMENT (Table G-123)**

Table G-25. Field-Specific<sup>a</sup> One-Day Ingestion Route Total Hazard Quotients for **Field-Related DARTs** (One-Day HQ<sub>ing-DART-sum-field</sub>, unitless)—Combined Gender

| Receptor Category and Age Group | One-Day HQ <sub>ing-DART-sum-field</sub> |         |                    |         |                             |         |
|---------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 6.1E-03                                  | 4.5E-02 | 3.1E-02            | 4.1E-02 | 8.1E-02                     | 1.7E-01 |
| Athletes 6<11 years             | 3.9E-03                                  | 2.9E-02 | 2.0E-02            | 2.6E-02 | 5.1E-02                     | 1.1E-01 |



| Receptor Category and Age Group  | One-Day HQ <sub>ing-DART-sum-field</sub> |         |                    |         |                             |         |
|----------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                                  | Minimum                                  | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 11<16 years             | 2.5E-03                                  | 1.8E-02 | 1.2E-02            | 1.7E-02 | 3.3E-02                     | 6.9E-02 |
| Athletes 16<30 years             | 2.0E-03                                  | 1.5E-02 | 9.9E-03            | 1.3E-02 | 2.6E-02                     | 5.5E-02 |
| Athletes 30<40 years             | 1.7E-03                                  | 1.3E-02 | 8.5E-03            | 1.1E-02 | 2.2E-02                     | 4.7E-02 |
| Athletes 40<50 years             | 1.7E-03                                  | 1.2E-02 | 8.4E-03            | 1.1E-02 | 2.2E-02                     | 4.6E-02 |
| Athletes 50<70 years             | 1.7E-03                                  | 1.2E-02 | 8.4E-03            | 1.1E-02 | 2.2E-02                     | 4.6E-02 |
| Coaches 16<30 years              | 5.7E-04                                  | 4.3E-03 | 2.9E-03            | 3.8E-03 | 7.6E-03                     | 1.6E-02 |
| Coaches 30<40 years              | 5.4E-04                                  | 4.0E-03 | 2.7E-03            | 3.6E-03 | 7.1E-03                     | 1.5E-02 |
| Coaches 40<50 years              | 5.3E-04                                  | 3.9E-03 | 2.7E-03            | 3.5E-03 | 7.0E-03                     | 1.5E-02 |
| Coaches 50<70 years              | 5.3E-04                                  | 3.9E-03 | 2.7E-03            | 3.5E-03 | 7.0E-03                     | 1.5E-02 |
| Referees 16<30 years             | 5.7E-04                                  | 4.3E-03 | 2.9E-03            | 3.8E-03 | 7.6E-03                     | 1.6E-02 |
| Referees 30<40 years             | 5.4E-04                                  | 4.0E-03 | 2.7E-03            | 3.6E-03 | 7.1E-03                     | 1.5E-02 |
| Referees 40<50 years             | 5.3E-04                                  | 3.9E-03 | 2.7E-03            | 3.5E-03 | 7.0E-03                     | 1.5E-02 |
| Referees 50<70 years             | 5.3E-04                                  | 3.9E-03 | 2.7E-03            | 3.5E-03 | 7.0E-03                     | 1.5E-02 |
| Spectators Third trimester fetus | 2.3E-04                                  | 1.7E-03 | 1.2E-03            | 1.5E-03 | 3.1E-03                     | 6.4E-03 |
| Spectators 0<2 years             | 1.5E-02                                  | 1.2E-01 | 7.8E-02            | 1.0E-01 | 2.1E-01                     | 4.3E-01 |
| Spectators 2<6 years             | 7.3E-03                                  | 5.5E-02 | 3.7E-02            | 4.9E-02 | 9.7E-02                     | 2.0E-01 |
| Spectators 6<11 years            | 5.2E-03                                  | 3.8E-02 | 2.6E-02            | 3.5E-02 | 6.8E-02                     | 1.4E-01 |
| Spectators 11<16 years           | 4.2E-04                                  | 3.1E-03 | 2.1E-03            | 2.8E-03 | 5.5E-03                     | 1.2E-02 |
| Spectators 16<30 years           | 2.4E-04                                  | 1.8E-03 | 1.2E-03            | 1.6E-03 | 3.1E-03                     | 6.6E-03 |
| Spectators 30<40 years           | 2.2E-04                                  | 1.7E-03 | 1.1E-03            | 1.5E-03 | 3.0E-03                     | 6.2E-03 |
| Spectators 40<50 years           | 2.1E-04                                  | 1.6E-03 | 1.1E-03            | 1.4E-03 | 2.8E-03                     | 5.9E-03 |
| Spectators 50<70 years           | 2.1E-04                                  | 1.6E-03 | 1.1E-03            | 1.4E-03 | 2.8E-03                     | 5.9E-03 |

<sup>a</sup> 35 field-specific One-Day HQ<sub>der-DART-sum-field</sub> are included in this table.



### G.2.8. Chronic Ingestion Hazard Quotient for General Chemicals (Chronic HQ<sub>ing</sub>)

Table G-1. Chronic Ingestion Hazard Quotient for Individual Chemical (Chronic HQ<sub>ing</sub>, unitless), Chronic Ingestion Route Total Hazard Quotients (Chronic HQ<sub>ing-sum</sub>, unitless) and Chronic Ingestion HI for **Field-Related General Chemicals**—Combined Gender Athletes

| Chemical   | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |            |             |             |             |             |             |
|--|--------------------|---------------------------|------------|-------------|-------------|-------------|-------------|-------------|
|  |                    | 2<6 years                 | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8           | 2.4E-08                   | 1.6E-08    | 1.3E-08     | 1.4E-08     | 9.4E-09     | 8.0E-09     | 8.1E-09     |
| Aluminum   |                    | 5.7E-03                   | 3.8E-03    | 3.0E-03     | 3.3E-03     | 2.2E-03     | 1.9E-03     | 1.9E-03     |
| Aniline  | 62-53-3            | 1.2E-06                   | 7.8E-07    | 6.1E-07     | 6.7E-07     | 4.5E-07     | 3.8E-07     | 3.9E-07     |
| Anthracene   | 120-12-7           | 1.3E-08                   | 8.6E-09    | 6.7E-09     | 7.4E-09     | 4.9E-09     | 4.2E-09     | 4.3E-09     |
| Anthracene, 2-methyl-                                | 613-12-7           | 5.1E-08                   | 3.4E-08    | 2.7E-08     | 3.0E-08     | 2.0E-08     | 1.7E-08     | 1.7E-08     |
| Anthracene, 9,10-dimethyl                            | 781-43-1           | 4.1E-10                   | 2.8E-10    | 2.1E-10     | 2.4E-10     | 1.6E-10     | 1.4E-10     | 1.4E-10     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1          | 3.2E-09                   | 2.1E-09    | 1.7E-09     | 1.8E-09     | 1.2E-09     | 1.0E-09     | 1.1E-09     |
| Anthracene, 9-phenyl                                 | 602-55-1           | 4.9E-09                   | 3.2E-09    | 2.5E-09     | 2.8E-09     | 1.9E-09     | 1.6E-09     | 1.6E-09     |
| Antimony   |                    | 8.0E-04                   | 5.3E-04    | 4.1E-04     | 4.6E-04     | 3.1E-04     | 2.6E-04     | 2.7E-04     |
| Barium   |                    | 1.0E-04                   | 6.8E-05    | 5.2E-05     | 5.8E-05     | 3.9E-05     | 3.3E-05     | 3.4E-05     |
| Benzene, n-butyl-                                    | 104-51-8           | 1.6E-08                   | 1.1E-08    | 8.5E-09     | 9.5E-09     | 6.3E-09     | 5.3E-09     | 5.5E-09     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8           | 7.5E-05                   | 5.0E-05    | 3.9E-05     | 4.3E-05     | 2.9E-05     | 2.4E-05     | 2.5E-05     |
| Benz[a]anthracene                                    | 56-55-3            | 4.5E-08                   | 3.0E-08    | 2.3E-08     | 2.6E-08     | 1.7E-08     | 1.5E-08     | 1.5E-08     |
| Benzo[b]fluoranthene                                 | 205-99-2           | 4.6E-07                   | 3.1E-07    | 2.4E-07     | 2.7E-07     | 1.8E-07     | 1.5E-07     | 1.5E-07     |
| 7H-Benzo[c]fluorene                                  | 205-12-9           | 8.9E-08                   | 6.0E-08    | 4.6E-08     | 5.1E-08     | 3.4E-08     | 2.9E-08     | 3.0E-08     |
| Benzo[k]fluoranthene                                 | 207-08-9           | 1.5E-07                   | 1.0E-07    | 7.8E-08     | 8.6E-08     | 5.8E-08     | 4.9E-08     | 5.0E-08     |
| Benzothiazole  | 95-16-9            | 4.6E-03                   | 3.0E-03    | 2.4E-03     | 2.6E-03     | 1.8E-03     | 1.5E-03     | 1.5E-03     |
| Benzothiazole, 2-phenyl-                             | 883-93-2           | 4.9E-04                   | 3.3E-04    | 2.5E-04     | 2.8E-04     | 1.9E-04     | 1.6E-04     | 1.6E-04     |
| Benzothiazolone                                      | 934-34-9           | 1.2E-02                   | 7.8E-03    | 6.0E-03     | 6.7E-03     | 4.5E-03     | 3.8E-03     | 3.9E-03     |
| Benzyl butyl phthalate                               | 85-68-7            | 5.8E-07                   | 3.9E-07    | 3.0E-07     | 3.4E-07     | 2.2E-07     | 1.9E-07     | 1.9E-07     |
| Beryllium  |                    | 1.5E-06                   | 9.8E-07    | 7.6E-07     | 8.4E-07     | 5.6E-07     | 4.8E-07     | 4.9E-07     |
| Butylated Hydroxytoluene                             | 128-37-0           | 1.0E-08                   | 6.9E-09    | 5.4E-09     | 6.0E-09     | 4.0E-09     | 3.4E-09     | 3.5E-09     |



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| Chemical                                | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |               |                |                |                |                |                |
|---|--------------------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|   |                    | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Cadmium                                 |                    | 1.3E-03                   | 8.8E-04       | 6.8E-04        | 7.6E-04        | 5.1E-04        | 4.3E-04        | 4.4E-04        |
| Chromium                                |                    | 1.1E-03                   | 7.4E-04       | 5.7E-04        | 6.4E-04        | 4.2E-04        | 3.6E-04        | 3.7E-04        |
| Cobalt                                  |                    | 1.7E-02                   | 1.1E-02       | 8.7E-03        | 9.7E-03        | 6.4E-03        | 5.5E-03        | 5.6E-03        |
| Copper                                  |                    | 7.0E-05                   | 4.7E-05       | 3.6E-05        | 4.0E-05        | 2.7E-05        | 2.3E-05        | 2.3E-05        |
| Cyclohexyl isothiocyanate               | 1122-82-3          | 3.6E-03                   | 2.4E-03       | 1.9E-03        | 2.1E-03        | 1.4E-03        | 1.2E-03        | 1.2E-03        |
| Dibenz[a,h]anthracene                   | 53-70-3            | 2.7E-09                   | 1.8E-09       | 1.4E-09        | 1.5E-09        | 1.0E-09        | 8.7E-10        | 8.8E-10        |
| Dibenzothiophene                        | 132-65-0           | 3.1E-07                   | 2.1E-07       | 1.6E-07        | 1.8E-07        | 1.2E-07        | 1.0E-07        | 1.0E-07        |
| Dibutyl phthalate                       | 84-74-2            | 2.2E-06                   | 1.5E-06       | 1.1E-06        | 1.3E-06        | 8.5E-07        | 7.2E-07        | 7.4E-07        |
| Diethyl Phthalate                       | 84-66-2            | 2.3E-08                   | 1.6E-08       | 1.2E-08        | 1.3E-08        | 9.0E-09        | 7.6E-09        | 7.7E-09        |
| Diisobutyl Phthalate                    | 84-69-5            | 2.2E-06                   | 1.5E-06       | 1.1E-06        | 1.3E-06        | 8.5E-07        | 7.2E-07        | 7.4E-07        |
| Diisooctylphthalate                     | 27554-26-3         | 4.7E-05                   | 3.1E-05       | 2.4E-05        | 2.7E-05        | 1.8E-05        | 1.5E-05        | 1.6E-05        |
| Di-n-octyl phthalate                    | 117-84-0           | 4.6E-06                   | 3.1E-06       | 2.4E-06        | 2.7E-06        | 1.8E-06        | 1.5E-06        | 1.5E-06        |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7          | 1.9E-07                   | 1.3E-07       | 9.9E-08        | 1.1E-07        | 7.4E-08        | 6.2E-08        | 6.4E-08        |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0          | 2.7E-07                   | 1.8E-07       | 1.4E-07        | 1.6E-07        | 1.1E-07        | 8.9E-08        | 9.1E-08        |
| Fluoranthene                            | 206-44-0           | 2.6E-06                   | 1.7E-06       | 1.3E-06        | 1.5E-06        | 1.0E-06        | 8.5E-07        | 8.7E-07        |
| Fluorene                                | 86-73-7            | 3.4E-08                   | 2.3E-08       | 1.8E-08        | 2.0E-08        | 1.3E-08        | 1.1E-08        | 1.1E-08        |
| Hexadecane                              | 544-76-3           | 3.3E-05                   | 2.2E-05       | 1.7E-05        | 1.9E-05        | 1.3E-05        | 1.1E-05        | 1.1E-05        |
| 1-Hydroxypyrene                         | 5315-79-7          | 1.8E-07                   | 1.2E-07       | 9.2E-08        | 1.0E-07        | 6.8E-08        | 5.8E-08        | 5.9E-08        |
| Lead <sup>b</sup>                       |                    | 4.6E-02                   | 3.1E-02       | 2.4E-02        | 2.7E-02        | 1.8E-02        | 1.5E-02        | 1.5E-02        |
| Manganese                               |                    | 3.3E-05                   | 2.2E-05       | 1.7E-05        | 1.9E-05        | 1.3E-05        | 1.1E-05        | 1.1E-05        |
| 2-(Methylthio)benzothiazole             | 615-22-5           | 1.7E-05                   | 1.2E-05       | 9.0E-06        | 1.0E-05        | 6.7E-06        | 5.7E-06        | 5.8E-06        |
| Molybdenum                              |                    | 1.7E-06                   | 1.1E-06       | 8.8E-07        | 9.8E-07        | 6.5E-07        | 5.5E-07        | 5.6E-07        |
| Naphthalene                             | 91-20-3            | 1.2E-08                   | 8.1E-09       | 6.3E-09        | 7.0E-09        | 4.7E-09        | 4.0E-09        | 4.1E-09        |
| Naphthalene, 1-methyl-                  | 90-12-0            | 9.0E-08                   | 6.0E-08       | 4.7E-08        | 5.2E-08        | 3.5E-08        | 2.9E-08        | 3.0E-08        |
| Naphthalene, 1,2-dimethyl-              | 573-98-8           | 7.4E-09                   | 4.9E-09       | 3.8E-09        | 4.2E-09        | 2.8E-09        | 2.4E-09        | 2.4E-09        |



| Chemical                                    | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |               |                |                |                |                |                |
|---|--------------------|---------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|   |                    | 2<6<br>years              | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Naphthalene, 1,6-dimethyl-                  | 575-43-9           | 4.8E-08                   | 3.2E-08       | 2.5E-08        | 2.8E-08        | 1.9E-08        | 1.6E-08        | 1.6E-08        |
| Naphthalene, 2-(bromomethyl)-               | 939-26-4           | 1.3E-06                   | 8.5E-07       | 6.6E-07        | 7.4E-07        | 4.9E-07        | 4.2E-07        | 4.2E-07        |
| Naphthalene, 2,3-dimethyl-                  | 581-40-8           | 3.8E-07                   | 2.5E-07       | 1.9E-07        | 2.2E-07        | 1.4E-07        | 1.2E-07        | 1.2E-07        |
| Naphthalene, 2-methyl                       | 91-57-6            | 1.4E-07                   | 9.5E-08       | 7.4E-08        | 8.2E-08        | 5.5E-08        | 4.6E-08        | 4.7E-08        |
| 1-Octadecene                                | 112-88-9           | 7.2E-05                   | 4.8E-05       | 3.7E-05        | 4.2E-05        | 2.8E-05        | 2.4E-05        | 2.4E-05        |
| 17-Pentatriacontene                         | 6971-40-0          | 9.2E-09                   | 6.2E-09       | 4.8E-09        | 5.3E-09        | 3.5E-09        | 3.0E-09        | 3.1E-09        |
| Phenanthrene                                | 85-01-8            | 1.5E-07                   | 1.0E-07       | 7.9E-08        | 8.8E-08        | 5.9E-08        | 5.0E-08        | 5.1E-08        |
| Phenanthrene, 1-methyl                      | 832-69-9           | 4.1E-08                   | 2.7E-08       | 2.1E-08        | 2.3E-08        | 1.6E-08        | 1.3E-08        | 1.3E-08        |
| Phenanthrene, 2-methyl-                     | 2531-84-2          | 5.2E-08                   | 3.5E-08       | 2.7E-08        | 3.0E-08        | 2.0E-08        | 1.7E-08        | 1.7E-08        |
| Phenanthrene, 3-methyl                      | 832-71-3           | 8.7E-08                   | 5.8E-08       | 4.5E-08        | 5.0E-08        | 3.3E-08        | 2.8E-08        | 2.9E-08        |
| N-Phenylbenzamide                           | 93-98-1            | 1.5E-05                   | 9.7E-06       | 7.5E-06        | 8.4E-06        | 5.6E-06        | 4.7E-06        | 4.8E-06        |
| Phthalimide                                 | 85-41-6            | 1.8E-07                   | 1.2E-07       | 9.5E-08        | 1.1E-07        | 7.1E-08        | 6.0E-08        | 6.1E-08        |
| Pyrene                                      | 129-00-0           | 7.3E-06                   | 4.9E-06       | 3.8E-06        | 4.2E-06        | 2.8E-06        | 2.4E-06        | 2.4E-06        |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5          | 4.7E-07                   | 3.1E-07       | 2.4E-07        | 2.7E-07        | 1.8E-07        | 1.5E-07        | 1.6E-07        |
| Selenium                                    |                    | 5.6E-06                   | 3.7E-06       | 2.9E-06        | 3.2E-06        | 2.1E-06        | 1.8E-06        | 1.8E-06        |
| Strontium                                   |                    | 6.6E-06                   | 4.4E-06       | 3.4E-06        | 3.8E-06        | 2.5E-06        | 2.1E-06        | 2.2E-06        |
| Thallium                                    |                    | 1.1E-04                   | 7.4E-05       | 5.7E-05        | 6.4E-05        | 4.2E-05        | 3.6E-05        | 3.7E-05        |
| Tin   |                    | 1.4E-06                   | 9.6E-07       | 7.5E-07        | 8.3E-07        | 5.5E-07        | 4.7E-07        | 4.8E-07        |
| Triethylene glycol monobutyl ether          | 143-22-6           | 5.4E-08                   | 3.6E-08       | 2.8E-08        | 3.1E-08        | 2.1E-08        | 1.7E-08        | 1.8E-08        |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8           | 9.3E-07                   | 6.2E-07       | 4.8E-07        | 5.4E-07        | 3.6E-07        | 3.0E-07        | 3.1E-07        |
| Vanadium                                    |                    | 3.2E-04                   | 2.1E-04       | 1.7E-04        | 1.9E-04        | 1.2E-04        | 1.0E-04        | 1.1E-04        |
| Zinc  |                    | 3.2E-03                   | 2.2E-03       | 1.7E-03        | 1.9E-03        | 1.2E-03        | 1.1E-03        | 1.1E-03        |
| Field-Related Chronic HQ <sub>ing-sum</sub> |                    | 9.7E-02                   | 6.4E-02       | 5.0E-02        | 5.6E-02        | 3.7E-02        | 3.1E-02        | 3.2E-02        |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not speciate these chemicals.

<sup>b</sup> Lead is included in Chronic HQ<sub>ing</sub> calculation (see Section G.2.2 for details).



Table G-2. Chronic Ingestion Hazard Quotient for Individual Chemical (Chronic  $HQ_{ing}$ , unitless), Chronic Ingestion Route Total Hazard Quotients (Chronic  $HQ_{ing-sum}$ , unitless) for **Field-Related General Chemicals**—Combined Gender **Coaches**

| Chemical   | CASRN <sup>a</sup> | Chronic $HQ_{ing}$ |                |                |                |
|--|--------------------|--------------------|----------------|----------------|----------------|
|  |                    | 16<30<br>years     | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Acenaphthylene                                       | 208-96-8           | 3.6E-09            | 3.3E-09        | 3.3E-09        | 3.3E-09        |
| Aluminum   |                    | 8.3E-04            | 7.8E-04        | 7.7E-04        | 7.7E-04        |
| Aniline  | 62-53-3            | 1.7E-07            | 1.6E-07        | 1.6E-07        | 1.6E-07        |
| Anthracene   | 120-12-7           | 1.9E-09            | 1.8E-09        | 1.7E-09        | 1.7E-09        |
| Anthracene, 2-methyl-                                | 613-12-7           | 7.4E-09            | 7.0E-09        | 6.8E-09        | 6.9E-09        |
| Anthracene, 9,10-dimethyl                            | 781-43-1           | 6.0E-11            | 5.7E-11        | 5.5E-11        | 5.6E-11        |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1          | 4.7E-10            | 4.4E-10        | 4.3E-10        | 4.3E-10        |
| Anthracene, 9-phenyl                                 | 602-55-1           | 7.1E-10            | 6.6E-10        | 6.5E-10        | 6.5E-10        |
| Antimony   |                    | 1.2E-04            | 1.1E-04        | 1.1E-04        | 1.1E-04        |
| Barium   |                    | 1.5E-05            | 1.4E-05        | 1.4E-05        | 1.4E-05        |
| Benzene, n-butyl-                                    | 104-51-8           | 2.4E-09            | 2.2E-09        | 2.2E-09        | 2.2E-09        |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8           | 1.1E-05            | 1.0E-05        | 1.0E-05        | 1.0E-05        |
| Benz[a]anthracene                                    | 56-55-3            | 6.5E-09            | 6.1E-09        | 6.0E-09        | 6.0E-09        |
| Benzo[b]fluoranthene                                 | 205-99-2           | 6.7E-08            | 6.3E-08        | 6.2E-08        | 6.2E-08        |
| 7H-Benzo[c]fluorene                                  | 205-12-9           | 1.3E-08            | 1.2E-08        | 1.2E-08        | 1.2E-08        |
| Benzo[k]fluoranthene                                 | 207-08-9           | 2.2E-08            | 2.0E-08        | 2.0E-08        | 2.0E-08        |
| Benzothiazole  | 95-16-9            | 6.6E-04            | 6.2E-04        | 6.1E-04        | 6.1E-04        |
| Benzothiazole, 2-phenyl-                             | 883-93-2           | 7.1E-05            | 6.7E-05        | 6.5E-05        | 6.6E-05        |
| Benzothiazolone                                      | 934-34-9           | 1.7E-03            | 1.6E-03        | 1.6E-03        | 1.6E-03        |
| Benzyl butyl phthalate                               | 85-68-7            | 8.5E-08            | 7.9E-08        | 7.8E-08        | 7.8E-08        |
| Beryllium  |                    | 2.1E-07            | 2.0E-07        | 2.0E-07        | 2.0E-07        |
| Butylated Hydroxytoluene                             | 128-37-0           | 1.5E-09            | 1.4E-09        | 1.4E-09        | 1.4E-09        |
| Cadmium  |                    | 1.9E-04            | 1.8E-04        | 1.8E-04        | 1.8E-04        |



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| Chemical                                | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |                |                |                |
|---|--------------------|---------------------------|----------------|----------------|----------------|
|   |                    | 16<30<br>years            | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Chromium                                |                    | 1.6E-04                   | 1.5E-04        | 1.5E-04        | 1.5E-04        |
| Cobalt                                  |                    | 2.4E-03                   | 2.3E-03        | 2.2E-03        | 2.2E-03        |
| Copper                                  |                    | 1.0E-05                   | 9.6E-06        | 9.4E-06        | 9.4E-06        |
| Cyclohexyl isothiocyanate               | 1122-82-3          | 5.3E-04                   | 5.0E-04        | 4.9E-04        | 4.9E-04        |
| Dibenz[a,h]anthracene                   | 53-70-3            | 3.9E-10                   | 3.6E-10        | 3.6E-10        | 3.6E-10        |
| Dibenzothiophene                        | 132-65-0           | 4.5E-08                   | 4.3E-08        | 4.2E-08        | 4.2E-08        |
| Dibutyl phthalate                       | 84-74-2            | 3.2E-07                   | 3.0E-07        | 3.0E-07        | 3.0E-07        |
| Diethyl Phthalate                       | 84-66-2            | 3.4E-09                   | 3.2E-09        | 3.1E-09        | 3.1E-09        |
| Diisobutyl Phthalate                    | 84-69-5            | 3.2E-07                   | 3.0E-07        | 3.0E-07        | 3.0E-07        |
| Diisooctylphthalate                     | 27554-26-3         | 6.8E-06                   | 6.4E-06        | 6.3E-06        | 6.3E-06        |
| Di-n-octyl phthalate                    | 117-84-0           | 6.7E-07                   | 6.3E-07        | 6.2E-07        | 6.2E-07        |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7          | 2.8E-08                   | 2.6E-08        | 2.6E-08        | 2.6E-08        |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0          | 4.0E-08                   | 3.7E-08        | 3.7E-08        | 3.7E-08        |
| Fluoranthene                            | 206-44-0           | 3.8E-07                   | 3.6E-07        | 3.5E-07        | 3.5E-07        |
| Fluorene                                | 86-73-7            | 4.9E-09                   | 4.6E-09        | 4.5E-09        | 4.6E-09        |
| Hexadecane                              | 544-76-3           | 4.8E-06                   | 4.5E-06        | 4.4E-06        | 4.4E-06        |
| 1-Hydroxypyrene                         | 5315-79-7          | 2.6E-08                   | 2.4E-08        | 2.4E-08        | 2.4E-08        |
| Lead <sup>b</sup>                       |                    | 6.7E-03                   | 6.3E-03        | 6.2E-03        | 6.2E-03        |
| Manganese                               |                    | 4.8E-06                   | 4.5E-06        | 4.4E-06        | 4.4E-06        |
| 2-(Methylthio)benzothiazole             | 615-22-5           | 2.5E-06                   | 2.4E-06        | 2.3E-06        | 2.3E-06        |
| Molybdenum                              |                    | 2.5E-07                   | 2.3E-07        | 2.3E-07        | 2.3E-07        |
| Naphthalene                             | 91-20-3            | 1.8E-09                   | 1.7E-09        | 1.6E-09        | 1.6E-09        |
| Naphthalene, 1-methyl-                  | 90-12-0            | 1.3E-08                   | 1.2E-08        | 1.2E-08        | 1.2E-08        |
| Naphthalene, 1,2-dimethyl-              | 573-98-8           | 1.1E-09                   | 1.0E-09        | 9.8E-10        | 9.9E-10        |
| Naphthalene, 1,6-dimethyl-              | 575-43-9           | 7.0E-09                   | 6.6E-09        | 6.5E-09        | 6.5E-09        |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4           | 1.9E-07                   | 1.7E-07        | 1.7E-07        | 1.7E-07        |



| Chemical                                    | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |                |                |                |
|---|--------------------|---------------------------|----------------|----------------|----------------|
|   |                    | 16<30<br>years            | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Naphthalene, 2,3-dimethyl-                  | 581-40-8           | 5.5E-08                   | 5.1E-08        | 5.0E-08        | 5.0E-08        |
| Naphthalene, 2-methyl                       | 91-57-6            | 2.1E-08                   | 1.9E-08        | 1.9E-08        | 1.9E-08        |
| 1-Octadecene                                | 112-88-9           | 1.1E-05                   | 9.9E-06        | 9.7E-06        | 9.7E-06        |
| 17-Pentatriacontene                         | 6971-40-0          | 1.3E-09                   | 1.3E-09        | 1.2E-09        | 1.2E-09        |
| Phenanthrene                                | 85-01-8            | 2.2E-08                   | 2.1E-08        | 2.0E-08        | 2.0E-08        |
| Phenanthrene, 1-methyl                      | 832-69-9           | 5.9E-09                   | 5.5E-09        | 5.4E-09        | 5.4E-09        |
| Phenanthrene, 2-methyl-                     | 2531-84-2          | 7.6E-09                   | 7.2E-09        | 7.0E-09        | 7.0E-09        |
| Phenanthrene, 3-methyl                      | 832-71-3           | 1.3E-08                   | 1.2E-08        | 1.2E-08        | 1.2E-08        |
| N-Phenylbenzamide                           | 93-98-1            | 2.1E-06                   | 2.0E-06        | 1.9E-06        | 1.9E-06        |
| Phthalimide                                 | 85-41-6            | 2.7E-08                   | 2.5E-08        | 2.5E-08        | 2.5E-08        |
| Pyrene                                      | 129-00-0           | 1.1E-06                   | 1.0E-06        | 9.8E-07        | 9.8E-07        |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5          | 6.8E-08                   | 6.4E-08        | 6.3E-08        | 6.3E-08        |
| Selenium                                    |                    | 8.1E-07                   | 7.6E-07        | 7.4E-07        | 7.4E-07        |
| Strontium                                   |                    | 9.5E-07                   | 9.0E-07        | 8.8E-07        | 8.8E-07        |
| Thallium                                    |                    | 1.6E-05                   | 1.5E-05        | 1.5E-05        | 1.5E-05        |
| Tin   |                    | 2.1E-07                   | 2.0E-07        | 1.9E-07        | 1.9E-07        |
| Triethylene glycol monobutyl ether          | 143-22-6           | 7.8E-09                   | 7.3E-09        | 7.2E-09        | 7.2E-09        |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8           | 1.4E-07                   | 1.3E-07        | 1.2E-07        | 1.3E-07        |
| Vanadium                                    |                    | 4.7E-05                   | 4.4E-05        | 4.3E-05        | 4.3E-05        |
| Zinc  |                    | 4.7E-04                   | 4.4E-04        | 4.3E-04        | 4.3E-04        |
| Field-Related Chronic HQ <sub>ing-sum</sub> |                    | 1.4E-02                   | 1.3E-02        | 1.3E-02        | 1.3E-02        |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not speciate these chemicals.

<sup>b</sup> Lead is included in Chronic HQ<sub>ing</sub> calculation (see Section G.2.2 for details).



Table G-3. Chronic Ingestion Hazard Quotient for Individual Chemical (Chronic HQ<sub>ing</sub>, unitless), Chronic Ingestion Route Total Hazard Quotients (Chronic HQ<sub>ing-sum</sub>, unitless) for **Field-Related General Chemicals**—Combined Gender **Referees**

| Chemical   | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |             |             |             |
|--|--------------------|---------------------------|-------------|-------------|-------------|
|  |                    | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8           | 1.6E-09                   | 1.5E-09     | 1.4E-09     | 1.4E-09     |
| Aluminum   |                    | 3.7E-04                   | 3.4E-04     | 3.4E-04     | 3.4E-04     |
| Aniline  | 62-53-3            | 7.5E-08                   | 7.0E-08     | 6.9E-08     | 6.9E-08     |
| Anthracene   | 120-12-7           | 8.2E-10                   | 7.7E-10     | 7.5E-10     | 7.6E-10     |
| Anthracene, 2-methyl-                                | 613-12-7           | 3.3E-09                   | 3.1E-09     | 3.0E-09     | 3.0E-09     |
| Anthracene, 9,10-dimethyl                            | 781-43-1           | 2.6E-11                   | 2.5E-11     | 2.4E-11     | 2.4E-11     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1          | 2.0E-10                   | 1.9E-10     | 1.9E-10     | 1.9E-10     |
| Anthracene, 9-phenyl                                 | 602-55-1           | 3.1E-10                   | 2.9E-10     | 2.8E-10     | 2.9E-10     |
| Antimony   |                    | 5.1E-05                   | 4.8E-05     | 4.7E-05     | 4.7E-05     |
| Barium   |                    | 6.5E-06                   | 6.1E-06     | 5.9E-06     | 6.0E-06     |
| Benzene, n-butyl-                                    | 104-51-8           | 1.0E-09                   | 9.8E-10     | 9.6E-10     | 9.7E-10     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8           | 4.8E-06                   | 4.5E-06     | 4.4E-06     | 4.4E-06     |
| Benz[a]anthracene                                    | 56-55-3            | 2.9E-09                   | 2.7E-09     | 2.6E-09     | 2.6E-09     |
| Benzo[b]fluoranthene                                 | 205-99-2           | 3.0E-08                   | 2.8E-08     | 2.7E-08     | 2.7E-08     |
| 7H-Benzo[c]fluorene                                  | 205-12-9           | 5.7E-09                   | 5.4E-09     | 5.2E-09     | 5.3E-09     |
| Benzo[k]fluoranthene                                 | 207-08-9           | 9.6E-09                   | 9.0E-09     | 8.8E-09     | 8.8E-09     |
| Benzothiazole  | 95-16-9            | 2.9E-04                   | 2.7E-04     | 2.7E-04     | 2.7E-04     |
| Benzothiazole, 2-phenyl-                             | 883-93-2           | 3.1E-05                   | 2.9E-05     | 2.9E-05     | 2.9E-05     |
| Benzothiazolone                                      | 934-34-9           | 7.4E-04                   | 7.0E-04     | 6.8E-04     | 6.8E-04     |
| Benzyl butyl phthalate                               | 85-68-7            | 3.7E-08                   | 3.5E-08     | 3.4E-08     | 3.4E-08     |
| Beryllium  |                    | 9.4E-08                   | 8.8E-08     | 8.6E-08     | 8.6E-08     |
| Butylated Hydroxytoluene                             | 128-37-0           | 6.6E-10                   | 6.2E-10     | 6.1E-10     | 6.1E-10     |
| Cadmium  |                    | 8.4E-05                   | 7.9E-05     | 7.8E-05     | 7.8E-05     |



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| Chemical                                | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |             |             |             |
|---|--------------------|---------------------------|-------------|-------------|-------------|
|   |                    | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Chromium                                |                    | 7.1E-05                   | 6.6E-05     | 6.5E-05     | 6.5E-05     |
| Cobalt                                  |                    | 1.1E-03                   | 1.0E-03     | 9.8E-04     | 9.9E-04     |
| Copper                                  |                    | 4.5E-06                   | 4.2E-06     | 4.1E-06     | 4.1E-06     |
| Cyclohexyl isothiocyanate               | 1122-82-3          | 2.3E-04                   | 2.2E-04     | 2.1E-04     | 2.1E-04     |
| Dibenz[a,h]anthracene                   | 53-70-3            | 1.7E-10                   | 1.6E-10     | 1.6E-10     | 1.6E-10     |
| Dibenzothiophene                        | 132-65-0           | 2.0E-08                   | 1.9E-08     | 1.8E-08     | 1.8E-08     |
| Dibutyl phthalate                       | 84-74-2            | 1.4E-07                   | 1.3E-07     | 1.3E-07     | 1.3E-07     |
| Diethyl Phthalate                       | 84-66-2            | 1.5E-09                   | 1.4E-09     | 1.4E-09     | 1.4E-09     |
| Diisobutyl Phthalate                    | 84-69-5            | 1.4E-07                   | 1.3E-07     | 1.3E-07     | 1.3E-07     |
| Diisooctylphthalate                     | 27554-26-3         | 3.0E-06                   | 2.8E-06     | 2.8E-06     | 2.8E-06     |
| Di-n-octyl phthalate                    | 117-84-0           | 3.0E-07                   | 2.8E-07     | 2.7E-07     | 2.7E-07     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7          | 1.2E-08                   | 1.1E-08     | 1.1E-08     | 1.1E-08     |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0          | 1.7E-08                   | 1.6E-08     | 1.6E-08     | 1.6E-08     |
| Fluoranthene                            | 206-44-0           | 1.7E-07                   | 1.6E-07     | 1.5E-07     | 1.5E-07     |
| Fluorene                                | 86-73-7            | 2.2E-09                   | 2.0E-09     | 2.0E-09     | 2.0E-09     |
| Hexadecane                              | 544-76-3           | 2.1E-06                   | 2.0E-06     | 1.9E-06     | 1.9E-06     |
| 1-Hydroxypyrene                         | 5315-79-7          | 1.1E-08                   | 1.1E-08     | 1.0E-08     | 1.0E-08     |
| Lead <sup>b</sup>                       |                    | 3.0E-03                   | 2.8E-03     | 2.7E-03     | 2.7E-03     |
| Manganese                               |                    | 2.1E-06                   | 2.0E-06     | 1.9E-06     | 1.9E-06     |
| 2-(Methylthio)benzothiazole             | 615-22-5           | 1.1E-06                   | 1.0E-06     | 1.0E-06     | 1.0E-06     |
| Molybdenum                              |                    | 1.1E-07                   | 1.0E-07     | 9.9E-08     | 1.0E-07     |
| Naphthalene                             | 91-20-3            | 7.8E-10                   | 7.3E-10     | 7.2E-10     | 7.2E-10     |
| Naphthalene, 1-methyl-                  | 90-12-0            | 5.7E-09                   | 5.4E-09     | 5.3E-09     | 5.3E-09     |
| Naphthalene, 1,2-dimethyl-              | 573-98-8           | 4.7E-10                   | 4.4E-10     | 4.3E-10     | 4.3E-10     |
| Naphthalene, 1,6-dimethyl-              | 575-43-9           | 3.1E-09                   | 2.9E-09     | 2.8E-09     | 2.9E-09     |
| Naphthalene, 2-(bromomethyl)-           | 939-26-4           | 8.2E-08                   | 7.7E-08     | 7.5E-08     | 7.5E-08     |



| Chemical                                    | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |             |             |             |
|---|--------------------|---------------------------|-------------|-------------|-------------|
|   |                    | 16<30 years               | 30<40 years | 40<50 years | 50<70 years |
| Naphthalene, 2,3-dimethyl-                  | 581-40-8           | 2.4E-08                   | 2.3E-08     | 2.2E-08     | 2.2E-08     |
| Naphthalene, 2-methyl                       | 91-57-6            | 9.1E-09                   | 8.6E-09     | 8.4E-09     | 8.4E-09     |
| 1-Octadecene                                | 112-88-9           | 4.6E-06                   | 4.3E-06     | 4.2E-06     | 4.3E-06     |
| 17-Pentatriacontene                         | 6971-40-0          | 5.9E-10                   | 5.5E-10     | 5.4E-10     | 5.4E-10     |
| Phenanthrene                                | 85-01-8            | 9.7E-09                   | 9.2E-09     | 9.0E-09     | 9.0E-09     |
| Phenanthrene, 1-methyl                      | 832-69-9           | 2.6E-09                   | 2.4E-09     | 2.4E-09     | 2.4E-09     |
| Phenanthrene, 2-methyl-                     | 2531-84-2          | 3.3E-09                   | 3.1E-09     | 3.1E-09     | 3.1E-09     |
| Phenanthrene, 3-methyl                      | 832-71-3           | 5.5E-09                   | 5.2E-09     | 5.1E-09     | 5.1E-09     |
| N-Phenylbenzamide                           | 93-98-1            | 9.3E-07                   | 8.7E-07     | 8.5E-07     | 8.5E-07     |
| Phthalimide                                 | 85-41-6            | 1.2E-08                   | 1.1E-08     | 1.1E-08     | 1.1E-08     |
| Pyrene                                      | 129-00-0           | 4.7E-07                   | 4.4E-07     | 4.3E-07     | 4.3E-07     |
| Pyridine, 2-(4-methylphenyl)-               | 4467-06-5          | 3.0E-08                   | 2.8E-08     | 2.8E-08     | 2.8E-08     |
| Selenium                                    |                    | 3.5E-07                   | 3.3E-07     | 3.3E-07     | 3.3E-07     |
| Strontium                                   |                    | 4.2E-07                   | 3.9E-07     | 3.9E-07     | 3.9E-07     |
| Thallium                                    |                    | 7.0E-06                   | 6.6E-06     | 6.5E-06     | 6.5E-06     |
| Tin   |                    | 9.2E-08                   | 8.7E-08     | 8.5E-08     | 8.5E-08     |
| Triethylene glycol monobutyl ether          | 143-22-6           | 3.4E-09                   | 3.2E-09     | 3.1E-09     | 3.2E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8           | 6.0E-08                   | 5.6E-08     | 5.5E-08     | 5.5E-08     |
| Vanadium                                    |                    | 2.1E-05                   | 1.9E-05     | 1.9E-05     | 1.9E-05     |
| Zinc  |                    | 2.1E-04                   | 1.9E-04     | 1.9E-04     | 1.9E-04     |
| Field-Related Chronic HQ <sub>ing-sum</sub> |                    | 6.2E-03                   | 5.8E-03     | 5.7E-03     | 5.7E-03     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not speciate these chemicals.

<sup>b</sup> Lead is included in Chronic HQ<sub>ing</sub> calculation (see Section G.2.2 for details).



Table G-4. Chronic Ingestion Hazard Quotient for Individual Chemical (Chronic HQ<sub>ing</sub>, unitless), Chronic Ingestion Route Total Hazard Quotients (Chronic HQ<sub>ing-sum</sub>, unitless) for **Field-Related General Chemicals—Combined Gender Spectators**

| Chemical   | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |           |           |            |             |             |             |             |             |
|--|--------------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|  |                    | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Acenaphthylene                                       | 208-96-8           | 1.2E-09                   | 8.6E-08   | 4.1E-08   | 2.8E-08    | 2.2E-09     | 1.3E-09     | 1.2E-09     | 1.1E-09     | 1.1E-09     |
| Aluminum   |                    | 2.9E-04                   | 2.0E-02   | 9.5E-03   | 6.7E-03    | 5.2E-04     | 3.0E-04     | 2.8E-04     | 2.7E-04     | 2.7E-04     |
| Aniline  | 62-53-3            | 5.9E-08                   | 4.1E-06   | 1.9E-06   | 1.4E-06    | 1.1E-07     | 6.1E-08     | 5.7E-08     | 5.4E-08     | 5.4E-08     |
| Anthracene   | 120-12-7           | 6.5E-10                   | 4.5E-08   | 2.1E-08   | 1.5E-08    | 1.2E-09     | 6.7E-10     | 6.3E-10     | 6.0E-10     | 6.0E-10     |
| Anthracene, 2-methyl-                                | 613-12-7           | 2.6E-09                   | 1.8E-07   | 8.5E-08   | 6.0E-08    | 4.7E-09     | 2.7E-09     | 2.5E-09     | 2.4E-09     | 2.4E-09     |
| Anthracene, 9,10-dimethyl                            | 781-43-1           | 2.1E-11                   | 1.5E-09   | 6.9E-10   | 4.8E-10    | 3.8E-11     | 2.2E-11     | 2.0E-11     | 1.9E-11     | 1.9E-11     |
| Anthracene, 9,10-diphenyl-                           | 1499-10-1          | 1.6E-10                   | 1.1E-08   | 5.3E-09   | 3.7E-09    | 2.9E-10     | 1.7E-10     | 1.6E-10     | 1.5E-10     | 1.5E-10     |
| Anthracene, 9-phenyl                                 | 602-55-1           | 2.4E-10                   | 1.7E-08   | 8.1E-09   | 5.6E-09    | 4.4E-10     | 2.5E-10     | 2.4E-10     | 2.3E-10     | 2.3E-10     |
| Antimony   |                    | 4.0E-05                   | 2.8E-03   | 1.3E-03   | 9.3E-04    | 7.3E-05     | 4.1E-05     | 3.9E-05     | 3.7E-05     | 3.7E-05     |
| Barium   |                    | 5.1E-06                   | 3.5E-04   | 1.7E-04   | 1.2E-04    | 9.2E-06     | 5.3E-06     | 5.0E-06     | 4.7E-06     | 4.7E-06     |
| Benzene, n-butyl-                                    | 104-51-8           | 8.3E-10                   | 5.7E-08   | 2.7E-08   | 1.9E-08    | 1.5E-09     | 8.5E-10     | 8.1E-10     | 7.6E-10     | 7.6E-10     |
| 1,4-Benzenediamine, N-(1,3-dimethylbutyl)-N'-phenyl- | 793-24-8           | 3.8E-06                   | 2.6E-04   | 1.2E-04   | 8.7E-05    | 6.8E-06     | 3.9E-06     | 3.7E-06     | 3.5E-06     | 3.5E-06     |
| Benz[a]anthracene                                    | 56-55-3            | 2.3E-09                   | 1.6E-07   | 7.4E-08   | 5.2E-08    | 4.1E-09     | 2.3E-09     | 2.2E-09     | 2.1E-09     | 2.1E-09     |
| Benzo[b]fluoranthene                                 | 205-99-2           | 2.3E-08                   | 1.6E-06   | 7.7E-07   | 5.4E-07    | 4.2E-08     | 2.4E-08     | 2.3E-08     | 2.1E-08     | 2.2E-08     |
| 7H-Benzo[c]fluorene                                  | 205-12-9           | 4.5E-09                   | 3.1E-07   | 1.5E-07   | 1.0E-07    | 8.1E-09     | 4.6E-09     | 4.4E-09     | 4.1E-09     | 4.2E-09     |
| Benzo[k]fluoranthene                                 | 207-08-9           | 7.6E-09                   | 5.3E-07   | 2.5E-07   | 1.7E-07    | 1.4E-08     | 7.8E-09     | 7.4E-09     | 7.0E-09     | 7.0E-09     |
| Benzothiazole  | 95-16-9            | 2.3E-04                   | 1.6E-02   | 7.6E-03   | 5.3E-03    | 4.2E-04     | 2.4E-04     | 2.2E-04     | 2.1E-04     | 2.1E-04     |
| Benzothiazole, 2-phenyl-                             | 883-93-2           | 2.5E-05                   | 1.7E-03   | 8.1E-04   | 5.7E-04    | 4.5E-05     | 2.5E-05     | 2.4E-05     | 2.3E-05     | 2.3E-05     |
| Benzothiazolone                                      | 934-34-9           | 5.9E-04                   | 4.1E-02   | 1.9E-02   | 1.4E-02    | 1.1E-03     | 6.0E-04     | 5.7E-04     | 5.4E-04     | 5.4E-04     |
| Benzyl butyl phthalate                               | 85-68-7            | 2.9E-08                   | 2.0E-06   | 9.7E-07   | 6.8E-07    | 5.3E-08     | 3.0E-08     | 2.9E-08     | 2.7E-08     | 2.7E-08     |



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| Chemical                                | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |           |           |            |             |             |             |             |             |
|---|--------------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |                    | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Beryllium                               |                    | 7.4E-08                   | 5.1E-06   | 2.4E-06   | 1.7E-06    | 1.3E-07     | 7.6E-08     | 7.2E-08     | 6.8E-08     | 6.8E-08     |
| Butylated Hydroxytoluene                | 128-37-0           | 5.2E-10                   | 3.6E-08   | 1.7E-08   | 1.2E-08    | 9.5E-10     | 5.4E-10     | 5.1E-10     | 4.8E-10     | 4.8E-10     |
| Cadmium                                 |                    | 6.7E-05                   | 4.6E-03   | 2.2E-03   | 1.5E-03    | 1.2E-04     | 6.9E-05     | 6.5E-05     | 6.1E-05     | 6.2E-05     |
| Chromium                                |                    | 5.6E-05                   | 3.9E-03   | 1.8E-03   | 1.3E-03    | 1.0E-04     | 5.7E-05     | 5.4E-05     | 5.1E-05     | 5.1E-05     |
| Cobalt                                  |                    | 8.4E-04                   | 5.9E-02   | 2.8E-02   | 1.9E-02    | 1.5E-03     | 8.7E-04     | 8.2E-04     | 7.8E-04     | 7.8E-04     |
| Copper                                  |                    | 3.5E-06                   | 2.5E-04   | 1.2E-04   | 8.2E-05    | 6.4E-06     | 3.6E-06     | 3.4E-06     | 3.3E-06     | 3.3E-06     |
| Cyclohexyl isothiocyanate               | 1122-82-3          | 1.8E-04                   | 1.3E-02   | 6.0E-03   | 4.2E-03    | 3.3E-04     | 1.9E-04     | 1.8E-04     | 1.7E-04     | 1.7E-04     |
| Dibenz[a,h]anthracene                   | 53-70-3            | 1.3E-10                   | 9.3E-09   | 4.4E-09   | 3.1E-09    | 2.4E-10     | 1.4E-10     | 1.3E-10     | 1.2E-10     | 1.2E-10     |
| Dibenzothiophene                        | 132-65-0           | 1.6E-08                   | 1.1E-06   | 5.2E-07   | 3.6E-07    | 2.8E-08     | 1.6E-08     | 1.5E-08     | 1.4E-08     | 1.5E-08     |
| Dibutyl phthalate                       | 84-74-2            | 1.1E-07                   | 7.8E-06   | 3.7E-06   | 2.6E-06    | 2.0E-07     | 1.1E-07     | 1.1E-07     | 1.0E-07     | 1.0E-07     |
| Diethyl Phthalate                       | 84-66-2            | 1.2E-09                   | 8.2E-08   | 3.9E-08   | 2.7E-08    | 2.1E-09     | 1.2E-09     | 1.1E-09     | 1.1E-09     | 1.1E-09     |
| Diisobutyl Phthalate                    | 84-69-5            | 1.1E-07                   | 7.8E-06   | 3.7E-06   | 2.6E-06    | 2.0E-07     | 1.2E-07     | 1.1E-07     | 1.0E-07     | 1.0E-07     |
| Diisooctylphthalate                     | 27554-26-3         | 2.4E-06                   | 1.6E-04   | 7.8E-05   | 5.5E-05    | 4.3E-06     | 2.4E-06     | 2.3E-06     | 2.2E-06     | 2.2E-06     |
| Di-n-octyl phthalate                    | 117-84-0           | 2.3E-07                   | 1.6E-05   | 7.7E-06   | 5.4E-06    | 4.2E-07     | 2.4E-07     | 2.3E-07     | 2.1E-07     | 2.2E-07     |
| 2,5-di-tert-Butyl-1,4-benzoquinone      | 2460-77-7          | 9.7E-09                   | 6.7E-07   | 3.2E-07   | 2.2E-07    | 1.7E-08     | 9.9E-09     | 9.4E-09     | 8.9E-09     | 8.9E-09     |
| 3,5-di-tert-Butyl-4-hydroxybenzaldehyde | 1620-98-0          | 1.4E-08                   | 9.6E-07   | 4.5E-07   | 3.2E-07    | 2.5E-08     | 1.4E-08     | 1.3E-08     | 1.3E-08     | 1.3E-08     |
| Fluoranthene                            | 206-44-0           | 1.3E-07                   | 9.1E-06   | 4.3E-06   | 3.0E-06    | 2.4E-07     | 1.4E-07     | 1.3E-07     | 1.2E-07     | 1.2E-07     |
| Fluorene                                | 86-73-7            | 1.7E-09                   | 1.2E-07   | 5.6E-08   | 4.0E-08    | 3.1E-09     | 1.8E-09     | 1.7E-09     | 1.6E-09     | 1.6E-09     |
| Hexadecane                              | 544-76-3           | 1.6E-06                   | 1.1E-04   | 5.4E-05   | 3.8E-05    | 3.0E-06     | 1.7E-06     | 1.6E-06     | 1.5E-06     | 1.5E-06     |
| 1-Hydroxypyrene                         | 5315-79-7          | 8.9E-09                   | 6.2E-07   | 2.9E-07   | 2.1E-07    | 1.6E-08     | 9.2E-09     | 8.7E-09     | 8.2E-09     | 8.3E-09     |
| Lead <sup>b</sup>                       |                    | 2.3E-03                   | 1.6E-01   | 7.7E-02   | 5.4E-02    | 4.2E-03     | 2.4E-03     | 2.3E-03     | 2.2E-03     | 2.2E-03     |
| Manganese                               |                    | 1.7E-06                   | 1.1E-04   | 5.4E-05   | 3.8E-05    | 3.0E-06     | 1.7E-06     | 1.6E-06     | 1.5E-06     | 1.5E-06     |



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| Chemical                      | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |           |           |            |             |             |             |             |             |
|-------------------------------|--------------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                               |                    | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| 2-(Methylthio)benzothiazole   | 615-22-5           | 8.8E-07                   | 6.1E-05   | 2.9E-05   | 2.0E-05    | 1.6E-06     | 9.1E-07     | 8.6E-07     | 8.1E-07     | 8.1E-07     |
| Molybdenum                    |                    | 8.5E-08                   | 5.9E-06   | 2.8E-06   | 2.0E-06    | 1.5E-07     | 8.8E-08     | 8.3E-08     | 7.9E-08     | 7.9E-08     |
| Naphthalene                   | 91-20-3            | 6.2E-10                   | 4.3E-08   | 2.0E-08   | 1.4E-08    | 1.1E-09     | 6.3E-10     | 6.0E-10     | 5.7E-10     | 5.7E-10     |
| Naphthalene, 1-methyl-        | 90-12-0            | 4.5E-09                   | 3.2E-07   | 1.5E-07   | 1.0E-07    | 8.2E-09     | 4.7E-09     | 4.4E-09     | 4.2E-09     | 4.2E-09     |
| Naphthalene, 1,2-dimethyl-    | 573-98-8           | 3.7E-10                   | 2.6E-08   | 1.2E-08   | 8.6E-09    | 6.7E-10     | 3.8E-10     | 3.6E-10     | 3.4E-10     | 3.4E-10     |
| Naphthalene, 1,6-dimethyl-    | 575-43-9           | 2.4E-09                   | 1.7E-07   | 8.0E-08   | 5.6E-08    | 4.4E-09     | 2.5E-09     | 2.4E-09     | 2.3E-09     | 2.3E-09     |
| Naphthalene, 2-(bromomethyl)- | 939-26-4           | 6.4E-08                   | 4.5E-06   | 2.1E-06   | 1.5E-06    | 1.2E-07     | 6.6E-08     | 6.3E-08     | 5.9E-08     | 5.9E-08     |
| Naphthalene, 2,3-dimethyl-    | 581-40-8           | 1.9E-08                   | 1.3E-06   | 6.2E-07   | 4.4E-07    | 3.4E-08     | 1.9E-08     | 1.8E-08     | 1.7E-08     | 1.7E-08     |
| Naphthalene, 2-methyl         | 91-57-6            | 7.2E-09                   | 5.0E-07   | 2.4E-07   | 1.7E-07    | 1.3E-08     | 7.4E-09     | 7.0E-09     | 6.6E-09     | 6.6E-09     |
| 1-Octadecene                  | 112-88-9           | 3.6E-06                   | 2.5E-04   | 1.2E-04   | 8.4E-05    | 6.6E-06     | 3.7E-06     | 3.5E-06     | 3.4E-06     | 3.4E-06     |
| 17-Pentatriacontene           | 6971-40-0          | 4.6E-10                   | 3.2E-08   | 1.5E-08   | 1.1E-08    | 8.4E-10     | 4.8E-10     | 4.5E-10     | 4.3E-10     | 4.3E-10     |
| Phenanthrene                  | 85-01-8            | 7.7E-09                   | 5.3E-07   | 2.5E-07   | 1.8E-07    | 1.4E-08     | 7.9E-09     | 7.5E-09     | 7.1E-09     | 7.1E-09     |
| Phenanthrene, 1-methyl        | 832-69-9           | 2.0E-09                   | 1.4E-07   | 6.7E-08   | 4.7E-08    | 3.7E-09     | 2.1E-09     | 2.0E-09     | 1.9E-09     | 1.9E-09     |
| Phenanthrene, 2-methyl-       | 2531-84-2          | 2.6E-09                   | 1.8E-07   | 8.7E-08   | 6.1E-08    | 4.8E-09     | 2.7E-09     | 2.6E-09     | 2.4E-09     | 2.4E-09     |
| Phenanthrene, 3-methyl        | 832-71-3           | 4.4E-09                   | 3.0E-07   | 1.4E-07   | 1.0E-07    | 7.9E-09     | 4.5E-09     | 4.2E-09     | 4.0E-09     | 4.0E-09     |
| N-Phenylbenzamide             | 93-98-1            | 7.3E-07                   | 5.1E-05   | 2.4E-05   | 1.7E-05    | 1.3E-06     | 7.5E-07     | 7.1E-07     | 6.7E-07     | 6.8E-07     |
| Phthalimide                   | 85-41-6            | 9.2E-09                   | 6.4E-07   | 3.0E-07   | 2.1E-07    | 1.7E-08     | 9.5E-09     | 9.0E-09     | 8.5E-09     | 8.5E-09     |
| Pyrene                        | 129-00-0           | 3.7E-07                   | 2.6E-05   | 1.2E-05   | 8.5E-06    | 6.7E-07     | 3.8E-07     | 3.6E-07     | 3.4E-07     | 3.4E-07     |
| Pyridine, 2-(4-methylphenyl)- | 4467-06-5          | 2.4E-08                   | 1.6E-06   | 7.8E-07   | 5.5E-07    | 4.3E-08     | 2.4E-08     | 2.3E-08     | 2.2E-08     | 2.2E-08     |
| Selenium                      |                    | 2.8E-07                   | 1.9E-05   | 9.2E-06   | 6.5E-06    | 5.1E-07     | 2.9E-07     | 2.7E-07     | 2.6E-07     | 2.6E-07     |
| Strontium                     |                    | 3.3E-07                   | 2.3E-05   | 1.1E-05   | 7.6E-06    | 6.0E-07     | 3.4E-07     | 3.2E-07     | 3.0E-07     | 3.1E-07     |
| Thallium                      |                    | 5.6E-06                   | 3.9E-04   | 1.8E-04   | 1.3E-04    | 1.0E-05     | 5.7E-06     | 5.4E-06     | 5.1E-06     | 5.1E-06     |



| Chemical                                    | CASRN <sup>a</sup> | Chronic HQ <sub>ing</sub> |           |           |            |             |             |             |             |             |
|---|--------------------|---------------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |                    | Third trimester fetus     | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Tin   |                    | 7.3E-08                   | 5.1E-06   | 2.4E-06   | 1.7E-06    | 1.3E-07     | 7.5E-08     | 7.1E-08     | 6.7E-08     | 6.7E-08     |
| Triethylene glycol monobutyl ether          | 143-22-6           | 2.7E-09                   | 1.9E-07   | 8.9E-08   | 6.2E-08    | 4.9E-09     | 2.8E-09     | 2.6E-09     | 2.5E-09     | 2.5E-09     |
| 5,9-Undecadien-2-one, 6,10-dimethyl-        | 689-67-8           | 4.7E-08                   | 3.3E-06   | 1.5E-06   | 1.1E-06    | 8.5E-08     | 4.8E-08     | 4.6E-08     | 4.3E-08     | 4.3E-08     |
| Vanadium                                    |                    | 1.6E-05                   | 1.1E-03   | 5.3E-04   | 3.7E-04    | 2.9E-05     | 1.7E-05     | 1.6E-05     | 1.5E-05     | 1.5E-05     |
| Zinc  |                    | 1.6E-04                   | 1.1E-02   | 5.3E-03   | 3.8E-03    | 2.9E-04     | 1.7E-04     | 1.6E-04     | 1.5E-04     | 1.5E-04     |
| Field-Related Chronic HQ <sub>ing-sum</sub> |                    | 1.2E-09                   | 8.6E-08   | 4.1E-08   | 2.8E-08    | 2.2E-09     | 1.3E-09     | 1.2E-09     | 1.1E-09     | 1.1E-09     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not speciate these chemicals.

<sup>b</sup> Lead is included in Chronic HQ<sub>ing</sub> calculation (see Section G.2.2 for details).

### INDIVIDUAL FIELD ASSESSMENT (Table G-128)

Table G-5. Field-Specific<sup>a</sup> Chronic Ingestion Route Total Hazard Quotients for **Field-Related General Chemicals<sup>b</sup>** (Chronic HQ<sub>ing-sum-field</sub>, unitless)—Combined Gender

| Receptor Category and Age Group  | Chronic HQ <sub>ing-sum-field</sub> |         |                    |         |                 |         |
|----------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years               | 3.9E-02                             | 9.7E-02 | 5.2E-02            | 7.9E-02 | 1.9E-01         | 2.8E-01 |
| Athletes 6<11 years              | 2.6E-02                             | 6.4E-02 | 3.5E-02            | 5.3E-02 | 1.2E-01         | 1.9E-01 |
| Athletes 11<16 years             | 2.0E-02                             | 5.0E-02 | 2.7E-02            | 4.1E-02 | 9.7E-02         | 1.5E-01 |
| Athletes 16<30 years             | 2.2E-02                             | 5.6E-02 | 3.0E-02            | 4.5E-02 | 1.1E-01         | 1.6E-01 |
| Athletes 30<40 years             | 1.5E-02                             | 3.7E-02 | 2.0E-02            | 3.0E-02 | 7.2E-02         | 1.1E-01 |
| Athletes 40<50 years             | 1.3E-02                             | 3.1E-02 | 1.7E-02            | 2.6E-02 | 6.1E-02         | 9.3E-02 |
| Athletes 50<70 years             | 1.3E-02                             | 3.2E-02 | 1.7E-02            | 2.6E-02 | 6.2E-02         | 9.5E-02 |
| Coaches 16<30 years              | 5.6E-03                             | 1.4E-02 | 7.6E-03            | 1.1E-02 | 2.7E-02         | 4.1E-02 |
| Coaches 30<40 years              | 5.3E-03                             | 1.3E-02 | 7.1E-03            | 1.1E-02 | 2.6E-02         | 3.9E-02 |
| Coaches 40<50 years              | 5.2E-03                             | 1.3E-02 | 6.9E-03            | 1.1E-02 | 2.5E-02         | 3.8E-02 |
| Coaches 50<70 years              | 5.2E-03                             | 1.3E-02 | 7.0E-03            | 1.1E-02 | 2.5E-02         | 3.8E-02 |
| Referees 16<30 years             | 2.5E-03                             | 6.2E-03 | 3.3E-03            | 5.0E-03 | 1.2E-02         | 1.8E-02 |
| Referees 30<40 years             | 2.3E-03                             | 5.8E-03 | 3.1E-03            | 4.7E-03 | 1.1E-02         | 1.7E-02 |
| Referees 40<50 years             | 2.3E-03                             | 5.7E-03 | 3.0E-03            | 4.6E-03 | 1.1E-02         | 1.7E-02 |
| Referees 50<70 years             | 2.3E-03                             | 5.7E-03 | 3.1E-03            | 4.6E-03 | 1.1E-02         | 1.7E-02 |
| Spectators Third trimester fetus | 2.0E-03                             | 4.9E-03 | 2.6E-03            | 4.0E-03 | 9.4E-03         | 1.4E-02 |
| Spectators 0<2 years             | 1.4E-01                             | 3.4E-01 | 1.8E-01            | 2.8E-01 | 6.6E-01         | 1.0E+00 |
| Spectators 2<6 years             | 6.4E-02                             | 1.6E-01 | 8.6E-02            | 1.3E-01 | 3.1E-01         | 4.7E-01 |
| Spectators 6<11 years            | 4.5E-02                             | 1.1E-01 | 6.0E-02            | 9.2E-02 | 2.2E-01         | 3.3E-01 |



| Receptor Category and Age Group | Chronic HQ <sub>ing-sum-field</sub> |         |                    |         |                 |         |
|---------------------------------|-------------------------------------|---------|--------------------|---------|-----------------|---------|
|                                 | Minimum                             | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Spectators 11<16 years          | 3.5E-03                             | 8.8E-03 | 4.7E-03            | 7.2E-03 | 1.7E-02         | 2.6E-02 |
| Spectators 16<30 years          | 2.0E-03                             | 5.0E-03 | 2.7E-03            | 4.1E-03 | 9.7E-03         | 1.5E-02 |
| Spectators 30<40 years          | 1.9E-03                             | 4.7E-03 | 2.5E-03            | 3.9E-03 | 9.2E-03         | 1.4E-02 |
| Spectators 40<50 years          | 1.8E-03                             | 4.5E-03 | 2.4E-03            | 3.7E-03 | 8.7E-03         | 1.3E-02 |
| Spectators 50<70 years          | 1.8E-03                             | 4.5E-03 | 2.4E-03            | 3.7E-03 | 8.7E-03         | 1.3E-02 |

<sup>a</sup> 35 field-specific Chronic HQ<sub>ing-sum-field</sub> are included in the table.

<sup>b</sup> Lead is included in Chronic HQ<sub>ing</sub> calculation (see Section G.2.2 for details).

### G.2.9. One-Day Multi-Route Non-Cancer Hazard Index (One-Day H<sub>DART</sub>) for DARTs

Off-field One-Day H<sub>DART</sub> for non-field-related DARTs are not assessed since all DARTs detected off-field were field-related.

#### **INDIVIDUAL FIELD ASSESSMENT (Table G-129 to Table G-133)**

Table G-1. **On-Field** Field-Specific<sup>a</sup> One-Day Multi-Route Hazard Index (One-Day H<sub>DART</sub>, unitless) for **All DARTs**—Combined Gender

| Receptor Category and Age Group  | One-Day H <sub>DART</sub> |         |                    |         |                 |         |
|----------------------------------|---------------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum                   | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years               | 1.6E-04                   | 3.6E-03 | 3.5E-03            | 1.6E-03 | 9.9E-03         | 1.3E-02 |
| Athletes 6<11 years              | 1.4E-04                   | 2.7E-03 | 2.7E-03            | 1.2E-03 | 7.5E-03         | 9.6E-03 |
| Athletes 11<16 years             | 1.2E-04                   | 3.9E-01 | 4.0E-01            | 1.8E-01 | 1.1E+00         | 1.3E+00 |
| Athletes 16<30 years             | 1.2E-04                   | 5.8E-01 | 5.8E-01            | 2.7E-01 | 1.7E+00         | 1.8E+00 |
| Athletes 30<40 years             | 1.0E-04                   | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00         | 1.2E+00 |
| Athletes 40<50 years             | 1.0E-04                   | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00         | 1.2E+00 |
| Athletes 50<70 years             | 1.1E-04                   | 4.2E-01 | 4.2E-01            | 1.9E-01 | 1.2E+00         | 1.3E+00 |
| Coaches 16<30 years              | 5.8E-05                   | 2.5E-01 | 2.5E-01            | 1.1E-01 | 7.2E-01         | 7.8E-01 |
| Coaches 30<40 years              | 5.3E-05                   | 2.1E-01 | 2.1E-01            | 9.9E-02 | 6.3E-01         | 6.8E-01 |
| Coaches 40<50 years              | 5.4E-05                   | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.3E-01         | 6.9E-01 |
| Coaches 50<70 years              | 5.4E-05                   | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.4E-01         | 6.9E-01 |
| Referees 16<30 years             | 5.6E-05                   | 2.3E-01 | 2.3E-01            | 1.1E-01 | 6.7E-01         | 7.3E-01 |
| Referees 30<40 years             | 5.1E-05                   | 2.0E-01 | 2.0E-01            | 9.2E-02 | 5.8E-01         | 6.4E-01 |
| Referees 40<50 years             | 5.2E-05                   | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01         | 6.4E-01 |
| Referees 50<70 years             | 5.2E-05                   | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01         | 6.4E-01 |
| Spectators Third trimester fetus | 2.3E-05                   | 2.6E-04 | 2.4E-04            | 1.4E-04 | 6.9E-04         | 8.6E-04 |
| Spectators 0<2 years             | 1.5E-04                   | 2.0E-03 | 1.9E-03            | 9.9E-04 | 5.5E-03         | 6.9E-03 |
| Spectators 2<6 years             | 9.3E-05                   | 1.1E-03 | 1.0E-03            | 5.7E-04 | 2.9E-03         | 3.6E-03 |
| Spectators 6<11 years            | 8.6E-05                   | 1.0E-03 | 9.6E-04            | 5.4E-04 | 2.8E-03         | 3.5E-03 |
| Spectators 11<16 years           | 8.1E-05                   | 7.4E-02 | 7.3E-02            | 3.4E-02 | 2.1E-01         | 2.3E-01 |
| Spectators 16<30 years           | 3.7E-05                   | 4.8E-02 | 4.8E-02            | 2.2E-02 | 1.4E-01         | 1.5E-01 |
| Spectators 30<40 years           | 3.2E-05                   | 4.2E-02 | 4.2E-02            | 2.0E-02 | 1.2E-01         | 1.4E-01 |



|                        |         |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|---------|
| Spectators 40<50 years | 3.3E-05 | 4.3E-02 | 4.3E-02 | 2.0E-02 | 1.2E-01 | 1.4E-01 |
| Spectators 50<70 years | 3.1E-05 | 4.3E-02 | 4.3E-02 | 2.0E-02 | 1.3E-01 | 1.4E-01 |

<sup>a</sup> 35 field-specific One-Day HI<sub>DART</sub> are included in this table.

**Table G-2. On-Field Field-Specific<sup>a</sup> One-Day Multi-Route Hazard Index (One-Day HI<sub>DART</sub>, unitless) for Field-Related DARTs—Combined Gender**

| Receptor Category and Age Group  | Minimum | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
|----------------------------------|---------|---------|--------------------|---------|-----------------------------|---------|
| Athletes 2<6 years               | 9.4E-05 | 3.5E-03 | 3.5E-03            | 1.5E-03 | 9.8E-03                     | 1.2E-02 |
| Athletes 6<11 years              | 8.6E-05 | 2.7E-03 | 2.6E-03            | 1.2E-03 | 7.5E-03                     | 9.4E-03 |
| Athletes 11<16 years             | 7.3E-05 | 3.9E-01 | 4.0E-01            | 1.8E-01 | 1.1E+00                     | 1.3E+00 |
| Athletes 16<30 years             | 6.4E-05 | 5.8E-01 | 5.8E-01            | 2.7E-01 | 1.7E+00                     | 1.8E+00 |
| Athletes 30<40 years             | 6.0E-05 | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 40<50 years             | 6.0E-05 | 3.9E-01 | 3.9E-01            | 1.8E-01 | 1.1E+00                     | 1.2E+00 |
| Athletes 50<70 years             | 6.0E-05 | 4.2E-01 | 4.2E-01            | 1.9E-01 | 1.2E+00                     | 1.3E+00 |
| Coaches 16<30 years              | 3.2E-05 | 2.5E-01 | 2.5E-01            | 1.1E-01 | 7.2E-01                     | 7.8E-01 |
| Coaches 30<40 years              | 3.0E-05 | 2.1E-01 | 2.1E-01            | 9.9E-02 | 6.3E-01                     | 6.8E-01 |
| Coaches 40<50 years              | 3.0E-05 | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.3E-01                     | 6.9E-01 |
| Coaches 50<70 years              | 3.0E-05 | 2.2E-01 | 2.2E-01            | 1.0E-01 | 6.4E-01                     | 6.9E-01 |
| Referees 16<30 years             | 3.2E-05 | 2.3E-01 | 2.3E-01            | 1.1E-01 | 6.7E-01                     | 7.3E-01 |
| Referees 30<40 years             | 3.0E-05 | 2.0E-01 | 2.0E-01            | 9.2E-02 | 5.8E-01                     | 6.4E-01 |
| Referees 40<50 years             | 3.0E-05 | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01                     | 6.4E-01 |
| Referees 50<70 years             | 3.0E-05 | 2.0E-01 | 2.0E-01            | 9.3E-02 | 5.9E-01                     | 6.4E-01 |
| Spectators Third trimester fetus | 2.0E-05 | 2.5E-04 | 2.4E-04            | 1.4E-04 | 6.9E-04                     | 8.5E-04 |
| Spectators 0<2 years             | 1.3E-04 | 2.0E-03 | 1.9E-03            | 9.7E-04 | 5.5E-03                     | 6.8E-03 |
| Spectators 2<6 years             | 8.0E-05 | 1.1E-03 | 1.0E-03            | 5.6E-04 | 2.9E-03                     | 3.6E-03 |
| Spectators 6<11 years            | 7.4E-05 | 1.0E-03 | 9.5E-04            | 5.3E-04 | 2.8E-03                     | 3.4E-03 |
| Spectators 11<16 years           | 7.3E-05 | 7.4E-02 | 7.3E-02            | 3.4E-02 | 2.1E-01                     | 2.3E-01 |
| Spectators 16<30 years           | 3.2E-05 | 4.8E-02 | 4.8E-02            | 2.2E-02 | 1.4E-01                     | 1.5E-01 |
| Spectators 30<40 years           | 2.8E-05 | 4.2E-02 | 4.2E-02            | 2.0E-02 | 1.2E-01                     | 1.3E-01 |
| Spectators 40<50 years           | 2.8E-05 | 4.3E-02 | 4.3E-02            | 2.0E-02 | 1.2E-01                     | 1.4E-01 |
| Spectators 50<70 years           | 2.6E-05 | 4.3E-02 | 4.3E-02            | 2.0E-02 | 1.3E-01                     | 1.4E-01 |

<sup>a</sup> 35 field-specific One-Day HI<sub>DART</sub> are included in this table.

**Table G-3. On-Field Field-Specific<sup>a</sup> One-Day Multi-Route Hazard Index (One-Day HI<sub>DART</sub>, unitless) for Non-Field-Related DARTs—Combined Gender**

| Receptor Category and Age Group | One-Day HI <sub>DART</sub> |         |                    |         |                             |         |
|---------------------------------|----------------------------|---------|--------------------|---------|-----------------------------|---------|
|                                 | Minimum                    | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Athletes 2<6 years              | 0.0E+00                    | 8.4E-05 | 6.0E-05            | 6.7E-05 | 1.8E-04                     | 2.1E-04 |
| Athletes 6<11 years             | 0.0E+00                    | 6.4E-05 | 4.6E-05            | 5.0E-05 | 1.3E-04                     | 1.6E-04 |



| Receptor Category and Age Group  | One-Day $H_{DART}$ |         |                    |         |                 |         |
|----------------------------------|--------------------|---------|--------------------|---------|-----------------|---------|
|                                  | Minimum            | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 11<16 years             | 0.0E+00            | 5.3E-05 | 3.8E-05            | 4.2E-05 | 1.1E-04         | 1.3E-04 |
| Athletes 16<30 years             | 0.0E+00            | 7.8E-05 | 5.6E-05            | 6.2E-05 | 1.6E-04         | 1.9E-04 |
| Athletes 30<40 years             | 0.0E+00            | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04         | 1.3E-04 |
| Athletes 40<50 years             | 0.0E+00            | 5.2E-05 | 3.7E-05            | 4.1E-05 | 1.1E-04         | 1.3E-04 |
| Athletes 50<70 years             | 0.0E+00            | 5.6E-05 | 4.1E-05            | 4.5E-05 | 1.2E-04         | 1.4E-04 |
| Coaches 16<30 years              | 0.0E+00            | 3.3E-05 | 2.4E-05            | 2.6E-05 | 7.0E-05         | 8.1E-05 |
| Coaches 30<40 years              | 0.0E+00            | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.1E-05         | 7.1E-05 |
| Coaches 40<50 years              | 0.0E+00            | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05         | 7.2E-05 |
| Coaches 50<70 years              | 0.0E+00            | 2.9E-05 | 2.1E-05            | 2.3E-05 | 6.2E-05         | 7.2E-05 |
| Referees 16<30 years             | 0.0E+00            | 3.1E-05 | 2.2E-05            | 2.4E-05 | 6.5E-05         | 7.5E-05 |
| Referees 30<40 years             | 0.0E+00            | 2.7E-05 | 1.9E-05            | 2.1E-05 | 5.7E-05         | 6.6E-05 |
| Referees 40<50 years             | 0.0E+00            | 2.7E-05 | 1.9E-05            | 2.2E-05 | 5.7E-05         | 6.7E-05 |
| Referees 50<70 years             | 0.0E+00            | 2.7E-05 | 2.0E-05            | 2.2E-05 | 5.8E-05         | 6.7E-05 |
| Spectators Third trimester fetus | 0.0E+00            | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 0<2 years             | 0.0E+00            | 4.6E-05 | 3.3E-05            | 3.6E-05 | 9.6E-05         | 1.1E-04 |
| Spectators 2<6 years             | 0.0E+00            | 2.4E-05 | 1.7E-05            | 1.9E-05 | 5.1E-05         | 5.9E-05 |
| Spectators 6<11 years            | 0.0E+00            | 2.3E-05 | 1.6E-05            | 1.8E-05 | 4.8E-05         | 5.6E-05 |
| Spectators 11<16 years           | 0.0E+00            | 9.9E-06 | 7.1E-06            | 7.8E-06 | 2.1E-05         | 2.4E-05 |
| Spectators 16<30 years           | 0.0E+00            | 6.5E-06 | 4.7E-06            | 5.2E-06 | 1.4E-05         | 1.6E-05 |
| Spectators 30<40 years           | 0.0E+00            | 5.7E-06 | 4.1E-06            | 4.5E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 40<50 years           | 0.0E+00            | 5.7E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05         | 1.4E-05 |
| Spectators 50<70 years           | 0.0E+00            | 5.8E-06 | 4.1E-06            | 4.6E-06 | 1.2E-05         | 1.4E-05 |

<sup>a</sup> 34 field-specific  $H_{DART}$  are included in this table.

<sup>b</sup> Non-Field-Related Chemicals exposed only via inhalation. All chemicals detected in crumb rubber (exposed via dermal or oral route) are designated as Field-Related Chemicals. For the inhalation routes sum of Non-Field-Related Chemicals, One-Day  $HQ_{inh-DART-sum}$ , equals to  $H_{DART}$  for that group of chemicals.



Table G-4. **Off-Field Field-Specific<sup>a</sup> One-Day Multi-Route Hazard Index (One-Day H<sub>DART</sub>, unitless) for All DARTs—Combined Gender Spectators**

| Spectator Receptor Age Group | One-Day H <sub>DART</sub> <sup>b</sup> |         |                    |         |                             |         |
|------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                                | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus        | 0                                      | 2.5E-04 | 3.1E-04            | 1.3E-04 | 8.1E-04                     | 1.4E-03 |
| 0<2 years                    | 0                                      | 2.0E-03 | 2.5E-03            | 1.1E-03 | 6.5E-03                     | 1.2E-02 |
| 2<6 years                    | 0                                      | 1.1E-03 | 1.3E-03            | 5.6E-04 | 3.4E-03                     | 6.1E-03 |
| 6<11 years                   | 0                                      | 1.0E-03 | 1.3E-03            | 5.3E-04 | 3.3E-03                     | 5.8E-03 |
| 11<16 years                  | 0                                      | 8.0E-02 | 1.0E-01            | 4.5E-02 | 2.7E-01                     | 4.5E-01 |
| 16<30 years                  | 0                                      | 5.3E-02 | 6.6E-02            | 3.0E-02 | 1.8E-01                     | 3.0E-01 |
| 30<40 years                  | 0                                      | 4.6E-02 | 5.8E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 40<50 years                  | 0                                      | 4.7E-02 | 5.9E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 50<70 years                  | 0                                      | 4.7E-02 | 5.9E-02            | 2.7E-02 | 1.6E-01                     | 2.6E-01 |

<sup>a</sup> 33 field-specific H<sub>DART</sub> are included in this table.

<sup>b</sup> No crumb rubber samples were collected at off-field locations. Air samples were collected at off-field locations and chemicals detected were used for inhalation exposure assessment. Therefore Off-Field H<sub>DART</sub> for all DARTs equals to the inhalation route sum of the One-Day HQ<sub>inh-DART</sub> (One-Day HQ<sub>inh-DART-sum</sub>) for the same group. All DARTs detected off-field were field-related that Off-Field H<sub>DART</sub> for all DARTs equals to Off-Field H<sub>DART</sub> for field-related DARTs.

Table G-5. **Off-Field Field-Specific<sup>a</sup> One-Day Multi-Route Hazard Index (One-Day H<sub>DART</sub>, unitless) for Field-Related DARTs—Combined Gender Spectators**

| Spectator Receptor Age Group | One-Day H <sub>DART</sub> <sup>b</sup> |         |                    |         |                             |         |
|------------------------------|--|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                                | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus        | 0.0E+00                                | 2.5E-04 | 3.1E-04            | 1.3E-04 | 8.1E-04                     | 1.4E-03 |
| 0<2 years                    | 0.0E+00                                | 2.0E-03 | 2.5E-03            | 1.1E-03 | 6.5E-03                     | 1.2E-02 |
| 2<6 years                    | 0.0E+00                                | 1.1E-03 | 1.3E-03            | 5.6E-04 | 3.4E-03                     | 6.1E-03 |
| 6<11 years                   | 0.0E+00                                | 1.0E-03 | 1.3E-03            | 5.3E-04 | 3.3E-03                     | 5.8E-03 |
| 11<16 years                  | 0.0E+00                                | 8.0E-02 | 1.0E-01            | 4.5E-02 | 2.7E-01                     | 4.5E-01 |
| 16<30 years                  | 0.0E+00                                | 5.3E-02 | 6.6E-02            | 3.0E-02 | 1.8E-01                     | 3.0E-01 |
| 30<40 years                  | 0.0E+00                                | 4.6E-02 | 5.8E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |
| 40<50 years                  | 0.0E+00                                | 4.7E-02 | 5.9E-02            | 2.6E-02 | 1.6E-01                     | 2.6E-01 |



| Spectator Receptor Age Group | One-Day H <sub>lDART</sub> <sup>b</sup> |         |                    |         |                             |         |
|------------------------------|---|---------|--------------------|---------|-----------------------------|---------|
|                              | Minimum                                 | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| 50<70 years                  | 0.0E+00                                 | 4.7E-02 | 5.9E-02            | 2.7E-02 | 1.6E-01                     | 2.6E-01 |

<sup>a</sup> 33 field-specific H<sub>lDART</sub> are included in this table.

<sup>b</sup> No crumb rubber samples were collected at off-field locations. Air samples were collected at off-field locations and chemicals detected were used for inhalation exposure assessment. Therefore Off-Field H<sub>lDART</sub> for Field-Related DARTs equals to the inhalation route sum of the One-Day H<sub>Q<sub>inh-DART</sub></sub> (One-Day H<sub>Q<sub>inh-DART-sum</sub></sub>) for this group of DARTs.

### G.2.10. Chronic Multi-Route Non-Cancer Hazard Index for General Chemicals (Chronic HI)

Table G-1. **On-Field** Chronic Multi-Route Hazard Index for **General Chemicals** (Chronic HI)—Combined Gender

| Receptor Category and Age Group        | On-Field Chronic HI   |                                 |  |
|--|-----------------------|---------------------------------|--|
|  | All General Chemicals | Field-Related General Chemicals | Non-Field-Related Chemicals <sup>a</sup> |
| Athletes 2<6 years                     | 2.5E-01               | 2.0E-01                         | 5.5E-02                                  |
| Athletes 6<11 years                    | 2.6E-01               | 1.9E-01                         | 7.1E-02                                  |
| Athletes 11<16 years                   | 2.4E-01               | 1.8E-01                         | 7.0E-02                                  |
| Athletes 16<30 years                   | 4.2E-01               | 2.9E-01                         | 1.3E-01                                  |
| Athletes 30<40 years                   | 2.8E-01               | 1.9E-01                         | 8.6E-02                                  |
| Athletes 40<50 years                   | 2.7E-01               | 1.8E-01                         | 8.5E-02                                  |
| Athletes 50<70 years                   | 2.6E-01               | 1.8E-01                         | 8.3E-02                                  |
| Athletes Lifetime Average <sup>b</sup> | 2.9E-01               | 2.0E-01                         | 8.8E-02                                  |
| Coaches 16<30 years                    | 1.7E-01               | 1.1E-01                         | 5.4E-02                                  |
| Coaches 30<40 years                    | 1.5E-01               | 9.8E-02                         | 4.7E-02                                  |
| Coaches 40<50 years                    | 1.5E-01               | 9.9E-02                         | 4.8E-02                                  |
| Coaches 50<70 years                    | 1.5E-01               | 9.9E-02                         | 4.8E-02                                  |
| Coaches Lifetime Average <sup>b</sup>  | 1.2E-01               | 7.9E-02                         | 3.8E-02                                  |
| Referees 16<30 years                   | 6.2E-02               | 4.2E-02                         | 2.0E-02                                  |
| Referees 30<40 years                   | 5.5E-02               | 3.7E-02                         | 1.8E-02                                  |
| Referees 40<50 years                   | 5.5E-02               | 3.8E-02                         | 1.8E-02                                  |
| Referees 50<70 years                   | 5.6E-02               | 3.8E-02                         | 1.8E-02                                  |
| Referees Lifetime Average <sup>b</sup> | 4.4E-02               | 3.0E-02                         | 1.4E-02                                  |
| Spectators Third trimester fetus       | 2.6E-02               | 1.8E-02                         | 7.3E-03                                  |
| Spectators 0<2 years                   | 5.0E-01               | 4.5E-01                         | 5.9E-02                                  |
| Spectators 2<6 years                   | 2.5E-01               | 2.2E-01                         | 3.1E-02                                  |
| Spectators 6<11 years                  | 2.0E-01               | 1.7E-01                         | 3.0E-02                                  |



| Receptor Category and Age Group          | On-Field Chronic HI   |                                 |  |
|--|-----------------------|---------------------------------|--|
|  | All General Chemicals | Field-Related General Chemicals | Non-Field-Related Chemicals <sup>a</sup> |
| Spectators 11<16 years                   | 4.6E-02               | 3.3E-02                         | 1.3E-02                                  |
| Spectators 16<30 years                   | 2.9E-02               | 2.1E-02                         | 8.4E-03                                  |
| Spectators 30<40 years                   | 2.6E-02               | 1.8E-02                         | 7.3E-03                                  |
| Spectators 40<50 years                   | 2.6E-02               | 1.8E-02                         | 7.4E-03                                  |
| Spectators 50<70 years                   | 2.6E-02               | 1.8E-02                         | 7.4E-03                                  |
| Spectators Lifetime Average <sup>b</sup> | 6.7E-02               | 5.4E-02                         | 1.2E-02                                  |

<sup>a</sup> Exposure to Non-Field-Related chemicals via inhalation was the only route assessed. All chemicals present in crumb rubber were assessed as Field-Related Chemicals.

<sup>b</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

Table G-2. **Off-Field<sup>a</sup> Chronic Multi-Route Hazard Index for General Chemicals (Chronic HI) for Combined Gender Spectators**

| Spectator Receptor Age Group  | Off-Field Chronic HI |                         |                            |
|-------------------------------|----------------------|-------------------------|----------------------------|
|                               | All Chemicals        | Field-Related Chemicals | Non-Field Related Chemical |
| Third trimester fetus         | 3.3E-02              | 1.3E-02                 | 3.3E-02                    |
| 0<2 years                     | 1.4E-02              | 5.4E-03                 | 1.4E-02                    |
| 2<6 years                     | 1.1E-01              | 4.3E-02                 | 1.1E-01                    |
| 6<11 years                    | 5.7E-02              | 2.3E-02                 | 5.7E-02                    |
| 11<16 years                   | 5.5E-02              | 2.2E-02                 | 5.5E-02                    |
| 16<30 years                   | 2.4E-02              | 9.4E-03                 | 2.4E-02                    |
| 30<40 years                   | 1.6E-02              | 6.2E-03                 | 1.6E-02                    |
| 40<50 years                   | 1.4E-02              | 5.4E-03                 | 1.4E-02                    |
| 50<70 years                   | 1.4E-02              | 5.5E-03                 | 1.4E-02                    |
| Lifetime Average <sup>b</sup> | 2.8E-02              | 1.1E-02                 | 2.8E-02                    |

<sup>a</sup> Only inhalation route is assessed for off-field.

<sup>b</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

### **INDIVIDUAL FIELD ASSESSMENT (Table G-136 to Table G-141)**

Table G-3. **On-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>, unitless) for All General Chemicals<sup>b</sup>—Combined Gender**

| Receptor Category and Age Group | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|---------------------------------|-----------------------------|---------|--------------------|---------|-----------------|---------|
|                                 | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years              | 8.9E-02                     | 2.5E-01 | 1.3E-01            | 2.2E-01 | 4.8E-01         | 5.9E-01 |
| Athletes 6<11 years             | 7.3E-02                     | 2.6E-01 | 1.5E-01            | 2.1E-01 | 5.3E-01         | 6.2E-01 |
| Athletes 11<16 years            | 6.2E-02                     | 2.4E-01 | 1.4E-01            | 1.9E-01 | 5.0E-01         | 5.8E-01 |



| Receptor Category and Age Group          | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|--|-----------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 16<30 years                     | 9.0E-02                     | 4.2E-01 | 2.6E-01            | 3.4E-01 | 8.8E-01         | 1.0E+00 |
| Athletes 30<40 years                     | 5.9E-02                     | 2.8E-01 | 1.7E-01            | 2.3E-01 | 5.7E-01         | 6.6E-01 |
| Athletes 40<50 years                     | 5.5E-02                     | 2.7E-01 | 1.6E-01            | 2.2E-01 | 5.6E-01         | 6.4E-01 |
| Athletes 50<70 years                     | 5.5E-02                     | 2.6E-01 | 1.6E-01            | 2.2E-01 | 5.5E-01         | 6.3E-01 |
| Athletes Lifetime Average <sup>c</sup>   | 6.5E-02                     | 2.9E-01 | 1.7E-01            | 2.3E-01 | 5.9E-01         | 6.9E-01 |
| Coaches 16<30 years                      | 3.1E-02                     | 1.6E-01 | 1.0E-01            | 1.4E-01 | 3.5E-01         | 4.0E-01 |
| Coaches 30<40 years                      | 2.8E-02                     | 1.4E-01 | 9.1E-02            | 1.2E-01 | 3.1E-01         | 3.5E-01 |
| Coaches 40<50 years                      | 2.8E-02                     | 1.5E-01 | 9.2E-02            | 1.2E-01 | 3.1E-01         | 3.5E-01 |
| Coaches 50<70 years                      | 2.8E-02                     | 1.5E-01 | 9.2E-02            | 1.2E-01 | 3.1E-01         | 3.5E-01 |
| Coaches Lifetime Average <sup>c</sup>    | 2.2E-02                     | 1.2E-01 | 7.3E-02            | 9.6E-02 | 2.5E-01         | 2.8E-01 |
| Referees 16<30 years                     | 1.2E-02                     | 6.2E-02 | 3.9E-02            | 5.1E-02 | 1.3E-01         | 1.5E-01 |
| Referees 30<40 years                     | 1.1E-02                     | 5.5E-02 | 3.4E-02            | 4.5E-02 | 1.2E-01         | 1.3E-01 |
| Referees 40<50 years                     | 1.1E-02                     | 5.5E-02 | 3.4E-02            | 4.6E-02 | 1.2E-01         | 1.3E-01 |
| Referees 50<70 years                     | 1.1E-02                     | 5.5E-02 | 3.4E-02            | 4.6E-02 | 1.2E-01         | 1.3E-01 |
| Referees Lifetime Average <sup>c</sup>   | 8.8E-03                     | 4.4E-02 | 2.7E-02            | 3.6E-02 | 9.3E-02         | 1.1E-01 |
| Spectators Third trimester fetus         | 6.9E-03                     | 2.6E-02 | 1.5E-02            | 2.1E-02 | 5.2E-02         | 6.1E-02 |
| Spectators 0<2 years                     | 2.2E-01                     | 5.0E-01 | 2.5E-01            | 4.3E-01 | 1.0E+00         | 1.2E+00 |
| Spectators 2<6 years                     | 1.1E-01                     | 2.5E-01 | 1.2E-01            | 2.1E-01 | 5.0E-01         | 5.8E-01 |
| Spectators 6<11 years                    | 8.3E-02                     | 2.0E-01 | 9.7E-02            | 1.7E-01 | 3.9E-01         | 4.5E-01 |
| Spectators 11<16 years                   | 1.3E-02                     | 4.6E-02 | 2.6E-02            | 3.7E-02 | 9.2E-02         | 1.1E-01 |
| Spectators 16<30 years                   | 7.6E-03                     | 2.9E-02 | 1.7E-02            | 2.4E-02 | 5.9E-02         | 6.8E-02 |
| Spectators 30<40 years                   | 6.9E-03                     | 2.6E-02 | 1.5E-02            | 2.1E-02 | 5.2E-02         | 6.1E-02 |
| Spectators 40<50 years                   | 6.8E-03                     | 2.6E-02 | 1.5E-02            | 2.1E-02 | 5.2E-02         | 6.1E-02 |
| Spectators 50<70 years                   | 6.7E-03                     | 2.6E-02 | 1.5E-02            | 2.1E-02 | 5.2E-02         | 6.1E-02 |
| Spectators Lifetime Average <sup>c</sup> | 2.6E-02                     | 6.7E-02 | 3.4E-02            | 5.9E-02 | 1.3E-01         | 1.5E-01 |

<sup>a</sup> 35 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Lead is included in Chronic HI<sub>field</sub> calculation (see Section G.2.2 for details).

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

**Table G-4. On-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>, unitless) for Field-Related General Chemicals<sup>b</sup>—Combined Gender**

| Receptor Category and Age Group        | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|--|-----------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years                     | 6.6E-02                     | 2.0E-01 | 9.4E-02            | 1.8E-01 | 3.8E-01         | 4.1E-01 |
| Athletes 6<11 years                    | 4.7E-02                     | 1.9E-01 | 9.8E-02            | 1.8E-01 | 3.6E-01         | 4.2E-01 |
| Athletes 11<16 years                   | 3.8E-02                     | 1.7E-01 | 9.1E-02            | 1.5E-01 | 3.2E-01         | 3.9E-01 |
| Athletes 16<30 years                   | 4.6E-02                     | 2.9E-01 | 1.6E-01            | 2.5E-01 | 5.5E-01         | 6.6E-01 |
| Athletes 30<40 years                   | 3.1E-02                     | 1.9E-01 | 1.0E-01            | 1.6E-01 | 3.6E-01         | 4.3E-01 |
| Athletes 40<50 years                   | 2.7E-02                     | 1.8E-01 | 1.0E-01            | 1.6E-01 | 3.5E-01         | 4.2E-01 |
| Athletes 50<70 years                   | 2.7E-02                     | 1.8E-01 | 1.0E-01            | 1.6E-01 | 3.4E-01         | 4.1E-01 |
| Athletes Lifetime Average <sup>c</sup> | 3.5E-02                     | 2.0E-01 | 1.1E-01            | 1.7E-01 | 3.7E-01         | 4.5E-01 |



| Receptor Category and Age Group          | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|--|-----------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Coaches 16<30 years                      | 1.4E-02                     | 1.1E-01 | 6.4E-02            | 9.9E-02 | 2.1E-01         | 2.6E-01 |
| Coaches 30<40 years                      | 1.3E-02                     | 9.7E-02 | 5.6E-02            | 8.7E-02 | 1.9E-01         | 2.3E-01 |
| Coaches 40<50 years                      | 1.2E-02                     | 9.8E-02 | 5.6E-02            | 8.8E-02 | 1.9E-01         | 2.3E-01 |
| Coaches 50<70 years                      | 1.3E-02                     | 9.8E-02 | 5.7E-02            | 8.8E-02 | 1.9E-01         | 2.3E-01 |
| Coaches Lifetime Average <sup>c</sup>    | 9.9E-03                     | 7.8E-02 | 4.5E-02            | 7.0E-02 | 1.5E-01         | 1.8E-01 |
| Referees 16<30 years                     | 5.7E-03                     | 4.2E-02 | 2.4E-02            | 3.7E-02 | 8.1E-02         | 9.8E-02 |
| Referees 30<40 years                     | 5.3E-03                     | 3.7E-02 | 2.1E-02            | 3.3E-02 | 7.1E-02         | 8.6E-02 |
| Referees 40<50 years                     | 5.2E-03                     | 3.7E-02 | 2.1E-02            | 3.3E-02 | 7.2E-02         | 8.7E-02 |
| Referees 50<70 years                     | 5.2E-03                     | 3.7E-02 | 2.1E-02            | 3.3E-02 | 7.2E-02         | 8.7E-02 |
| Referees Lifetime Average <sup>c</sup>   | 4.1E-03                     | 3.0E-02 | 1.7E-02            | 2.6E-02 | 5.7E-02         | 6.9E-02 |
| Spectators Third trimester fetus         | 3.9E-03                     | 1.8E-02 | 9.5E-03            | 1.6E-02 | 3.4E-02         | 4.1E-02 |
| Spectators 0<2 years                     | 2.0E-01                     | 4.4E-01 | 2.2E-01            | 4.1E-01 | 8.8E-01         | 1.1E+00 |
| Spectators 2<6 years                     | 9.8E-02                     | 2.2E-01 | 1.0E-01            | 2.0E-01 | 4.3E-01         | 5.4E-01 |
| Spectators 6<11 years                    | 7.3E-02                     | 1.7E-01 | 7.9E-02            | 1.5E-01 | 3.3E-01         | 3.9E-01 |
| Spectators 11<16 years                   | 7.5E-03                     | 3.3E-02 | 1.7E-02            | 2.9E-02 | 6.0E-02         | 7.3E-02 |
| Spectators 16<30 years                   | 4.2E-03                     | 2.1E-02 | 1.1E-02            | 1.8E-02 | 3.8E-02         | 4.6E-02 |
| Spectators 30<40 years                   | 3.9E-03                     | 1.8E-02 | 9.5E-03            | 1.6E-02 | 3.4E-02         | 4.1E-02 |
| Spectators 40<50 years                   | 3.8E-03                     | 1.8E-02 | 9.5E-03            | 1.6E-02 | 3.3E-02         | 4.1E-02 |
| Spectators 50<70 years                   | 3.8E-03                     | 1.8E-02 | 9.5E-03            | 1.6E-02 | 3.3E-02         | 4.1E-02 |
| Spectators Lifetime Average <sup>c</sup> | 2.1E-02                     | 5.4E-02 | 2.6E-02            | 5.2E-02 | 1.1E-01         | 1.2E-01 |

<sup>a</sup> 35 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Lead is included in Chronic HI<sub>field</sub> calculation (see Section G.2.2 for details).

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

**Table G-5. On-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>, unitless) for Non-Field-Related General Chemicals<sup>b</sup>—Combined Gender**

| Receptor Category and Age Group        | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|--|-----------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes 2<6 years                     | 6.0E-03                     | 5.5E-02 | 4.9E-02            | 3.7E-02 | 1.4E-01         | 2.1E-01 |
| Athletes 6<11 years                    | 7.8E-03                     | 7.1E-02 | 6.3E-02            | 4.9E-02 | 1.8E-01         | 2.8E-01 |
| Athletes 11<16 years                   | 7.6E-03                     | 7.0E-02 | 6.2E-02            | 4.7E-02 | 1.8E-01         | 2.7E-01 |
| Athletes 16<30 years                   | 1.4E-02                     | 1.3E-01 | 1.2E-01            | 8.9E-02 | 3.4E-01         | 5.1E-01 |
| Athletes 30<40 years                   | 9.4E-03                     | 8.6E-02 | 7.6E-02            | 5.8E-02 | 2.2E-01         | 3.3E-01 |
| Athletes 40<50 years                   | 9.3E-03                     | 8.5E-02 | 7.5E-02            | 5.8E-02 | 2.2E-01         | 3.3E-01 |
| Athletes 50<70 years                   | 9.1E-03                     | 8.3E-02 | 7.4E-02            | 5.7E-02 | 2.2E-01         | 3.2E-01 |
| Athletes Lifetime Average <sup>c</sup> | 9.6E-03                     | 8.8E-02 | 7.8E-02            | 5.9E-02 | 2.3E-01         | 3.4E-01 |
| Coaches 16<30 years                    | 6.0E-03                     | 5.4E-02 | 4.8E-02            | 3.7E-02 | 1.4E-01         | 2.1E-01 |
| Coaches 30<40 years                    | 5.2E-03                     | 4.7E-02 | 4.2E-02            | 3.2E-02 | 1.2E-01         | 1.8E-01 |
| Coaches 40<50 years                    | 5.3E-03                     | 4.8E-02 | 4.3E-02            | 3.3E-02 | 1.2E-01         | 1.9E-01 |
| Coaches 50<70 years                    | 5.3E-03                     | 4.8E-02 | 4.3E-02            | 3.3E-02 | 1.2E-01         | 1.9E-01 |
| Coaches Lifetime Average <sup>c</sup>  | 4.2E-03                     | 3.8E-02 | 3.4E-02            | 2.6E-02 | 9.9E-02         | 1.5E-01 |



| Receptor Category and Age Group          | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|--|-----------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Referees 16<30 years                     | 2.2E-03                     | 2.0E-02 | 1.8E-02            | 1.4E-02 | 5.2E-02         | 7.8E-02 |
| Referees 30<40 years                     | 1.9E-03                     | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.8E-02 |
| Referees 40<50 years                     | 2.0E-03                     | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.9E-02 |
| Referees 50<70 years                     | 2.0E-03                     | 1.8E-02 | 1.6E-02            | 1.2E-02 | 4.6E-02         | 6.9E-02 |
| Referees Lifetime Average <sup>c</sup>   | 1.6E-03                     | 1.4E-02 | 1.3E-02            | 9.6E-03 | 3.7E-02         | 5.5E-02 |
| Spectators Third trimester fetus         | 8.0E-04                     | 7.3E-03 | 6.5E-03            | 5.0E-03 | 1.9E-02         | 2.8E-02 |
| Spectators 0<2 years                     | 6.4E-03                     | 5.9E-02 | 5.2E-02            | 4.0E-02 | 1.5E-01         | 2.3E-01 |
| Spectators 2<6 years                     | 3.4E-03                     | 3.1E-02 | 2.7E-02            | 2.1E-02 | 8.0E-02         | 1.2E-01 |
| Spectators 6<11 years                    | 3.2E-03                     | 3.0E-02 | 2.6E-02            | 2.0E-02 | 7.6E-02         | 1.1E-01 |
| Spectators 11<16 years                   | 1.4E-03                     | 1.3E-02 | 1.1E-02            | 8.7E-03 | 3.3E-02         | 4.9E-02 |
| Spectators 16<30 years                   | 9.2E-04                     | 8.4E-03 | 7.5E-03            | 5.7E-03 | 2.2E-02         | 3.2E-02 |
| Spectators 30<40 years                   | 8.0E-04                     | 7.3E-03 | 6.5E-03            | 5.0E-03 | 1.9E-02         | 2.8E-02 |
| Spectators 40<50 years                   | 8.1E-04                     | 7.4E-03 | 6.6E-03            | 5.0E-03 | 1.9E-02         | 2.9E-02 |
| Spectators 50<70 years                   | 8.2E-04                     | 7.4E-03 | 6.6E-03            | 5.1E-03 | 1.9E-02         | 2.9E-02 |
| Spectators Lifetime Average <sup>c</sup> | 1.4E-03                     | 1.2E-02 | 1.1E-02            | 8.4E-03 | 3.2E-02         | 4.8E-02 |

<sup>a</sup> 35 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Inhalation is the only exposure route assessed for non-field-related chemicals that field-specific on-field Chronic HI<sub>field</sub> equals to field-specific on-field Chronic HQ<sub>inh-sum-field</sub> of the corresponding field.

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

**Table G-6. Off-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>) for All General Chemicals<sup>b</sup> for Combined Gender Spectators**

| Spectator Receptor Age Group  | Chronic HI <sub>field</sub> |         |                    |         |                 |         |
|-------------------------------|-----------------------------|---------|--------------------|---------|-----------------|---------|
|                               | Minimum                     | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Third trimester fetus         | 9.5E-04                     | 1.3E-02 | 1.3E-02            | 6.9E-03 | 3.4E-02         | 5.5E-02 |
| 0<2 years                     | 7.6E-03                     | 1.1E-01 | 1.0E-01            | 5.6E-02 | 2.7E-01         | 4.5E-01 |
| 2<6 years                     | 4.0E-03                     | 5.6E-02 | 5.5E-02            | 2.9E-02 | 1.4E-01         | 2.3E-01 |
| 6<11 years                    | 3.8E-03                     | 5.3E-02 | 5.3E-02            | 2.8E-02 | 1.4E-01         | 2.2E-01 |
| 11<16 years                   | 1.7E-03                     | 2.3E-02 | 2.3E-02            | 1.2E-02 | 5.9E-02         | 9.6E-02 |
| 16<30 years                   | 1.1E-03                     | 1.5E-02 | 1.5E-02            | 7.9E-03 | 3.9E-02         | 6.4E-02 |
| 30<40 years                   | 9.5E-04                     | 1.3E-02 | 1.3E-02            | 6.9E-03 | 3.4E-02         | 5.6E-02 |
| 40<50 years                   | 9.6E-04                     | 1.3E-02 | 1.3E-02            | 7.0E-03 | 3.4E-02         | 5.6E-02 |
| 50<70 years                   | 9.7E-04                     | 1.3E-02 | 1.3E-02            | 7.0E-03 | 3.4E-02         | 5.6E-02 |
| Lifetime Average <sup>c</sup> | 1.6E-03                     | 2.2E-02 | 2.2E-02            | 1.2E-02 | 5.7E-02         | 9.4E-02 |

<sup>a</sup> 35 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Inhalation exposure is the only route assessed for off-field chemicals that field-specific off-field Chronic HI<sub>field</sub> for all chemicals equals to field-specific off-field Chronic HQ<sub>inh-sum-field</sub> for all chemicals of the corresponding field.

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.



**Table G-7. Off-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>) for Field-Related General Chemicals<sup>b</sup> for Combined Gender Spectators**

| Spectator Receptor Age Group  | Chronic HI <sub>field</sub> |         |                    |         |                             |         |
|-------------------------------|-----------------------------|---------|--------------------|---------|-----------------------------|---------|
|                               | Minimum                     | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus         | 8.9E-06                     | 5.2E-03 | 6.4E-03            | 2.4E-03 | 1.7E-02                     | 2.5E-02 |
| 0<2 years                     | 7.1E-05                     | 4.2E-02 | 5.2E-02            | 1.9E-02 | 1.4E-01                     | 2.0E-01 |
| 2<6 years                     | 3.7E-05                     | 2.2E-02 | 2.7E-02            | 1.0E-02 | 7.2E-02                     | 1.0E-01 |
| 6<11 years                    | 3.6E-05                     | 2.1E-02 | 2.6E-02            | 9.6E-03 | 6.9E-02                     | 9.9E-02 |
| 11<16 years                   | 1.5E-05                     | 9.1E-03 | 1.1E-02            | 4.1E-03 | 3.0E-02                     | 4.3E-02 |
| 16<30 years                   | 1.0E-05                     | 6.0E-03 | 7.4E-03            | 2.7E-03 | 2.0E-02                     | 2.8E-02 |
| 30<40 years                   | 8.9E-06                     | 5.2E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02                     | 2.5E-02 |
| 40<50 years                   | 9.0E-06                     | 5.3E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02                     | 2.5E-02 |
| 50<70 years                   | 9.0E-06                     | 5.3E-03 | 6.5E-03            | 2.4E-03 | 1.7E-02                     | 2.5E-02 |
| Lifetime Average <sup>c</sup> | 1.5E-05                     | 8.9E-03 | 1.1E-02            | 4.0E-03 | 2.9E-02                     | 4.2E-02 |

<sup>a</sup> 35 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Inhalation exposure is the only route assessed for off-field chemicals that field-specific off-field Chronic HI<sub>field</sub> for field-related chemicals equals to field-specific off-field Chronic HQ<sub>inh-sum-field</sub> for field-related chemicals of the corresponding field.

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.

**Table G-8. Off-Field Field-Specific<sup>a</sup> Chronic Hazard Index (Chronic HI<sub>field</sub>) for Non-Field-Related General Chemicals<sup>b</sup> for Combined Gender Spectators**

| Spectator Receptor Age Group  | Chronic HI <sub>field</sub> |         |                    |         |                             |         |
|-------------------------------|-----------------------------|---------|--------------------|---------|-----------------------------|---------|
|                               | Minimum                     | Mean    | Standard Deviation | Median  | 95 <sup>th</sup> Percentile | Maximum |
| Third trimester fetus         | 1.3E-03                     | 8.2E-03 | 7.9E-03            | 5.0E-03 | 2.2E-02                     | 3.6E-02 |
| 0<2 years                     | 1.0E-02                     | 6.6E-02 | 6.3E-02            | 4.0E-02 | 1.8E-01                     | 2.9E-01 |
| 2<6 years                     | 5.3E-03                     | 3.5E-02 | 3.3E-02            | 2.1E-02 | 9.3E-02                     | 1.5E-01 |
| 6<11 years                    | 5.1E-03                     | 3.3E-02 | 3.2E-02            | 2.0E-02 | 8.9E-02                     | 1.5E-01 |
| 11<16 years                   | 2.2E-03                     | 1.4E-02 | 1.4E-02            | 8.6E-03 | 3.8E-02                     | 6.3E-02 |
| 16<30 years                   | 1.5E-03                     | 9.4E-03 | 9.1E-03            | 5.7E-03 | 2.5E-02                     | 4.2E-02 |
| 30<40 years                   | 1.3E-03                     | 8.2E-03 | 7.9E-03            | 5.0E-03 | 2.2E-02                     | 3.7E-02 |
| 40<50 years                   | 1.3E-03                     | 8.3E-03 | 8.0E-03            | 5.0E-03 | 2.2E-02                     | 3.7E-02 |
| 50<70 years                   | 1.3E-03                     | 8.3E-03 | 8.0E-03            | 5.0E-03 | 2.2E-02                     | 3.7E-02 |
| Lifetime Average <sup>c</sup> | 2.1E-03                     | 1.4E-02 | 1.3E-02            | 8.4E-03 | 3.7E-02                     | 6.2E-02 |

<sup>a</sup> 34 field-specific Chronic HI<sub>field</sub> are included in this table.

<sup>b</sup> Inhalation exposure is the only route assessed for off-field chemicals that field-specific off-field Chronic HI<sub>field</sub> for non-field-related chemicals equals to field-specific off-field Chronic HQ<sub>inh-sum-field</sub> for non-field-related chemicals of the corresponding field.

<sup>c</sup> Lifetime Average Chronic HI is the 70-year weighted lifetime average of all age groups within a receptor category.



### G.3. Lifetime Cancer Risk

This appendix presents the risk of all detected chemicals on synthetic turf fields for the inhalation ( $Risk_{inh}$ ), ingestion ( $Risk_{ing}$ ), and dermal ( $Risk_{der}$ ) routes when toxicity criteria (TC) are available. Details of each exposure route and how to calculate the risk are presented in Chapters 5 and 6 of the Main Report. An example calculation for each route is presented in Section G.1.1.

#### G.3.1. Inhalation Lifetime Risk

Table G-1. **On-Field** Inhalation Lifetime Cancer Risk ( $Risk_{inh}$ , unitless) by Chemical and Inhalation Route Total Lifetime Risk ( $Risk_{inh-sum}$ , unitless) for **Athletes**

| Chemical                               | CASRN      | $Risk_{inh}$ |               |                |                |                |                |                |
|--|------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|
|  |            | 2<6<br>years | 6<11<br>years | 11<16<br>years | 16<30<br>years | 30<40<br>years | 40<50<br>years | 50<70<br>years |
| Field-Related Chemicals                |            |              |               |                |                |                |                |                |
| Acetaldehyde                           | 75-07-0    | 1.9E-07      | 3.1E-07       | 3.0E-07        | 5.3E-07        | 2.5E-07        | 2.5E-07        | 4.8E-07        |
| Aniline                                | 62-53-3    | 2.8E-10      | 4.5E-10       | 4.4E-10        | 7.8E-10        | 3.6E-10        | 3.6E-10        | 7.1E-10        |
| Benz[a]anthracene                      | 56-55-3    | 1.5E-11      | 2.4E-11       | 2.3E-11        | 4.1E-11        | 1.9E-11        | 1.9E-11        | 3.7E-11        |
| Benzo[a]pyrene                         | 50-32-8    | 3.4E-08      | 5.5E-08       | 5.4E-08        | 9.4E-08        | 4.4E-08        | 4.3E-08        | 8.5E-08        |
| Benzo[b]fluoranthene                   | 205-99-2   | 7.3E-11      | 1.2E-10       | 1.2E-10        | 2.0E-10        | 9.5E-11        | 9.4E-11        | 1.8E-10        |
| Benzo[k]fluoranthene                   | 207-08-9   | 9.1E-11      | 1.5E-10       | 1.4E-10        | 2.5E-10        | 1.2E-10        | 1.2E-10        | 2.3E-10        |
| Chrysene                               | 218-01-9   | 6.1E-11      | 9.8E-11       | 9.6E-11        | 1.7E-10        | 7.9E-11        | 7.8E-11        | 1.5E-10        |
| Cyclopenta[cd]pyrene                   | 27208-37-3 | 2.2E-09      | 3.5E-09       | 3.4E-09        | 6.0E-09        | 2.8E-09        | 2.8E-09        | 5.4E-09        |
| Dibenz[a,h]anthracene                  | 53-70-3    | 4.5E-09      | 7.2E-09       | 7.1E-09        | 1.2E-08        | 5.8E-09        | 5.7E-09        | 1.1E-08        |
| Indeno[1,2,3-cd]pyrene                 | 193-39-5   | 3.2E-10      | 5.2E-10       | 5.1E-10        | 8.9E-10        | 4.1E-10        | 4.1E-10        | 8.0E-10        |
| Methyl Isobutyl Ketone                 | 108-10-1   | 4.6E-10      | 7.5E-10       | 7.3E-10        | 1.3E-09        | 6.0E-10        | 5.9E-10        | 1.2E-09        |
| Naphthalene                            | 91-20-3    | 2.4E-08      | 3.9E-08       | 3.8E-08        | 6.8E-08        | 3.2E-08        | 3.1E-08        | 6.1E-08        |
| Styrene                                | 100-42-5   | 1.2E-08      | 1.9E-08       | 1.8E-08        | 3.2E-08        | 1.5E-08        | 1.5E-08        | 2.9E-08        |
| Field-Related $Risk_{inh-sum}$         |            | 7.8E-08      | 1.3E-07       | 1.2E-07        | 2.2E-07        | 1.0E-07        | 9.9E-08        | 2.0E-07        |
| Non-Field-Related Chemicals            |            |              |               |                |                |                |                |                |
| Benzene                                | 71-43-2    | 4.6E-07      | 7.5E-07       | 7.3E-07        | 1.3E-06        | 6.0E-07        | 5.9E-07        | 1.2E-06        |
| Benzene, 1,4-dichloro                  | 106-46-7   | 5.8E-09      | 9.5E-09       | 9.2E-09        | 1.6E-08        | 7.6E-09        | 7.5E-09        | 1.5E-08        |
| Benzene, 1-chloro-4-(trifluoromethyl)- | 98-56-6    | 1.3E-07      | 2.1E-07       | 2.1E-07        | 3.7E-07        | 1.7E-07        | 1.7E-07        | 3.3E-07        |
| Ethylbenzene                           | 100-41-4   | 1.1E-08      | 1.8E-08       | 1.8E-08        | 3.2E-08        | 1.5E-08        | 1.5E-08        | 2.9E-08        |
| Formaldehyde                           | 50-00-0    | 6.1E-07      | 9.9E-07       | 9.7E-07        | 1.7E-06        | 7.9E-07        | 7.8E-07        | 1.5E-06        |
| Tetrachloroethylene                    | 127-18-4   | 7.3E-09      | 1.2E-08       | 1.2E-08        | 2.0E-08        | 9.4E-09        | 9.3E-09        | 1.8E-08        |
| Non-Field-Related $Risk_{inh-sum}$     |            | 1.4E-06      | 2.3E-06       | 2.2E-06        | 4.0E-06        | 1.8E-06        | 1.8E-06        | 3.6E-06        |
| All Chemical $Risk_{inh-sum}$          |            | 1.5E-06      | 2.4E-06       | 2.4E-06        | 4.2E-06        | 1.9E-06        | 1.9E-06        | 3.8E-06        |



**Table G-2. On-Field Inhalation Lifetime Cancer Risk ( $Risk_{inh}$ , unitless) by Chemical and Inhalation Route Total Lifetime Cancer Risk ( $Risk_{inh-sum}$ , unitless) for Coaches**

| Chemical                               | CASRN      | $Risk_{inh}$ |             |             |             |
|--|------------|--------------|-------------|-------------|-------------|
|  |            | 16<30 years  | 30<40 years | 40<50 years | 50<70 years |
| Field-Related Chemicals                |            |              |             |             |             |
| Acetaldehyde                           | 75-07-0    | 2.2E-07      | 1.4E-07     | 1.4E-07     | 2.8E-07     |
| Aniline                                | 62-53-3    | 3.2E-10      | 2.0E-10     | 2.0E-10     | 4.1E-10     |
| Benz[a]anthracene                      | 56-55-3    | 1.7E-11      | 1.0E-11     | 1.1E-11     | 2.1E-11     |
| Benzo[a]pyrene                         | 50-32-8    | 3.9E-08      | 2.4E-08     | 2.5E-08     | 4.9E-08     |
| Benzo[b]fluoranthene                   | 205-99-2   | 8.4E-11      | 5.2E-11     | 5.3E-11     | 1.1E-10     |
| Benzo[k]fluoranthene                   | 207-08-9   | 1.0E-10      | 6.5E-11     | 6.6E-11     | 1.3E-10     |
| Chrysene                               | 218-01-9   | 7.0E-11      | 4.4E-11     | 4.4E-11     | 8.8E-11     |
| Cyclopenta[cd]pyrene                   | 27208-37-3 | 2.5E-09      | 1.5E-09     | 1.6E-09     | 3.1E-09     |
| Dibenz[a,h]anthracene                  | 53-70-3    | 5.1E-09      | 3.2E-09     | 3.2E-09     | 6.5E-09     |
| Indeno[1,2,3-cd]pyrene                 | 193-39-5   | 3.7E-10      | 2.3E-10     | 2.3E-10     | 4.6E-10     |
| Methyl Isobutyl Ketone                 | 108-10-1   | 5.3E-10      | 3.3E-10     | 3.4E-10     | 6.8E-10     |
| Naphthalene                            | 91-20-3    | 2.8E-08      | 1.7E-08     | 1.8E-08     | 3.5E-08     |
| Styrene                                | 100-42-5   | 1.3E-08      | 8.4E-09     | 8.4E-09     | 1.7E-08     |
| Field-Related $Risk_{inh-sum}$         |            | 8.9E-08      | 5.6E-08     | 5.6E-08     | 1.1E-07     |
| Non-Field-Related Chemicals            |            |              |             |             |             |
| Benzene                                | 71-43-2    | 5.3E-07      | 3.3E-07     | 3.3E-07     | 6.7E-07     |
| Benzene, 1,4-dichloro                  | 106-46-7   | 6.7E-09      | 4.2E-09     | 4.2E-09     | 8.5E-09     |
| Benzene, 1-chloro-4-(trifluoromethyl)- | 98-56-6    | 1.5E-07      | 9.4E-08     | 9.5E-08     | 1.9E-07     |
| Ethylbenzene                           | 100-41-4   | 1.3E-08      | 8.2E-09     | 8.2E-09     | 1.7E-08     |
| Formaldehyde                           | 50-00-0    | 7.0E-07      | 4.4E-07     | 4.4E-07     | 8.9E-07     |
| Tetrachloroethylene                    | 127-18-4   | 8.4E-09      | 5.2E-09     | 5.3E-09     | 1.1E-08     |
| Non-Field-Related $Risk_{inh-sum}$     |            | 1.6E-06      | 1.0E-06     | 1.0E-06     | 2.1E-06     |
| All Chemical $Risk_{inh-sum}$          |            | 1.7E-06      | 1.1E-06     | 1.1E-06     | 2.2E-06     |

**Table G-3. On-Field Inhalation Lifetime Cancer Risk ( $Risk_{inh}$ , unitless) by Chemical and Inhalation Route Total Lifetime Cancer Risk ( $Risk_{inh-sum}$ , unitless) for Referees**

| Chemical                | CASRN    | $Risk_{inh}$ |             |             |             |
|-------------------------|----------|--------------|-------------|-------------|-------------|
|                         |          | 16<30 years  | 30<40 years | 40<50 years | 50<70 years |
| Field-Related Chemicals |          |              |             |             |             |
| Acetaldehyde            | 75-07-0  | 8.2E-08      | 5.1E-08     | 5.2E-08     | 1.0E-07     |
| Aniline                 | 62-53-3  | 1.2E-10      | 7.5E-11     | 7.6E-11     | 1.5E-10     |
| Benz[a]anthracene       | 56-55-3  | 6.2E-12      | 3.9E-12     | 3.9E-12     | 7.9E-12     |
| Benzo[a]pyrene          | 50-32-8  | 1.4E-08      | 9.0E-09     | 9.1E-09     | 1.8E-08     |
| Benzo[b]fluoranthene    | 205-99-2 | 3.1E-11      | 1.9E-11     | 2.0E-11     | 3.9E-11     |
| Benzo[k]fluoranthene    | 207-08-9 | 3.9E-11      | 2.4E-11     | 2.4E-11     | 4.9E-11     |



| Chemical                                  | CASRN      | Risk <sub>inh</sub> |             |             |             |
|---|------------|---------------------|-------------|-------------|-------------|
|   |            | 16<30 years         | 30<40 years | 40<50 years | 50<70 years |
| Chrysene                                  | 218-01-9   | 2.6E-11             | 1.6E-11     | 1.6E-11     | 3.3E-11     |
| Cyclopenta[cd]pyrene                      | 27208-37-3 | 9.2E-10             | 5.7E-10     | 5.8E-10     | 1.2E-09     |
| Dibenz[a,h]anthracene                     | 53-70-3    | 1.9E-09             | 1.2E-09     | 1.2E-09     | 2.4E-09     |
| Indeno[1,2,3-cd]pyrene                    | 193-39-5   | 1.4E-10             | 8.5E-11     | 8.6E-11     | 1.7E-10     |
| Methyl Isobutyl Ketone                    | 108-10-1   | 2.0E-10             | 1.2E-10     | 1.3E-10     | 2.5E-10     |
| Naphthalene                               | 91-20-3    | 1.0E-08             | 6.5E-09     | 6.5E-09     | 1.3E-08     |
| Styrene                                   | 100-42-5   | 5.0E-09             | 3.1E-09     | 3.1E-09     | 6.3E-09     |
| Field-Related Risk <sub>inh-sum</sub>     |            | 3.3E-08             | 2.1E-08     | 2.1E-08     | 4.2E-08     |
| Non-Field-Related Chemicals               |            |                     |             |             |             |
| Benzene                                   | 71-43-2    | 2.0E-07             | 1.2E-07     | 1.2E-07     | 2.5E-07     |
| Benzene, 1,4-dichloro                     | 106-46-7   | 2.5E-09             | 1.6E-09     | 1.6E-09     | 3.2E-09     |
| Benzene, 1-chloro-4-(trifluoromethyl)-    | 98-56-6    | 5.6E-08             | 3.5E-08     | 3.5E-08     | 7.1E-08     |
| Ethylbenzene                              | 100-41-4   | 4.9E-09             | 3.0E-09     | 3.1E-09     | 6.1E-09     |
| Formaldehyde                              | 50-00-0    | 2.6E-07             | 1.6E-07     | 1.6E-07     | 3.3E-07     |
| Tetrachloroethylene                       | 127-18-4   | 3.1E-09             | 1.9E-09     | 2.0E-09     | 3.9E-09     |
| Non-Field-Related Risk <sub>inh-sum</sub> |            | 6.1E-07             | 3.8E-07     | 3.8E-07     | 7.7E-07     |
| All Chemical Risk <sub>inh-sum</sub>      |            | 6.4E-07             | 4.0E-07     | 4.0E-07     | 8.1E-07     |

Table G-4. **On-Field** Inhalation Lifetime Cancer Risk (Risk<sub>inh</sub>, unitless) by Chemical and Inhalation Route Total Lifetime Cancer Risk (Risk<sub>inh-sum</sub>, unitless) for Spectators

| Chemical                | CASRN      | Risk <sub>inh</sub>   |           |           |            |             |             |             |             |             |
|-------------------------|------------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                         |            | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Field-Related Chemicals |            |                       |           |           |            |             |             |             |             |             |
| Acetaldehyde            | 75-07-0    | 5.3E-09               | 3.4E-07   | 1.1E-07   | 1.3E-07    | 5.5E-08     | 3.4E-08     | 2.1E-08     | 2.2E-08     | 4.3E-08     |
| Aniline                 | 62-53-3    | 7.8E-12               | 5.0E-10   | 1.6E-10   | 1.9E-10    | 8.1E-11     | 5.0E-11     | 3.1E-11     | 3.2E-11     | 6.3E-11     |
| Benz[a]anthracene       | 56-55-3    | 4.0E-13               | 2.6E-11   | 8.2E-12   | 9.8E-12    | 4.2E-12     | 2.6E-12     | 1.6E-12     | 1.6E-12     | 3.3E-12     |
| Benzo[a]pyrene          | 50-32-8    | 9.4E-10               | 6.0E-08   | 1.9E-08   | 2.3E-08    | 9.8E-09     | 6.0E-09     | 3.8E-09     | 3.8E-09     | 7.6E-09     |
| Benzo[b]fluoranthene    | 205-99-2   | 2.0E-12               | 1.3E-10   | 4.1E-11   | 4.9E-11    | 2.1E-11     | 1.3E-11     | 8.1E-12     | 8.2E-12     | 1.6E-11     |
| Benzo[k]fluoranthene    | 207-08-9   | 2.5E-12               | 1.6E-10   | 5.1E-11   | 6.1E-11    | 2.6E-11     | 1.6E-11     | 1.0E-11     | 1.0E-11     | 2.0E-11     |
| Chrysene                | 218-01-9   | 1.7E-12               | 1.1E-10   | 3.4E-11   | 4.1E-11    | 1.8E-11     | 1.1E-11     | 6.7E-12     | 6.8E-12     | 1.4E-11     |
| Cyclopenta[cd]pyrene    | 27208-37-3 | 6.0E-11               | 3.8E-09   | 1.2E-09   | 1.4E-09    | 6.2E-10     | 3.8E-10     | 2.4E-10     | 2.4E-10     | 4.8E-10     |
| Dibenz[a,h]anthracene   | 53-70-3    | 1.2E-10               | 8.0E-09   | 2.5E-09   | 3.0E-09    | 1.3E-09     | 8.0E-10     | 5.0E-10     | 5.0E-10     | 1.0E-09     |



| Chemical                                  | CASRN    | Risk <sub>inh</sub>   |           |           |            |             |             |             |             |             |
|---|----------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |          | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Indeno[1,2,3-cd]pyrene                    | 193-39-5 | 8.8E-12               | 5.7E-10   | 1.8E-10   | 2.1E-10    | 9.2E-11     | 5.7E-11     | 3.5E-11     | 3.6E-11     | 7.2E-11     |
| Methyl Isobutyl Ketone                    | 108-10-1 | 1.3E-11               | 8.3E-10   | 2.6E-10   | 3.1E-10    | 1.3E-10     | 8.3E-11     | 5.2E-11     | 5.2E-11     | 1.0E-10     |
| Naphthalene                               | 91-20-3  | 6.7E-10               | 4.3E-08   | 1.4E-08   | 1.6E-08    | 7.0E-09     | 4.3E-09     | 2.7E-09     | 2.7E-09     | 5.5E-09     |
| Styrene                                   | 100-42-5 | 3.2E-10               | 2.1E-08   | 6.5E-09   | 7.8E-09    | 3.4E-09     | 2.1E-09     | 1.3E-09     | 1.3E-09     | 2.6E-09     |
| Field-Related Risk <sub>inh-sum</sub>     |          | 2.1E-09               | 1.4E-07   | 4.4E-08   | 5.2E-08    | 2.2E-08     | 1.4E-08     | 8.6E-09     | 8.7E-09     | 1.7E-08     |
| Non-Field-Related Chemicals               |          |                       |           |           |            |             |             |             |             |             |
| Benzene                                   | 71-43-2  | 1.3E-08               | 8.2E-07   | 2.6E-07   | 3.1E-07    | 1.3E-07     | 8.2E-08     | 5.1E-08     | 5.2E-08     | 1.0E-07     |
| Benzene, 1,4-dichloro                     | 106-46-7 | 1.6E-10               | 1.0E-08   | 3.3E-09   | 3.9E-09    | 1.7E-09     | 1.0E-09     | 6.5E-10     | 6.6E-10     | 1.3E-09     |
| Benzene, 1-chloro-4-(trifluoromethyl)-    | 98-56-6  | 3.6E-09               | 2.3E-07   | 7.4E-08   | 8.8E-08    | 3.8E-08     | 2.3E-08     | 1.5E-08     | 1.5E-08     | 3.0E-08     |
| Ethylbenzene                              | 100-41-4 | 3.1E-10               | 2.0E-08   | 6.4E-09   | 7.6E-09    | 3.3E-09     | 2.0E-09     | 1.3E-09     | 1.3E-09     | 2.6E-09     |
| Formaldehyde                              | 50-00-0  | 1.7E-08               | 1.1E-06   | 3.4E-07   | 4.1E-07    | 1.8E-07     | 1.1E-07     | 6.8E-08     | 6.9E-08     | 1.4E-07     |
| Tetrachloroethylene                       | 127-18-4 | 2.0E-10               | 1.3E-08   | 4.1E-09   | 4.9E-09    | 2.1E-09     | 1.3E-09     | 8.1E-10     | 8.2E-10     | 1.6E-09     |
| Non-Field-Related Risk <sub>inh-sum</sub> |          | 3.9E-08               | 2.5E-06   | 8.0E-07   | 9.5E-07    | 4.1E-07     | 2.5E-07     | 1.6E-07     | 1.6E-07     | 3.2E-07     |
| All Chemical Risk <sub>inh-sum</sub>      |          | 4.1E-08               | 2.7E-06   | 8.4E-07   | 1.0E-06    | 4.3E-07     | 2.7E-07     | 1.7E-07     | 1.7E-07     | 3.4E-07     |

Table G-5. **Off-Field Inhalation Lifetime Cancer Risk (Risk<sub>inh</sub>, unitless) by Chemical and Inhalation Route Total Lifetime Cancer (Risk<sub>inh-sum</sub>, unitless) for Spectators**

| Chemical                | CASRN    | Risk <sub>inh</sub>   |           |           |            |             |             |             |             |             |
|-------------------------|----------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                         |          | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Field-Related Chemicals |          |                       |           |           |            |             |             |             |             |             |
| Acetaldehyde            | 75-07-0  | 0.0E+00               | 0.0E+00   | 0.0E+00   | 0.0E+00    | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     |
| Aniline                 | 62-53-3  | 8.6E-12               | 5.5E-10   | 1.7E-10   | 2.1E-10    | 9.0E-11     | 5.5E-11     | 3.4E-11     | 3.5E-11     | 7.0E-11     |
| Benz[a]anthracene       | 56-55-3  | 0.0E+00               | 0.0E+00   | 0.0E+00   | 0.0E+00    | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     |
| Benzo[a]pyrene          | 50-32-8  | 1.1E-09               | 7.4E-08   | 2.3E-08   | 2.8E-08    | 1.2E-08     | 7.4E-09     | 4.6E-09     | 4.7E-09     | 9.4E-09     |
| Benzo[b]fluoranthene    | 205-99-2 | 3.1E-12               | 2.0E-10   | 6.3E-11   | 7.6E-11    | 3.3E-11     | 2.0E-11     | 1.3E-11     | 1.3E-11     | 2.5E-11     |
| Benzo[k]fluoranthene    | 207-08-9 | 2.6E-12               | 1.7E-10   | 5.3E-11   | 6.3E-11    | 2.7E-11     | 1.7E-11     | 1.0E-11     | 1.1E-11     | 2.1E-11     |



| Chemical                                  | CASRN      | Risk <sub>inh</sub>   |           |           |            |             |             |             |             |             |
|---|------------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|   |            | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Chrysene                                  | 218-01-9   | 8.6E-13               | 5.5E-11   | 1.7E-11   | 2.1E-11    | 9.0E-12     | 5.5E-12     | 3.5E-12     | 3.5E-12     | 7.0E-12     |
| Cyclopenta[cd]pyrene                      | 27208-37-3 | 5.2E-11               | 3.4E-09   | 1.1E-09   | 1.3E-09    | 5.5E-10     | 3.4E-10     | 2.1E-10     | 2.1E-10     | 4.2E-10     |
| Dibenz[a,h]anthracene                     | 53-70-3    | 7.8E-11               | 5.0E-09   | 1.6E-09   | 1.9E-09    | 8.1E-10     | 5.0E-10     | 3.1E-10     | 3.1E-10     | 6.3E-10     |
| Indeno[1,2,3-cd]pyrene                    | 193-39-5   | 6.1E-12               | 3.9E-10   | 1.2E-10   | 1.5E-10    | 6.3E-11     | 3.9E-11     | 2.4E-11     | 2.5E-11     | 4.9E-11     |
| Methyl Isobutyl Ketone                    | 108-10-1   | 2.9E-12               | 1.9E-10   | 6.0E-11   | 7.1E-11    | 3.1E-11     | 1.9E-11     | 1.2E-11     | 1.2E-11     | 2.4E-11     |
| Naphthalene                               | 91-20-3    | 7.4E-10               | 4.7E-08   | 1.5E-08   | 1.8E-08    | 7.7E-09     | 4.7E-09     | 3.0E-09     | 3.0E-09     | 6.0E-09     |
| Styrene                                   | 100-42-5   | 3.3E-10               | 2.1E-08   | 6.7E-09   | 7.9E-09    | 3.4E-09     | 2.1E-09     | 1.3E-09     | 1.3E-09     | 2.7E-09     |
| Field-Related Risk <sub>inh-sum</sub>     |            | 2.4E-09               | 1.5E-07   | 4.8E-08   | 5.7E-08    | 2.5E-08     | 1.5E-08     | 9.5E-09     | 9.6E-09     | 1.9E-08     |
| Non-Field-Related Chemicals               |            |                       |           |           |            |             |             |             |             |             |
| Benzene                                   | 71-43-2    | 1.3E-08               | 8.6E-07   | 2.7E-07   | 3.2E-07    | 1.4E-07     | 8.6E-08     | 5.4E-08     | 5.4E-08     | 1.1E-07     |
| Benzene, 1,4-dichloro                     | 106-46-7   | 1.5E-10               | 9.4E-09   | 3.0E-09   | 3.5E-09    | 1.5E-09     | 9.4E-10     | 5.9E-10     | 6.0E-10     | 1.2E-09     |
| Benzene, 1-chloro-4-(trifluoromethyl)-    | 98-56-6    | 3.6E-09               | 2.3E-07   | 7.4E-08   | 8.8E-08    | 3.8E-08     | 2.3E-08     | 1.5E-08     | 1.5E-08     | 3.0E-08     |
| Ethylbenzene                              | 100-41-4   | 3.3E-10               | 2.1E-08   | 6.8E-09   | 8.1E-09    | 3.5E-09     | 2.1E-09     | 1.3E-09     | 1.4E-09     | 2.7E-09     |
| Formaldehyde                              | 50-00-0    | 0.0E+00               | 0.0E+00   | 0.0E+00   | 0.0E+00    | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     | 0.0E+00     |
| Tetrachloroethylene                       | 127-18-4   | 2.1E-10               | 1.3E-08   | 4.2E-09   | 5.0E-09    | 2.2E-09     | 1.3E-09     | 8.3E-10     | 8.4E-10     | 1.7E-09     |
| Non-Field-Related Risk <sub>inh-sum</sub> |            | 1.8E-08               | 1.1E-06   | 3.6E-07   | 4.3E-07    | 1.9E-07     | 1.1E-07     | 7.1E-08     | 7.2E-08     | 1.4E-07     |
| All Chemical Risk <sub>inh-sum</sub>      |            | 2.0E-08               | 1.3E-06   | 4.1E-07   | 4.9E-07    | 2.1E-07     | 1.3E-07     | 8.1E-08     | 8.2E-08     | 1.6E-07     |

**INDIVIDUAL FIELD ASSESSMENT (Table G-147 to Table G-150)**

Table G-6. **On-Field** Field-Specific<sup>a</sup> Inhalation Risk Route Total Lifetime Cancer Risk (Risk<sub>inh-sum-field</sub>, unitless) for **All Carcinogens**—Combined Gender

| Receptor Category | Age Group   | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |             | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years   | 3.2E-07                       | 1.5E-06 | 1.0E-06            | 1.0E-06 | 3.6E-06         | 4.0E-06 |
|                   | 6<11 years  | 5.2E-07                       | 2.4E-06 | 1.6E-06            | 1.7E-06 | 5.8E-06         | 6.4E-06 |
|                   | 11<16 years | 5.1E-07                       | 2.3E-06 | 1.6E-06            | 1.7E-06 | 5.7E-06         | 6.3E-06 |
|                   | 16<30 years | 8.9E-07                       | 4.1E-06 | 2.8E-06            | 2.9E-06 | 9.9E-06         | 1.1E-05 |
|                   | 30<40 years | 4.1E-07                       | 1.9E-06 | 1.3E-06            | 1.4E-06 | 4.6E-06         | 5.1E-06 |



| Receptor Category | Age Group             | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
|                   | 40<50 years           | 4.1E-07                       | 1.9E-06 | 1.3E-06            | 1.3E-06 | 4.6E-06         | 5.1E-06 |
|                   | 50<70 years           | 8.0E-07                       | 3.7E-06 | 2.6E-06            | 2.6E-06 | 9.0E-06         | 1.0E-05 |
| Coaches           | 16<30 years           | 3.7E-07                       | 1.7E-06 | 1.2E-06            | 1.2E-06 | 4.1E-06         | 4.6E-06 |
|                   | 30<40 years           | 2.3E-07                       | 1.1E-06 | 7.3E-07            | 7.5E-07 | 2.6E-06         | 2.8E-06 |
|                   | 40<50 years           | 2.3E-07                       | 1.1E-06 | 7.4E-07            | 7.6E-07 | 2.6E-06         | 2.9E-06 |
|                   | 50<70 years           | 4.6E-07                       | 2.1E-06 | 1.5E-06            | 1.5E-06 | 5.2E-06         | 5.8E-06 |
| Referees          | 16<30 years           | 1.4E-07                       | 6.3E-07 | 4.3E-07            | 4.5E-07 | 1.5E-06         | 1.7E-06 |
|                   | 30<40 years           | 8.5E-08                       | 3.9E-07 | 2.7E-07            | 2.8E-07 | 9.5E-07         | 1.1E-06 |
|                   | 40<50 years           | 8.6E-08                       | 4.0E-07 | 2.7E-07            | 2.8E-07 | 9.6E-07         | 1.1E-06 |
|                   | 50<70 years           | 1.7E-07                       | 8.0E-07 | 5.5E-07            | 5.6E-07 | 1.9E-06         | 2.1E-06 |
| Spectators        | Third trimester fetus | 8.8E-09                       | 4.1E-08 | 2.8E-08            | 2.9E-08 | 9.9E-08         | 1.1E-07 |
|                   | 0<2 years             | 5.7E-07                       | 2.6E-06 | 1.8E-06            | 1.9E-06 | 6.4E-06         | 7.0E-06 |
|                   | 2<6 years             | 1.8E-07                       | 8.3E-07 | 5.7E-07            | 5.9E-07 | 2.0E-06         | 2.2E-06 |
|                   | 6<11 years            | 2.1E-07                       | 9.9E-07 | 6.8E-07            | 7.0E-07 | 2.4E-06         | 2.6E-06 |
|                   | 11<16 years           | 9.2E-08                       | 4.3E-07 | 2.9E-07            | 3.0E-07 | 1.0E-06         | 1.1E-06 |
|                   | 16<30 years           | 5.7E-08                       | 2.6E-07 | 1.8E-07            | 1.9E-07 | 6.4E-07         | 7.0E-07 |
|                   | 30<40 years           | 3.5E-08                       | 1.6E-07 | 1.1E-07            | 1.2E-07 | 4.0E-07         | 4.4E-07 |
|                   | 40<50 years           | 3.6E-08                       | 1.7E-07 | 1.1E-07            | 1.2E-07 | 4.0E-07         | 4.4E-07 |
| 50<70 years       | 7.2E-08               | 3.3E-07                       | 2.3E-07 | 2.4E-07            | 8.0E-07 | 8.9E-07         |         |

<sup>a</sup> 35 field-specific Risk<sub>inh-sum-field</sub> are included in the table.

**Table G-7. On-Field Field-Specific<sup>a</sup> Inhalation Risk Route Total Lifetime Cancer Risk (Risk<sub>inh-sum-field</sub>, unitless) for Field-Related Carcinogens—Combined Gender**

| Receptor Category | Age Group   | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |             | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years   | 4.0E-10                       | 7.6E-08 | 8.3E-08            | 4.1E-08 | 2.1E-07         | 3.5E-07 |
|                   | 6<11 years  | 6.5E-10                       | 1.2E-07 | 1.3E-07            | 6.7E-08 | 3.4E-07         | 5.7E-07 |
|                   | 11<16 years | 6.4E-10                       | 1.2E-07 | 1.3E-07            | 6.6E-08 | 3.3E-07         | 5.6E-07 |
|                   | 16<30 years | 1.1E-09                       | 2.1E-07 | 2.3E-07            | 1.2E-07 | 5.9E-07         | 9.8E-07 |
|                   | 30<40 years | 5.2E-10                       | 9.9E-08 | 1.1E-07            | 5.4E-08 | 2.7E-07         | 4.6E-07 |
|                   | 40<50 years | 5.1E-10                       | 9.8E-08 | 1.1E-07            | 5.3E-08 | 2.7E-07         | 4.5E-07 |
|                   | 50<70 years | 1.0E-09                       | 1.9E-07 | 2.1E-07            | 1.0E-07 | 5.3E-07         | 8.9E-07 |
| Coaches           | 16<30 years | 4.6E-10                       | 8.8E-08 | 9.6E-08            | 4.8E-08 | 2.4E-07         | 4.1E-07 |
|                   | 30<40 years | 2.9E-10                       | 5.5E-08 | 6.0E-08            | 3.0E-08 | 1.5E-07         | 2.5E-07 |
|                   | 40<50 years | 2.9E-10                       | 5.6E-08 | 6.0E-08            | 3.0E-08 | 1.5E-07         | 2.6E-07 |
|                   | 50<70 years | 5.9E-10                       | 1.1E-07 | 1.2E-07            | 6.0E-08 | 3.1E-07         | 5.1E-07 |
| Referees          | 16<30 years | 1.7E-10                       | 3.3E-08 | 3.6E-08            | 1.8E-08 | 9.0E-08         | 1.5E-07 |
|                   | 30<40 years | 1.1E-10                       | 2.0E-08 | 2.2E-08            | 1.1E-08 | 5.6E-08         | 9.4E-08 |



| Receptor Category | Age Group             | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
|                   | 40<50 years           | 1.1E-10                       | 2.1E-08 | 2.2E-08            | 1.1E-08 | 5.7E-08         | 9.5E-08 |
|                   | 50<70 years           | 2.2E-10                       | 4.1E-08 | 4.5E-08            | 2.2E-08 | 1.1E-07         | 1.9E-07 |
| Spectators        | Third trimester fetus | 1.1E-11                       | 2.1E-09 | 2.3E-09            | 1.1E-09 | 5.8E-09         | 9.8E-09 |
|                   | 0<2 years             | 7.2E-10                       | 1.4E-07 | 1.5E-07            | 7.4E-08 | 3.8E-07         | 6.3E-07 |
|                   | 2<6 years             | 2.3E-10                       | 4.3E-08 | 4.7E-08            | 2.3E-08 | 1.2E-07         | 2.0E-07 |
|                   | 6<11 years            | 2.7E-10                       | 5.1E-08 | 5.6E-08            | 2.8E-08 | 1.4E-07         | 2.4E-07 |
|                   | 11<16 years           | 1.2E-10                       | 2.2E-08 | 2.4E-08            | 1.2E-08 | 6.1E-08         | 1.0E-07 |
|                   | 16<30 years           | 7.2E-11                       | 1.4E-08 | 1.5E-08            | 7.4E-09 | 3.8E-08         | 6.3E-08 |
|                   | 30<40 years           | 4.5E-11                       | 8.5E-09 | 9.2E-09            | 4.6E-09 | 2.3E-08         | 3.9E-08 |
|                   | 40<50 years           | 4.5E-11                       | 8.6E-09 | 9.3E-09            | 4.6E-09 | 2.4E-08         | 4.0E-08 |
| 50<70 years       | 9.0E-11               | 1.7E-08                       | 1.9E-08 | 9.3E-09            | 4.7E-08 | 8.0E-08         |         |

<sup>a</sup> 35 field-specific Risk<sub>inh-sum-field</sub> are included in the table.

**Table G-8. On-Field Field-Specific<sup>a</sup> Inhalation Risk Route Total Lifetime Cancer Risk (Risk<sub>inh-sum-field</sub>, unitless) for Non-Field-Related Carcinogens—Combined Gender**

| Receptor Category | Age Group             | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years             | 3.1E-07                       | 1.4E-06 | 9.7E-07            | 1.0E-06 | 3.3E-06         | 3.9E-06 |
|                   | 6<11 years            | 4.9E-07                       | 2.3E-06 | 1.6E-06            | 1.7E-06 | 5.3E-06         | 6.4E-06 |
|                   | 11<16 years           | 4.8E-07                       | 2.2E-06 | 1.5E-06            | 1.7E-06 | 5.2E-06         | 6.2E-06 |
|                   | 16<30 years           | 8.5E-07                       | 3.9E-06 | 2.7E-06            | 2.9E-06 | 9.2E-06         | 1.1E-05 |
|                   | 30<40 years           | 4.0E-07                       | 1.8E-06 | 1.3E-06            | 1.4E-06 | 4.3E-06         | 5.1E-06 |
|                   | 40<50 years           | 3.9E-07                       | 1.8E-06 | 1.2E-06            | 1.3E-06 | 4.2E-06         | 5.0E-06 |
|                   | 50<70 years           | 7.7E-07                       | 3.5E-06 | 2.4E-06            | 2.6E-06 | 8.3E-06         | 9.9E-06 |
| Coaches           | 16<30 years           | 3.5E-07                       | 1.6E-06 | 1.1E-06            | 1.2E-06 | 3.8E-06         | 4.5E-06 |
|                   | 30<40 years           | 2.2E-07                       | 1.0E-06 | 7.0E-07            | 7.5E-07 | 2.4E-06         | 2.8E-06 |
|                   | 40<50 years           | 2.2E-07                       | 1.0E-06 | 7.0E-07            | 7.6E-07 | 2.4E-06         | 2.9E-06 |
|                   | 50<70 years           | 4.4E-07                       | 2.0E-06 | 1.4E-06            | 1.5E-06 | 4.8E-06         | 5.7E-06 |
| Referees          | 16<30 years           | 1.3E-07                       | 6.0E-07 | 4.1E-07            | 4.5E-07 | 1.4E-06         | 1.7E-06 |
|                   | 30<40 years           | 8.1E-08                       | 3.7E-07 | 2.6E-07            | 2.8E-07 | 8.8E-07         | 1.0E-06 |
|                   | 40<50 years           | 8.2E-08                       | 3.8E-07 | 2.6E-07            | 2.8E-07 | 8.9E-07         | 1.1E-06 |
|                   | 50<70 years           | 1.7E-07                       | 7.5E-07 | 5.2E-07            | 5.6E-07 | 1.8E-06         | 2.1E-06 |
| Spectators        | Third trimester fetus | 8.4E-09                       | 3.9E-08 | 2.7E-08            | 2.9E-08 | 9.1E-08         | 1.1E-07 |
|                   | 0<2 years             | 5.4E-07                       | 2.5E-06 | 1.7E-06            | 1.9E-06 | 5.8E-06         | 7.0E-06 |
|                   | 2<6 years             | 1.7E-07                       | 7.8E-07 | 5.4E-07            | 5.8E-07 | 1.8E-06         | 2.2E-06 |
|                   | 6<11 years            | 2.0E-07                       | 9.3E-07 | 6.5E-07            | 7.0E-07 | 2.2E-06         | 2.6E-06 |
|                   | 11<16 years           | 8.8E-08                       | 4.0E-07 | 2.8E-07            | 3.0E-07 | 9.5E-07         | 1.1E-06 |



| Receptor Category | Age Group   | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |             | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
|                   | 16<30 years | 5.4E-08                       | 2.5E-07 | 1.7E-07            | 1.9E-07 | 5.8E-07         | 7.0E-07 |
|                   | 30<40 years | 3.4E-08                       | 1.6E-07 | 1.1E-07            | 1.2E-07 | 3.7E-07         | 4.4E-07 |
|                   | 40<50 years | 3.4E-08                       | 1.6E-07 | 1.1E-07            | 1.2E-07 | 3.7E-07         | 4.4E-07 |
|                   | 50<70 years | 6.9E-08                       | 3.1E-07 | 2.2E-07            | 2.3E-07 | 7.4E-07         | 8.9E-07 |

<sup>a</sup> 35 field-specific Risk<sub>inh-sum-field</sub> are included in the table.

**Table G-9. Off-Field Field-Specific<sup>a</sup> Inhalation Risk Route Total Lifetime Cancer Risk (Risk<sub>inh-sum-field</sub>, unitless) for Spectators—Combined Gender**

| Age Group                                      | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|--|-------------------------------|---------|--------------------|---------|-----------------|---------|
|  | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| <b>Field-Related<sup>a</sup> Chemicals</b>     |                               |         |                    |         |                 |         |
| Third trimester fetus                          | 0.0E+00                       | 2.3E-09 | 2.8E-09            | 9.8E-10 | 7.5E-09         | 1.1E-08 |
| 0<2 years                                      | 0.0E+00                       | 1.5E-07 | 1.8E-07            | 6.3E-08 | 4.8E-07         | 7.0E-07 |
| 2<6 years                                      | 0.0E+00                       | 4.6E-08 | 5.7E-08            | 2.0E-08 | 1.5E-07         | 2.2E-07 |
| 6<11 years                                     | 0.0E+00                       | 5.5E-08 | 6.8E-08            | 2.4E-08 | 1.8E-07         | 2.6E-07 |
| 11<16 years                                    | 0.0E+00                       | 2.4E-08 | 2.9E-08            | 1.0E-08 | 7.9E-08         | 1.1E-07 |
| 16<30 years                                    | 0.0E+00                       | 1.5E-08 | 1.8E-08            | 6.3E-09 | 4.8E-08         | 7.0E-08 |
| 30<40 years                                    | 0.0E+00                       | 9.1E-09 | 1.1E-08            | 3.9E-09 | 3.0E-08         | 4.4E-08 |
| 40<50 years                                    | 0.0E+00                       | 9.2E-09 | 1.1E-08            | 4.0E-09 | 3.1E-08         | 4.4E-08 |
| 50<70 years                                    | 0.0E+00                       | 1.8E-08 | 2.3E-08            | 7.9E-09 | 6.1E-08         | 8.8E-08 |
| <b>Non-Field-Related<sup>b</sup> Chemicals</b> |                               |         |                    |         |                 |         |
| Third trimester fetus                          | 4.0E-09                       | 1.8E-08 | 1.6E-08            | 1.0E-08 | 4.8E-08         | 7.3E-08 |
| 0<2 years                                      | 2.6E-07                       | 1.1E-06 | 1.0E-06            | 6.4E-07 | 3.1E-06         | 4.7E-06 |
| 2<6 years                                      | 8.1E-08                       | 3.6E-07 | 3.2E-07            | 2.0E-07 | 9.7E-07         | 1.5E-06 |
| 6<11 years                                     | 9.7E-08                       | 4.3E-07 | 3.8E-07            | 2.4E-07 | 1.2E-06         | 1.8E-06 |
| 11<16 years                                    | 4.2E-08                       | 1.9E-07 | 1.6E-07            | 1.0E-07 | 5.0E-07         | 7.6E-07 |
| 16<30 years                                    | 2.6E-08                       | 1.1E-07 | 1.0E-07            | 6.4E-08 | 3.1E-07         | 4.7E-07 |
| 30<40 years                                    | 1.6E-08                       | 7.1E-08 | 6.3E-08            | 4.0E-08 | 1.9E-07         | 2.9E-07 |
| 40<50 years                                    | 1.6E-08                       | 7.2E-08 | 6.4E-08            | 4.1E-08 | 1.9E-07         | 2.9E-07 |
| 50<70 years                                    | 3.3E-08                       | 1.4E-07 | 1.3E-07            | 8.1E-08 | 3.9E-07         | 5.9E-07 |
| <b>All Carcinogens</b>                         |                               |         |                    |         |                 |         |
| Third trimester fetus                          | 2.3E-09                       | 1.9E-08 | 1.7E-08            | 1.1E-08 | 5.4E-08         | 7.7E-08 |
| 0<2 years                                      | 1.5E-07                       | 1.3E-06 | 1.1E-06            | 7.0E-07 | 3.4E-06         | 5.0E-06 |
| 2<6 years                                      | 4.8E-08                       | 4.0E-07 | 3.5E-07            | 2.2E-07 | 1.1E-06         | 1.6E-06 |
| 6<11 years                                     | 5.7E-08                       | 4.7E-07 | 4.2E-07            | 2.6E-07 | 1.3E-06         | 1.9E-06 |
| 11<16 years                                    | 2.5E-08                       | 2.0E-07 | 1.8E-07            | 1.1E-07 | 5.6E-07         | 8.1E-07 |
| 16<30 years                                    | 1.5E-08                       | 1.3E-07 | 1.1E-07            | 7.0E-08 | 3.4E-07         | 5.0E-07 |
| 30<40 years                                    | 9.4E-09                       | 7.8E-08 | 7.0E-08            | 4.4E-08 | 2.2E-07         | 3.1E-07 |



| Age Group   | Risk <sub>inh-sum-field</sub> |         |                    |         |                 |         |
|-------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|             | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| 40<50 years | 9.5E-09                       | 7.9E-08 | 7.0E-08            | 4.4E-08 | 2.2E-07         | 3.1E-07 |
| 50<70 years | 1.9E-08                       | 1.6E-07 | 1.4E-07            | 8.9E-08 | 4.4E-07         | 6.3E-07 |

<sup>a</sup> 35 field-specific Risk<sub>inh-sum-field</sub> are included in the table.

<sup>b</sup> 34 field-specific Risk<sub>inh-sum-field</sub> are included in the table.

### G.3.2. Dermal Lifetime Risk

Table G-1. Dermal Risk (Risk<sub>der</sub>, unitless) by **Field-Related Chemical** and Dermal Route Total (Risk<sub>der-sum</sub>, unitless) for Athletes

| Chemical                              | CASRN      | Risk <sub>der</sub> |            |             |             |             |             |             |
|---------------------------------------|------------|---------------------|------------|-------------|-------------|-------------|-------------|-------------|
|                                       |            | 2<6 years           | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Aniline                               | 62-53-3    | 2.5E-13             | 2.5E-13    | 2.6E-13     | 3.1E-13     | 1.6E-13     | 1.3E-13     | 2.7E-13     |
| Benz[a]anthracene                     | 56-55-3    | 7.2E-11             | 7.1E-11    | 7.5E-11     | 8.9E-11     | 4.5E-11     | 3.8E-11     | 7.7E-11     |
| Cyclopenta[cd]pyrene                  | 27208-37-3 | 8.3E-10             | 8.2E-10    | 8.7E-10     | 1.0E-09     | 5.2E-10     | 4.4E-10     | 8.9E-10     |
| Benzo[a]pyrene                        | 50-32-8    | 5.4E-10             | 5.4E-10    | 5.7E-10     | 6.7E-10     | 3.4E-10     | 2.9E-10     | 5.8E-10     |
| Benzo[b]fluoranthene                  | 205-99-2   | 1.0E-10             | 1.0E-10    | 1.1E-10     | 1.3E-10     | 6.4E-11     | 5.4E-11     | 1.1E-10     |
| 1,3-Benzothiazole-2-thiol             | 149-30-4   | 3.2E-12             | 3.2E-12    | 3.4E-12     | 4.0E-12     | 2.0E-12     | 1.7E-12     | 3.4E-12     |
| Dibenz[a,h]anthracene                 | 53-70-3    | 9.1E-11             | 9.0E-11    | 9.5E-11     | 1.1E-10     | 5.7E-11     | 4.8E-11     | 9.7E-11     |
| Indeno[1,2,3-cd]pyrene                | 193-39-5   | 5.3E-11             | 5.3E-11    | 5.6E-11     | 6.6E-11     | 3.3E-11     | 2.8E-11     | 5.7E-11     |
| Benzo[k]fluoranthene                  | 207-08-9   | 4.5E-11             | 4.4E-11    | 4.7E-11     | 5.5E-11     | 2.8E-11     | 2.4E-11     | 4.8E-11     |
| Naphthalene                           | 91-20-3    | 3.4E-13             | 3.4E-13    | 3.6E-13     | 4.2E-13     | 2.1E-13     | 1.8E-13     | 3.7E-13     |
| Chrysene                              | 218-01-9   | 4.7E-11             | 4.6E-11    | 4.9E-11     | 5.7E-11     | 2.9E-11     | 2.5E-11     | 5.0E-11     |
| Field-Related Risk <sub>der-sum</sub> |            | 1.8E-09             | 1.8E-09    | 1.9E-09     | 2.2E-09     | 1.1E-09     | 9.5E-10     | 1.9E-09     |

Table G-2. Dermal Risk (Risk<sub>der</sub>, unitless) by **Field-Related Chemical** and Dermal Route Total (Risk<sub>der-sum</sub>, unitless) for Coaches

| Chemical                  | CASRN      | Risk <sub>der</sub> |             |             |             |
|---------------------------|------------|---------------------|-------------|-------------|-------------|
|                           |            | 16<30 years         | 30<40 years | 40<50 years | 50<70 years |
| Aniline                   | 62-53-3    | 1.5E-13             | 1.0E-13     | 1.0E-13     | 2.1E-13     |
| Benz[a]anthracene         | 56-55-3    | 4.4E-11             | 2.9E-11     | 3.0E-11     | 5.9E-11     |
| Cyclopenta[cd]pyrene      | 27208-37-3 | 5.1E-10             | 3.4E-10     | 3.4E-10     | 6.9E-10     |
| Benzo[a]pyrene            | 50-32-8    | 3.3E-10             | 2.2E-10     | 2.2E-10     | 4.5E-10     |
| Benzo[b]fluoranthene      | 205-99-2   | 6.2E-11             | 4.2E-11     | 4.2E-11     | 8.4E-11     |
| 1,3-Benzothiazole-2-thiol | 149-30-4   | 2.0E-12             | 1.3E-12     | 1.3E-12     | 2.7E-12     |
| Dibenz[a,h]anthracene     | 53-70-3    | 5.5E-11             | 3.7E-11     | 3.7E-11     | 7.5E-11     |
| Indeno[1,2,3-cd]pyrene    | 193-39-5   | 3.2E-11             | 2.2E-11     | 2.2E-11     | 4.4E-11     |
| Benzo[k]fluoranthene      | 207-08-9   | 2.7E-11             | 1.8E-11     | 1.8E-11     | 3.7E-11     |
| Naphthalene               | 91-20-3    | 2.1E-13             | 1.4E-13     | 1.4E-13     | 2.8E-13     |
| Chrysene                  | 218-01-9   | 2.8E-11             | 1.9E-11     | 1.9E-11     | 3.8E-11     |



| Chemical                              | CASRN | Risk <sub>der</sub> |             |             |             |
|---------------------------------------|-------|---------------------|-------------|-------------|-------------|
|                                       |       | 16<30 years         | 30<40 years | 40<50 years | 50<70 years |
| Field-Related Risk <sub>der-sum</sub> |       | 1.1E-09             | 7.3E-10     | 7.4E-10     | 1.5E-09     |

Table G-3. Dermal Risk (Risk<sub>der</sub>, unitless) by **Field-Related Chemical** and Dermal Route Total (Risk<sub>der-sum</sub>, unitless) for Referees

| Chemical                              | CASRN      | Risk <sub>der</sub> |             |             |             |
|---------------------------------------|------------|---------------------|-------------|-------------|-------------|
|                                       |            | 16<30 years         | 30<40 years | 40<50 years | 50<70 years |
| Aniline                               | 62-53-3    | 6.1E-14             | 4.1E-14     | 4.1E-14     | 8.3E-14     |
| Benz[a]anthracene                     | 56-55-3    | 1.8E-11             | 1.2E-11     | 1.2E-11     | 2.4E-11     |
| Cyclopenta[cd]pyrene                  | 27208-37-3 | 2.0E-10             | 1.4E-10     | 1.4E-10     | 2.8E-10     |
| Benzo[a]pyrene                        | 50-32-8    | 1.3E-10             | 8.9E-11     | 9.0E-11     | 1.8E-10     |
| Benzo[b]fluoranthene                  | 205-99-2   | 2.5E-11             | 1.7E-11     | 1.7E-11     | 3.4E-11     |
| 1,3-Benzothiazole-2-thiol             | 149-30-4   | 7.9E-13             | 5.3E-13     | 5.3E-13     | 1.1E-12     |
| Dibenz[a,h]anthracene                 | 53-70-3    | 2.2E-11             | 1.5E-11     | 1.5E-11     | 3.0E-11     |
| Indeno[1,2,3-cd]pyrene                | 193-39-5   | 1.3E-11             | 8.7E-12     | 8.8E-12     | 1.8E-11     |
| Benzo[k]fluoranthene                  | 207-08-9   | 1.1E-11             | 7.3E-12     | 7.4E-12     | 1.5E-11     |
| Naphthalene                           | 91-20-3    | 8.4E-14             | 5.6E-14     | 5.7E-14     | 1.1E-13     |
| Chrysene                              | 218-01-9   | 1.1E-11             | 7.6E-12     | 7.7E-12     | 1.5E-11     |
| Field-Related Risk <sub>der-sum</sub> |            | 4.4E-10             | 2.9E-10     | 3.0E-10     | 5.9E-10     |

Table G-4. Dermal Risk (Risk<sub>der</sub>, unitless) by **Field-Related Chemical** and Dermal Route Total (Risk<sub>der-sum</sub>, unitless) for Spectators

| Chemical                  | CASRN      | Risk <sub>der</sub>   |           |           |            |             |             |             |             |             |
|---------------------------|------------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                           |            | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Aniline                   | 62-53-3    | 1.5E-14               | 6.6E-13   | 2.9E-13   | 3.3E-13    | 2.8E-13     | 1.2E-13     | 7.1E-14     | 7.2E-14     | 1.4E-13     |
| Benz[a]anthracene         | 56-55-3    | 4.4E-12               | 1.9E-10   | 8.4E-11   | 9.5E-11    | 8.2E-11     | 3.3E-11     | 2.1E-11     | 2.1E-11     | 3.9E-11     |
| Cyclopenta[cd]pyrene      | 27208-37-3 | 5.1E-11               | 2.2E-09   | 9.7E-10   | 1.1E-09    | 9.4E-10     | 3.8E-10     | 2.4E-10     | 2.4E-10     | 4.5E-10     |
| Benzo[a]pyrene            | 50-32-8    | 3.3E-11               | 1.4E-09   | 6.3E-10   | 7.2E-10    | 6.1E-10     | 2.5E-10     | 1.5E-10     | 1.6E-10     | 2.9E-10     |
| Benzo[b]fluoranthene      | 205-99-2   | 6.3E-12               | 2.7E-10   | 1.2E-10   | 1.4E-10    | 1.2E-10     | 4.7E-11     | 2.9E-11     | 2.9E-11     | 5.6E-11     |
| 1,3-Benzothiazole-2-thiol | 149-30-4   | 2.0E-13               | 8.5E-12   | 3.8E-12   | 4.3E-12    | 3.6E-12     | 1.5E-12     | 9.2E-13     | 9.3E-13     | 1.8E-12     |
| Dibenz[a,h]anthracene     | 53-70-3    | 5.6E-12               | 2.4E-10   | 1.1E-10   | 1.2E-10    | 1.0E-10     | 4.2E-11     | 2.6E-11     | 2.6E-11     | 4.9E-11     |
| Indeno[1,2,3-cd]pyrene    | 193-39-5   | 3.3E-12               | 1.4E-10   | 6.2E-11   | 7.1E-11    | 6.0E-11     | 2.5E-11     | 1.5E-11     | 1.5E-11     | 2.9E-11     |
| Benzo[k]fluoranthene      | 207-08-9   | 2.8E-12               | 1.2E-10   | 5.2E-11   | 5.9E-11    | 5.1E-11     | 2.1E-11     | 1.3E-11     | 1.3E-11     | 2.4E-11     |



| Chemical                              | CASRN    | Risk <sub>der</sub>   |           |           |            |             |             |             |             |             |
|---------------------------------------|----------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                                       |          | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Naphthalene                           | 91-20-3  | 2.1E-14               | 9.1E-13   | 4.0E-13   | 4.5E-13    | 3.9E-13     | 1.6E-13     | 9.8E-14     | 9.9E-14     | 1.9E-13     |
| Chrysene                              | 218-01-9 | 2.9E-12               | 1.2E-10   | 5.4E-11   | 6.1E-11    | 5.3E-11     | 2.1E-11     | 1.3E-11     | 1.3E-11     | 2.5E-11     |
| Field-Related Risk <sub>der-sum</sub> |          | 1.1E-10               | 4.7E-09   | 2.1E-09   | 2.4E-09    | 2.0E-09     | 8.3E-10     | 5.1E-10     | 5.2E-10     | 9.7E-10     |

**INDIVIDUAL FIELD ASSESSMENT (Table G-155)**

Table G-5. Field-Specific<sup>a</sup> Dermal Risk Route Total Lifetime Cancer Risk (Risk<sub>der-sum-field</sub>, unitless) for **Field-Related Carcinogens**—Combined Gender

| Receptor Category | Age Group             | Risk <sub>der-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum                       | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years             | 9.2E-11                       | 1.8E-09 | 1.2E-09            | 1.7E-09 | 3.6E-09         | 4.8E-09 |
|                   | 6<11 years            | 9.1E-11                       | 1.8E-09 | 1.2E-09            | 1.7E-09 | 3.5E-09         | 4.8E-09 |
|                   | 11<16 years           | 9.6E-11                       | 1.9E-09 | 1.2E-09            | 1.8E-09 | 3.7E-09         | 5.0E-09 |
|                   | 16<30 years           | 1.1E-10                       | 2.2E-09 | 1.5E-09            | 2.1E-09 | 4.4E-09         | 5.9E-09 |
|                   | 30<40 years           | 5.8E-11                       | 1.1E-09 | 7.4E-10            | 1.1E-09 | 2.2E-09         | 3.0E-09 |
|                   | 40<50 years           | 4.9E-11                       | 9.5E-10 | 6.3E-10            | 9.0E-10 | 1.9E-09         | 2.5E-09 |
|                   | 50<70 years           | 9.8E-11                       | 1.9E-09 | 1.3E-09            | 1.8E-09 | 3.8E-09         | 5.1E-09 |
| Coaches           | 16<30 years           | 5.6E-11                       | 1.1E-09 | 7.2E-10            | 1.0E-09 | 2.2E-09         | 2.9E-09 |
|                   | 30<40 years           | 3.8E-11                       | 7.3E-10 | 4.8E-10            | 6.9E-10 | 1.5E-09         | 2.0E-09 |
|                   | 40<50 years           | 3.8E-11                       | 7.4E-10 | 4.9E-10            | 7.0E-10 | 1.5E-09         | 2.0E-09 |
|                   | 50<70 years           | 7.6E-11                       | 1.5E-09 | 9.8E-10            | 1.4E-09 | 3.0E-09         | 4.0E-09 |
| Referees          | 16<30 years           | 2.3E-11                       | 4.4E-10 | 2.9E-10            | 4.2E-10 | 8.8E-10         | 1.2E-09 |
|                   | 30<40 years           | 1.5E-11                       | 2.9E-10 | 1.9E-10            | 2.8E-10 | 5.9E-10         | 7.9E-10 |
|                   | 40<50 years           | 1.5E-11                       | 3.0E-10 | 2.0E-10            | 2.8E-10 | 5.9E-10         | 8.0E-10 |
|                   | 50<70 years           | 3.1E-11                       | 5.9E-10 | 3.9E-10            | 5.7E-10 | 1.2E-09         | 1.6E-09 |
| Spectators        | Third trimester fetus | 5.7E-12                       | 1.1E-10 | 7.3E-11            | 1.1E-10 | 2.2E-10         | 3.0E-10 |
|                   | 0<2 years             | 2.4E-10                       | 4.7E-09 | 3.1E-09            | 4.5E-09 | 9.5E-09         | 1.3E-08 |
|                   | 2<6 years             | 1.1E-10                       | 2.1E-09 | 1.4E-09            | 2.0E-09 | 4.2E-09         | 5.6E-09 |
|                   | 6<11 years            | 1.2E-10                       | 2.4E-09 | 1.6E-09            | 2.3E-09 | 4.7E-09         | 6.4E-09 |
|                   | 11<16 years           | 1.0E-10                       | 2.0E-09 | 1.3E-09            | 1.9E-09 | 4.1E-09         | 5.4E-09 |
|                   | 16<30 years           | 4.3E-11                       | 8.3E-10 | 5.5E-10            | 7.9E-10 | 1.7E-09         | 2.2E-09 |
|                   | 30<40 years           | 2.6E-11                       | 5.1E-10 | 3.4E-10            | 4.9E-10 | 1.0E-09         | 1.4E-09 |
|                   | 40<50 years           | 2.7E-11                       | 5.2E-10 | 3.4E-10            | 4.9E-10 | 1.0E-09         | 1.4E-09 |
| 50<70 years       | 5.0E-11               | 9.7E-10                       | 6.4E-10 | 9.3E-10            | 1.9E-09 | 2.6E-09         |         |

<sup>a</sup> 35 field-specific Risk<sub>der-sum-field</sub> are included in the table.



### G.3.3. Ingestion Lifetime Risk

Table G-1. Ingestion Risk ( $R_{\text{King}}$ , unitless) by **Field-Related Chemical** and Ingestion Route Total ( $R_{\text{King-sum}}$ , unitless) for Athletes

| Chemical                            | CASRN <sup>a</sup> | $R_{\text{King}}$ |            |             |             |             |             |             |
|-------------------------------------|--------------------|-------------------|------------|-------------|-------------|-------------|-------------|-------------|
|                                     |                    | 2<6 years         | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Aniline                             | 62-53-3            | 8.0E-12           | 6.7E-12    | 5.2E-12     | 5.4E-12     | 2.6E-12     | 2.2E-12     | 4.4E-12     |
| Arsenic                             |                    | 7.4E-08           | 6.1E-08    | 4.8E-08     | 4.9E-08     | 2.4E-08     | 2.0E-08     | 4.1E-08     |
| Benz[a]anthracene                   | 56-55-3            | 2.8E-09           | 2.3E-09    | 1.8E-09     | 1.9E-09     | 8.9E-10     | 7.5E-10     | 1.5E-09     |
| Benzo[a]pyrene                      | 50-32-8            | 2.3E-08           | 1.9E-08    | 1.5E-08     | 1.5E-08     | 7.3E-09     | 6.2E-09     | 1.3E-08     |
| Benzo[b]fluoranthene                | 205-99-2           | 3.8E-09           | 3.2E-09    | 2.5E-09     | 2.6E-09     | 1.2E-09     | 1.0E-09     | 2.1E-09     |
| Benzo[k]fluoranthene                | 207-08-9           | 1.2E-09           | 1.0E-09    | 8.0E-10     | 8.3E-10     | 4.0E-10     | 3.4E-10     | 6.8E-10     |
| Chromium                            |                    | 1.9E-08           | 1.6E-08    | 1.2E-08     | 1.3E-08     | 6.1E-09     | 5.1E-09     | 1.0E-08     |
| Chrysene                            | 218-01-9           | 1.2E-09           | 1.0E-09    | 8.0E-10     | 8.3E-10     | 4.0E-10     | 3.4E-10     | 6.8E-10     |
| Cyclopenta[cd]pyrene                | 27208-37-3         | 2.6E-08           | 2.2E-08    | 1.7E-08     | 1.8E-08     | 8.5E-09     | 7.2E-09     | 1.5E-08     |
| Dibenz[a,h]anthracene               | 53-70-3            | 5.6E-10           | 4.7E-10    | 3.6E-10     | 3.8E-10     | 1.8E-10     | 1.5E-10     | 3.1E-10     |
| Indeno[1,2,3-cd]pyrene              | 193-39-5           | 4.6E-10           | 3.9E-10    | 3.0E-10     | 3.1E-10     | 1.5E-10     | 1.3E-10     | 2.6E-10     |
| Lead                                |                    | 4.5E-09           | 3.8E-09    | 2.9E-09     | 3.0E-09     | 1.5E-09     | 1.2E-09     | 2.5E-09     |
| Naphthalene                         | 91-20-3            | 5.0E-12           | 4.2E-12    | 3.2E-12     | 3.4E-12     | 1.6E-12     | 1.4E-12     | 2.8E-12     |
| Field-Related $R_{\text{King-sum}}$ |                    | 1.6E-07           | 1.3E-07    | 1.0E-07     | 1.1E-07     | 5.0E-08     | 4.2E-08     | 8.7E-08     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not appreciate these chemicals.

Table G-2. Ingestion Risk ( $R_{\text{King}}$ , unitless) by **Field-Related Chemical** and Ingestion Route Total ( $R_{\text{King-sum}}$ , unitless) for Coaches

| Chemical                            | CASRN <sup>a</sup> | $R_{\text{King}}$ |             |             |             |
|-------------------------------------|--------------------|-------------------|-------------|-------------|-------------|
|                                     |                    | 16<30 years       | 30<40 years | 40<50 years | 50<70 years |
| Aniline                             | 62-53-3            | 1.4E-12           | 9.1E-13     | 8.9E-13     | 1.8E-12     |
| Arsenic                             |                    | 1.2E-08           | 8.4E-09     | 8.2E-09     | 1.6E-08     |
| Benz[a]anthracene                   | 56-55-3            | 4.7E-10           | 3.2E-10     | 3.1E-10     | 6.2E-10     |
| Benzo[a]pyrene                      | 50-32-8            | 3.9E-09           | 2.6E-09     | 2.5E-09     | 5.1E-09     |
| Benzo[b]fluoranthene                | 205-99-2           | 6.5E-10           | 4.3E-10     | 4.2E-10     | 8.5E-10     |
| Benzo[k]fluoranthene                | 207-08-9           | 2.1E-10           | 1.4E-10     | 1.4E-10     | 2.8E-10     |
| Chromium                            |                    | 3.2E-09           | 2.2E-09     | 2.1E-09     | 4.2E-09     |
| Chrysene                            | 218-01-9           | 2.1E-10           | 1.4E-10     | 1.4E-10     | 2.8E-10     |
| Cyclopenta[cd]pyrene                | 27208-37-3         | 4.5E-09           | 3.0E-09     | 3.0E-09     | 5.9E-09     |
| Dibenz[a,h]anthracene               | 53-70-3            | 9.5E-11           | 6.4E-11     | 6.2E-11     | 1.3E-10     |
| Indeno[1,2,3-cd]pyrene              | 193-39-5           | 7.9E-11           | 5.3E-11     | 5.2E-11     | 1.0E-10     |
| Lead                                |                    | 7.7E-10           | 5.1E-10     | 5.0E-10     | 1.0E-09     |
| Naphthalene                         | 91-20-3            | 8.5E-13           | 5.7E-13     | 5.6E-13     | 1.1E-12     |
| Field-Related $R_{\text{King-sum}}$ |                    | 2.7E-08           | 1.8E-08     | 1.7E-08     | 3.5E-08     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not appreciate these chemicals.



Table G-3. Ingestion Risk ( $R_{\text{King}}$ , unitless) by **Field-Related Chemical** and Ingestion Route Total ( $R_{\text{King-sum}}$ , unitless) for Referees

| Chemical                            | CASRN <sup>a</sup> | $R_{\text{King}}$ |             |             |             |
|-------------------------------------|--------------------|-------------------|-------------|-------------|-------------|
|                                     |                    | 16<30 years       | 30<40 years | 40<50 years | 50<70 years |
| Aniline                             | 62-53-3            | 6.0E-13           | 4.0E-13     | 3.9E-13     | 7.8E-13     |
| Arsenic                             |                    | 5.5E-09           | 3.7E-09     | 3.6E-09     | 7.2E-09     |
| Benz[a]anthracene                   | 56-55-3            | 2.1E-10           | 1.4E-10     | 1.4E-10     | 2.7E-10     |
| Benzo[a]pyrene                      | 50-32-8            | 1.7E-09           | 1.1E-09     | 1.1E-09     | 2.2E-09     |
| Benzo[b]fluoranthene                | 205-99-2           | 2.8E-10           | 1.9E-10     | 1.9E-10     | 3.7E-10     |
| Benzo[k]fluoranthene                | 207-08-9           | 9.2E-11           | 6.2E-11     | 6.0E-11     | 1.2E-10     |
| Chromium                            |                    | 1.4E-09           | 9.5E-10     | 9.3E-10     | 1.9E-09     |
| Chrysene                            | 218-01-9           | 9.2E-11           | 6.2E-11     | 6.0E-11     | 1.2E-10     |
| Cyclopenta[cd]pyrene                | 27208-37-3         | 2.0E-09           | 1.3E-09     | 1.3E-09     | 2.6E-09     |
| Dibenz[a,h]anthracene               | 53-70-3            | 4.2E-11           | 2.8E-11     | 2.7E-11     | 5.5E-11     |
| Indeno[1,2,3-cd]pyrene              | 193-39-5           | 3.5E-11           | 2.3E-11     | 2.3E-11     | 4.5E-11     |
| Lead                                |                    | 3.4E-10           | 2.3E-10     | 2.2E-10     | 4.4E-10     |
| Naphthalene                         | 91-20-3            | 3.7E-13           | 2.5E-13     | 2.5E-13     | 4.9E-13     |
| Field-Related $R_{\text{King-sum}}$ |                    | 1.2E-08           | 7.8E-09     | 7.6E-09     | 1.5E-08     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not appreciate these chemicals.

Table G-4. Ingestion Risk ( $R_{\text{King}}$ , unitless) by **Field-Related Chemical** and Ingestion Route Total ( $R_{\text{King-sum}}$ , unitless) for Spectators

| Chemical               | CASRN <sup>a</sup> | $R_{\text{King}}$     |           |           |            |             |             |             |             |             |  |
|------------------------|--------------------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|--|
|                        |                    | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |  |
| Aniline                | 62-53-3            | 8.4E-14               | 4.7E-11   | 1.3E-11   | 1.2E-11    | 9.1E-13     | 4.8E-13     | 3.3E-13     | 3.1E-13     | 6.2E-13     |  |
| Arsenic                |                    | 7.7E-10               | 4.3E-07   | 1.2E-07   | 1.1E-07    | 8.4E-09     | 4.4E-09     | 3.0E-09     | 2.8E-09     | 5.7E-09     |  |
| Benz[a]anthracene      | 56-55-3            | 2.9E-11               | 1.6E-08   | 4.6E-09   | 4.0E-09    | 3.2E-10     | 1.7E-10     | 1.1E-10     | 1.1E-10     | 2.2E-10     |  |
| Benzo[a]pyrene         | 50-32-8            | 2.4E-10               | 1.3E-07   | 3.8E-08   | 3.3E-08    | 2.6E-09     | 1.4E-09     | 9.3E-10     | 8.8E-10     | 1.8E-09     |  |
| Benzo[b]fluoranthene   | 205-99-2           | 4.0E-11               | 2.2E-08   | 6.3E-09   | 5.5E-09    | 4.3E-10     | 2.3E-10     | 1.6E-10     | 1.5E-10     | 3.0E-10     |  |
| Benzo[k]fluoranthene   | 207-08-9           | 1.3E-11               | 7.2E-09   | 2.0E-09   | 1.8E-09    | 1.4E-10     | 7.5E-11     | 5.0E-11     | 4.8E-11     | 9.6E-11     |  |
| Chromium               |                    | 2.0E-10               | 1.1E-07   | 3.1E-08   | 2.8E-08    | 2.2E-09     | 1.1E-09     | 7.7E-10     | 7.3E-10     | 1.5E-09     |  |
| Chrysene               | 218-01-9           | 1.3E-11               | 7.2E-09   | 2.0E-09   | 1.8E-09    | 1.4E-10     | 7.5E-11     | 5.0E-11     | 4.8E-11     | 9.6E-11     |  |
| Cyclopenta[cd]pyrene   | 27208-37-3         | 2.8E-10               | 1.5E-07   | 4.4E-08   | 3.9E-08    | 3.0E-09     | 1.6E-09     | 1.1E-09     | 1.0E-09     | 2.1E-09     |  |
| Dibenz[a,h]anthracene  | 53-70-3            | 5.9E-12               | 3.3E-09   | 9.3E-10   | 8.1E-10    | 6.4E-11     | 3.4E-11     | 2.3E-11     | 2.2E-11     | 4.3E-11     |  |
| Indeno[1,2,3-cd]pyrene | 193-39-5           | 4.9E-12               | 2.7E-09   | 7.7E-10   | 6.7E-10    | 5.3E-11     | 2.8E-11     | 1.9E-11     | 1.8E-11     | 3.6E-11     |  |



| Chemical                  | CASRN <sup>a</sup> | Risking               |           |           |            |             |             |             |             |             |
|---------------------------|--------------------|-----------------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|
|                           |                    | Third trimester fetus | 0<2 years | 2<6 years | 6<11 years | 11<16 years | 16<30 years | 30<40 years | 40<50 years | 50<70 years |
| Lead                      |                    | 4.8E-11               | 2.6E-08   | 7.5E-09   | 6.6E-09    | 5.2E-10     | 2.7E-10     | 1.9E-10     | 1.8E-10     | 3.5E-10     |
| Naphthalene               | 91-20-3            | 5.3E-14               | 2.9E-11   | 8.3E-12   | 7.3E-12    | 5.7E-13     | 3.0E-13     | 2.1E-13     | 1.9E-13     | 3.9E-13     |
| Field-Related Risking-sum |                    | 1.6E-09               | 9.1E-07   | 2.6E-07   | 2.3E-07    | 1.8E-08     | 9.5E-09     | 6.4E-09     | 6.0E-09     | 1.2E-08     |

<sup>a</sup> CASRN for metals and metalloids are not included as the Study did not speciate these chemicals.

### INDIVIDUAL FIELD ASSESSMENT (Table G-160)

Table G-5. Field-Specific<sup>a</sup> Ingestion Risk Route Total Lifetime Cancer Risk (Risk<sub>King-sum-field</sub>, unitless) for **Field-Related Carcinogens—Combined Gender**

| Receptor Category | Age Group             | Risk <sub>King-sum-field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|--------------------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum                        | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years             | 3.9E-08                        | 1.6E-07 | 7.3E-08            | 1.4E-07 | 2.7E-07         | 3.6E-07 |
|                   | 6<11 years            | 3.3E-08                        | 1.3E-07 | 6.1E-08            | 1.2E-07 | 2.3E-07         | 3.0E-07 |
|                   | 11<16 years           | 2.5E-08                        | 1.0E-07 | 4.7E-08            | 9.0E-08 | 1.8E-07         | 2.3E-07 |
|                   | 16<30 years           | 2.6E-08                        | 1.1E-07 | 4.9E-08            | 9.3E-08 | 1.8E-07         | 2.4E-07 |
|                   | 30<40 years           | 1.3E-08                        | 5.0E-08 | 2.3E-08            | 4.4E-08 | 8.7E-08         | 1.2E-07 |
|                   | 40<50 years           | 1.1E-08                        | 4.2E-08 | 2.0E-08            | 3.8E-08 | 7.4E-08         | 9.8E-08 |
|                   | 50<70 years           | 2.2E-08                        | 8.7E-08 | 4.1E-08            | 7.7E-08 | 1.5E-07         | 2.0E-07 |
| Coaches           | 16<30 years           | 6.7E-09                        | 2.7E-08 | 1.2E-08            | 2.4E-08 | 4.6E-08         | 6.1E-08 |
|                   | 30<40 years           | 4.5E-09                        | 1.8E-08 | 8.3E-09            | 1.6E-08 | 3.1E-08         | 4.1E-08 |
|                   | 40<50 years           | 4.4E-09                        | 1.7E-08 | 8.1E-09            | 1.5E-08 | 3.0E-08         | 4.0E-08 |
|                   | 50<70 years           | 8.8E-09                        | 3.5E-08 | 1.6E-08            | 3.1E-08 | 6.1E-08         | 8.0E-08 |
| Referees          | 16<30 years           | 2.9E-09                        | 1.2E-08 | 5.4E-09            | 1.0E-08 | 2.0E-08         | 2.7E-08 |
|                   | 30<40 years           | 2.0E-09                        | 7.8E-09 | 3.7E-09            | 6.9E-09 | 1.4E-08         | 1.8E-08 |
|                   | 40<50 years           | 1.9E-09                        | 7.6E-09 | 3.6E-09            | 6.8E-09 | 1.3E-08         | 1.8E-08 |
|                   | 50<70 years           | 3.9E-09                        | 1.5E-08 | 7.2E-09            | 1.4E-08 | 2.7E-08         | 3.5E-08 |
| Spectators        | Third trimester fetus | 4.1E-10                        | 1.6E-09 | 7.7E-10            | 1.5E-09 | 2.9E-09         | 3.8E-09 |
|                   | 0<2 years             | 2.3E-07                        | 9.1E-07 | 4.3E-07            | 8.1E-07 | 1.6E-06         | 2.1E-06 |
|                   | 2<6 years             | 6.5E-08                        | 2.6E-07 | 1.2E-07            | 2.3E-07 | 4.5E-07         | 6.0E-07 |
|                   | 6<11 years            | 5.7E-08                        | 2.3E-07 | 1.1E-07            | 2.0E-07 | 4.0E-07         | 5.2E-07 |
|                   | 11<16 years           | 4.5E-09                        | 1.8E-08 | 8.3E-09            | 1.6E-08 | 3.1E-08         | 4.1E-08 |
|                   | 16<30 years           | 2.4E-09                        | 9.5E-09 | 4.4E-09            | 8.4E-09 | 1.6E-08         | 2.2E-08 |
|                   | 30<40 years           | 1.6E-09                        | 6.4E-09 | 3.0E-09            | 5.7E-09 | 1.1E-08         | 1.5E-08 |
|                   | 40<50 years           | 1.5E-09                        | 6.0E-09 | 2.8E-09            | 5.4E-09 | 1.1E-08         | 1.4E-08 |
| 50<70 years       | 3.0E-09               | 1.2E-08                        | 5.7E-09 | 1.1E-08            | 2.1E-08 | 2.8E-08         |         |

<sup>a</sup> 35 field-specific Risk<sub>King-sum-field</sub> are included in the table.



### G.3.4. Multiple Routes Lifetime Incremental Cancer Risk

Table G-1. **On-Field** Lifetime Incremental Cancer Risks for Inhalation, Dermal, and Ingestion Routes ( $Risk_{inh-sum}$ ,  $Risk_{der-sum}$ , and  $Risk_{ing-sum}$ , unitless) and Multiple Routes Exposures to **All** Carcinogens (RISK, unitless)

| Cancer Risk        | Athletes | Coaches | Referees | Spectators |
|--------------------|----------|---------|----------|------------|
| $Risk_{inh-sum}$   | 1.8E-05  | 6.1E-06 | 2.2E-06  | 5.9E-06    |
| $Risk_{der-sum}$   | 1.2E-08  | 4.0E-09 | 1.6E-09  | 1.4E-08    |
| $Risk_{ing-sum}$   | 6.7E-07  | 9.7E-08 | 4.2E-08  | 1.5E-06    |
| All Chemicals RISK | 1.9E-05  | 6.2E-06 | 2.3E-06  | 7.4E-06    |

Table G-2. **On-Field** Lifetime Incremental Cancer Risks for Inhalation, Dermal, and Ingestion Routes ( $Risk_{inh-sum}$ ,  $Risk_{der-sum}$ , and  $Risk_{ing-sum}$ , unitless) and Multiple Routes Exposures to **Field-Related** Carcinogens (RISK, unitless)

| Cancer Risk                    | Athletes | Coaches | Referees | Spectators |
|--------------------------------|----------|---------|----------|------------|
| Field-Related $Risk_{inh-sum}$ | 9.4E-07  | 3.1E-07 | 1.2E-07  | 3.1E-07    |
| $Risk_{der-sum}$               | 1.2E-08  | 4.0E-09 | 1.6E-09  | 1.4E-08    |
| $Risk_{ing-sum}$               | 6.7E-07  | 9.7E-08 | 4.2E-08  | 1.5E-06    |
| Field-Related RISK             | 1.6E-06  | 4.2E-07 | 1.6E-07  | 1.8E-06    |

Table G-3. **On-Field** Lifetime Incremental Cancer Risks for Inhalation, Dermal, and Ingestion Routes ( $Risk_{inh-sum}$ ,  $Risk_{der-sum}$ , and  $Risk_{ing-sum}$ , unitless) and Multiple Routes Exposures to **Non-Field-Related** Carcinogens (RISK, unitless)

| Cancer Risk                        | Athletes | Coaches | Referees | Spectators |
|------------------------------------|----------|---------|----------|------------|
| Non-Field-Related $Risk_{inh-sum}$ | 1.7E-05  | 5.7E-06 | 2.1E-06  | 5.6E-06    |
| Non-Field-Related $Risk_{der-sum}$ | 0        | 0       | 0        | 0          |
| Non-Field-Related $Risk_{ing-sum}$ | 0        | 0       | 0        | 0          |
| Non-Field-Related RISK             | 1.7E-05  | 5.7E-06 | 2.1E-06  | 5.6E-06    |

Table G-4. **Off-Field** Lifetime Incremental Cancer Risks for Inhalation ( $Risk_{inh-sum}$ , unitless) and Multiple Routes<sup>a</sup> Exposures to Carcinogens (RISK, unitless) for Spectators

| Cancer Risk  | Spectators |
|--|------------|
| Field-Related $Risk_{inh-sum}$ or Field-Related RISK         | 3.4E-07    |
| Non-Field-Related $Risk_{inh-sum}$ or Non-Field-Related RISK | 2.5E-06    |
| All Chemicals $Risk_{inh-sum}$ or All Chemicals RISK         | 2.9E-06    |

<sup>a</sup> Only inhalation route was assessed for exposure to chemicals off-field. Therefore, the inhalation route risk sum of each chemical group equals to the overall RISK for the corresponding chemical groups.

### **INDIVIDUAL FIELD ASSESSMENT (Table G-165 to Table G-168)**



**Table G-5. On-Field Field-Specific<sup>a</sup> Lifetime Incremental Cancer Risks Multiple Routes Exposures to All Carcinogens (RISK<sub>field</sub>, unitless)—Combined Gender**

| Receptor Category | Age Group             | RISK <sub>field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years             | 4.3E-07               | 1.6E-06 | 1.0E-06            | 1.2E-06 | 3.8E-06         | 4.1E-06 |
|                   | 6<11 years            | 6.1E-07               | 2.5E-06 | 1.7E-06            | 1.8E-06 | 6.0E-06         | 6.5E-06 |
|                   | 11<16 years           | 5.8E-07               | 2.4E-06 | 1.6E-06            | 1.8E-06 | 5.8E-06         | 6.4E-06 |
|                   | 16<30 years           | 9.6E-07               | 4.2E-06 | 2.8E-06            | 3.0E-06 | 1.0E-05         | 1.1E-05 |
|                   | 30<40 years           | 4.5E-07               | 2.0E-06 | 1.3E-06            | 1.4E-06 | 4.7E-06         | 5.2E-06 |
|                   | 40<50 years           | 4.4E-07               | 1.9E-06 | 1.3E-06            | 1.4E-06 | 4.6E-06         | 5.1E-06 |
|                   | 50<70 years           | 8.6E-07               | 3.8E-06 | 2.6E-06            | 2.7E-06 | 9.1E-06         | 1.0E-05 |
| Coaches           | 16<30 years           | 3.9E-07               | 1.7E-06 | 1.2E-06            | 1.2E-06 | 4.2E-06         | 4.6E-06 |
|                   | 30<40 years           | 2.4E-07               | 1.1E-06 | 7.3E-07            | 7.7E-07 | 2.6E-06         | 2.9E-06 |
|                   | 40<50 years           | 2.4E-07               | 1.1E-06 | 7.4E-07            | 7.8E-07 | 2.6E-06         | 2.9E-06 |
|                   | 50<70 years           | 4.9E-07               | 2.2E-06 | 1.5E-06            | 1.6E-06 | 5.3E-06         | 5.8E-06 |
| Referees          | 16<30 years           | 1.4E-07               | 6.4E-07 | 4.4E-07            | 4.6E-07 | 1.5E-06         | 1.7E-06 |
|                   | 30<40 years           | 9.1E-08               | 4.0E-07 | 2.7E-07            | 2.9E-07 | 9.7E-07         | 1.1E-06 |
|                   | 40<50 years           | 9.1E-08               | 4.0E-07 | 2.7E-07            | 2.9E-07 | 9.8E-07         | 1.1E-06 |
|                   | 50<70 years           | 1.8E-07               | 8.1E-07 | 5.5E-07            | 5.8E-07 | 2.0E-06         | 2.2E-06 |
| Spectators        | Third trimester fetus | 1.0E-08               | 4.2E-08 | 2.8E-08            | 3.1E-08 | 1.0E-07         | 1.1E-07 |
|                   | 0<2 years             | 1.2E-06               | 3.5E-06 | 2.0E-06            | 2.9E-06 | 7.2E-06         | 8.4E-06 |
|                   | 2<6 years             | 3.6E-07               | 1.1E-06 | 6.1E-07            | 8.8E-07 | 2.3E-06         | 2.6E-06 |
|                   | 6<11 years            | 3.7E-07               | 1.2E-06 | 7.2E-07            | 9.6E-07 | 2.6E-06         | 2.9E-06 |
|                   | 11<16 years           | 1.1E-07               | 4.5E-07 | 3.0E-07            | 3.2E-07 | 1.1E-06         | 1.2E-06 |
|                   | 16<30 years           | 6.4E-08               | 2.7E-07 | 1.8E-07            | 2.0E-07 | 6.5E-07         | 7.1E-07 |
|                   | 30<40 years           | 4.0E-08               | 1.7E-07 | 1.1E-07            | 1.2E-07 | 4.1E-07         | 4.5E-07 |
|                   | 40<50 years           | 4.0E-08               | 1.7E-07 | 1.1E-07            | 1.2E-07 | 4.1E-07         | 4.5E-07 |
|                   | 50<70 years           | 8.1E-08               | 3.4E-07 | 2.3E-07            | 2.5E-07 | 8.2E-07         | 9.0E-07 |

<sup>a</sup> 35 field-specific RISK<sub>field</sub> are included in the table.

**Table G-6. On-Field Field-Specific<sup>a</sup> Lifetime Incremental Cancer Risks Multiple Routes Exposures to Field-Related Carcinogens (RISK<sub>field</sub>, unitless)—Combined Gender**

| Receptor Category | Age Group   | RISK <sub>field</sub> |         |                    |         |                 |         |
|-------------------|-------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                   |             | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years   | 5.7E-08               | 2.3E-07 | 1.3E-07            | 2.1E-07 | 4.4E-07         | 7.2E-07 |
|                   | 6<11 years  | 6.1E-08               | 2.6E-07 | 1.7E-07            | 2.2E-07 | 5.5E-07         | 8.8E-07 |
|                   | 11<16 years | 5.3E-08               | 2.2E-07 | 1.6E-07            | 1.8E-07 | 5.0E-07         | 8.0E-07 |
|                   | 16<30 years | 6.4E-08               | 3.2E-07 | 2.6E-07            | 2.4E-07 | 7.6E-07         | 1.2E-06 |
|                   | 30<40 years | 3.0E-08               | 1.5E-07 | 1.2E-07            | 1.1E-07 | 3.6E-07         | 5.8E-07 |
|                   | 40<50 years | 2.6E-08               | 1.4E-07 | 1.2E-07            | 1.0E-07 | 3.4E-07         | 5.5E-07 |



| Receptor Category | Age Group             | RISK <sub>field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
|                   | 50<70 years           | 5.3E-08               | 2.8E-07 | 2.3E-07            | 2.1E-07 | 6.7E-07         | 1.1E-06 |
| Coaches           | 16<30 years           | 1.7E-08               | 1.2E-07 | 1.0E-07            | 7.9E-08 | 2.9E-07         | 4.7E-07 |
|                   | 30<40 years           | 1.1E-08               | 7.3E-08 | 6.4E-08            | 5.1E-08 | 1.8E-07         | 3.0E-07 |
|                   | 40<50 years           | 1.1E-08               | 7.4E-08 | 6.5E-08            | 5.1E-08 | 1.8E-07         | 3.0E-07 |
|                   | 50<70 years           | 2.2E-08               | 1.5E-07 | 1.3E-07            | 1.0E-07 | 3.6E-07         | 6.0E-07 |
| Referees          | 16<30 years           | 7.3E-09               | 4.5E-08 | 3.8E-08            | 3.2E-08 | 1.1E-07         | 1.8E-07 |
|                   | 30<40 years           | 4.9E-09               | 2.8E-08 | 2.4E-08            | 2.0E-08 | 6.9E-08         | 1.1E-07 |
|                   | 40<50 years           | 4.8E-09               | 2.9E-08 | 2.4E-08            | 2.0E-08 | 6.9E-08         | 1.1E-07 |
|                   | 50<70 years           | 9.6E-09               | 5.7E-08 | 4.9E-08            | 4.1E-08 | 1.4E-07         | 2.3E-07 |
| Spectators        | Third trimester fetus | 9.2E-10               | 3.9E-09 | 2.8E-09            | 3.1E-09 | 8.5E-09         | 1.4E-08 |
|                   | 0<2 years             | 2.6E-07               | 1.1E-06 | 5.2E-07            | 1.0E-06 | 1.8E-06         | 2.7E-06 |
|                   | 2<6 years             | 7.5E-08               | 3.0E-07 | 1.5E-07            | 2.9E-07 | 5.1E-07         | 8.0E-07 |
|                   | 6<11 years            | 6.9E-08               | 2.8E-07 | 1.4E-07            | 2.6E-07 | 4.8E-07         | 7.6E-07 |
|                   | 11<16 years           | 1.0E-08               | 4.2E-08 | 2.9E-08            | 3.4E-08 | 9.1E-08         | 1.5E-07 |
|                   | 16<30 years           | 5.7E-09               | 2.4E-08 | 1.7E-08            | 1.9E-08 | 5.3E-08         | 8.6E-08 |
|                   | 30<40 years           | 3.6E-09               | 1.5E-08 | 1.1E-08            | 1.2E-08 | 3.4E-08         | 5.5E-08 |
|                   | 40<50 years           | 3.6E-09               | 1.5E-08 | 1.1E-08            | 1.2E-08 | 3.4E-08         | 5.4E-08 |
| 50<70 years       | 7.2E-09               | 3.0E-08               | 2.2E-08 | 2.4E-08            | 6.8E-08 | 1.1E-07         |         |

<sup>a</sup> 35 field-specific RISK<sub>field</sub> are included in the table.

**Table G-7. On-Field Field-Specific<sup>a</sup> Lifetime Incremental Cancer Risks Multiple Routes Exposures to Non-Field-Related Carcinogens (RISK<sub>field</sub>, unitless)<sup>b</sup>—Combined Gender**

| Receptor Category | Age Group   | RISK <sub>field</sub> |         |                    |         |                 |         |
|-------------------|-------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                   |             | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Athletes          | 2<6 years   | 4.1E-07               | 1.6E-06 | 9.9E-07            | 1.2E-06 | 3.6E-06         | 4.1E-06 |
|                   | 6<11 years  | 5.9E-07               | 2.4E-06 | 1.6E-06            | 1.8E-06 | 5.6E-06         | 6.5E-06 |
|                   | 11<16 years | 5.5E-07               | 2.3E-06 | 1.5E-06            | 1.8E-06 | 5.4E-06         | 6.3E-06 |
|                   | 16<30 years | 9.2E-07               | 4.0E-06 | 2.7E-06            | 3.0E-06 | 9.3E-06         | 1.1E-05 |
|                   | 30<40 years | 4.3E-07               | 1.9E-06 | 1.3E-06            | 1.4E-06 | 4.4E-06         | 5.2E-06 |
|                   | 40<50 years | 4.2E-07               | 1.8E-06 | 1.2E-06            | 1.4E-06 | 4.3E-06         | 5.1E-06 |
|                   | 50<70 years | 8.3E-07               | 3.6E-06 | 2.4E-06            | 2.7E-06 | 8.4E-06         | 1.0E-05 |
| Coaches           | 16<30 years | 3.7E-07               | 1.6E-06 | 1.1E-06            | 1.2E-06 | 3.8E-06         | 4.6E-06 |
|                   | 30<40 years | 2.3E-07               | 1.0E-06 | 7.0E-07            | 7.7E-07 | 2.4E-06         | 2.8E-06 |
|                   | 40<50 years | 2.3E-07               | 1.0E-06 | 7.0E-07            | 7.8E-07 | 2.4E-06         | 2.9E-06 |
|                   | 50<70 years | 4.7E-07               | 2.1E-06 | 1.4E-06            | 1.6E-06 | 4.8E-06         | 5.8E-06 |
| Referees          | 16<30 years | 1.4E-07               | 6.1E-07 | 4.1E-07            | 4.6E-07 | 1.4E-06         | 1.7E-06 |
|                   | 30<40 years | 8.7E-08               | 3.8E-07 | 2.6E-07            | 2.9E-07 | 8.9E-07         | 1.1E-06 |
|                   | 40<50 years | 8.8E-08               | 3.8E-07 | 2.6E-07            | 2.9E-07 | 9.0E-07         | 1.1E-06 |
|                   | 50<70 years | 1.8E-07               | 7.7E-07 | 5.3E-07            | 5.8E-07 | 1.8E-06         | 2.1E-06 |



| Receptor Category | Age Group             | RISK <sub>field</sub> |         |                    |         |                 |         |
|-------------------|-----------------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                   |                       | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Spectators        | Third trimester fetus | 9.6E-09               | 4.0E-08 | 2.7E-08            | 3.1E-08 | 9.4E-08         | 1.1E-07 |
|                   | 0<2 years             | 1.2E-06               | 3.4E-06 | 1.9E-06            | 2.9E-06 | 7.0E-06         | 7.8E-06 |
|                   | 2<6 years             | 3.5E-07               | 1.0E-06 | 5.9E-07            | 8.8E-07 | 2.2E-06         | 2.4E-06 |
|                   | 6<11 years            | 3.6E-07               | 1.2E-06 | 6.8E-07            | 9.5E-07 | 2.5E-06         | 2.8E-06 |
|                   | 11<16 years           | 1.0E-07               | 4.2E-07 | 2.8E-07            | 3.2E-07 | 9.8E-07         | 1.2E-06 |
|                   | 16<30 years           | 6.1E-08               | 2.6E-07 | 1.7E-07            | 2.0E-07 | 6.0E-07         | 7.1E-07 |
|                   | 30<40 years           | 3.9E-08               | 1.6E-07 | 1.1E-07            | 1.2E-07 | 3.8E-07         | 4.4E-07 |
|                   | 40<50 years           | 3.9E-08               | 1.6E-07 | 1.1E-07            | 1.2E-07 | 3.8E-07         | 4.5E-07 |
| 50<70 years       | 7.7E-08               | 3.3E-07               | 2.2E-07 | 2.5E-07            | 7.6E-07 | 9.0E-07         |         |

<sup>a</sup> 35 field-specific RISK<sub>field</sub> are included in the table.

<sup>b</sup> On-field exposure to non-field-related carcinogens only via inhalation route that On-Field RISK<sub>field</sub> for non-field-related carcinogens equals to On-Field Risk<sub>K<sub>inh</sub>-sum-field</sub> for non-field-related carcinogens for a corresponding field.

**Table G-8. Off-Field Field-Specific<sup>a</sup> Lifetime Incremental Cancer Risks for Multiple Routes Exposures (RISK<sub>field</sub>, unitless)<sup>b</sup> for Spectators—Combined Gender**

| Chemical Designation                 | RISK <sub>field</sub> |         |                    |         |                 |         |
|--------------------------------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                                      | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| <b>Field-Related Carcinogens</b>     |                       |         |                    |         |                 |         |
| Third trimester fetus                | 0.0E+00               | 2.3E-09 | 2.8E-09            | 9.8E-10 | 7.5E-09         | 1.1E-08 |
| 0<2 years                            | 0.0E+00               | 1.5E-07 | 1.8E-07            | 6.3E-08 | 4.8E-07         | 7.0E-07 |
| 2<6 years                            | 0.0E+00               | 4.6E-08 | 5.7E-08            | 2.0E-08 | 1.5E-07         | 2.2E-07 |
| 6<11 years                           | 0.0E+00               | 5.5E-08 | 6.8E-08            | 2.4E-08 | 1.8E-07         | 2.6E-07 |
| 11<16 years                          | 0.0E+00               | 2.4E-08 | 2.9E-08            | 1.0E-08 | 7.9E-08         | 1.1E-07 |
| 16<30 years                          | 0.0E+00               | 1.5E-08 | 1.8E-08            | 6.3E-09 | 4.8E-08         | 7.0E-08 |
| 30<40 years                          | 0.0E+00               | 9.1E-09 | 1.1E-08            | 3.9E-09 | 3.0E-08         | 4.4E-08 |
| 40<50 years                          | 0.0E+00               | 9.2E-09 | 1.1E-08            | 4.0E-09 | 3.1E-08         | 4.4E-08 |
| 50<70 years                          | 0.0E+00               | 1.8E-08 | 2.3E-08            | 7.9E-09 | 6.1E-08         | 8.8E-08 |
| <b>Non-Field-Related Carcinogens</b> |                       |         |                    |         |                 |         |
| Third trimester fetus                | 4.0E-09               | 1.8E-08 | 1.6E-08            | 1.0E-08 | 4.8E-08         | 7.3E-08 |
| 0<2 years                            | 2.6E-07               | 1.1E-06 | 1.0E-06            | 6.4E-07 | 3.1E-06         | 4.7E-06 |
| 2<6 years                            | 8.1E-08               | 3.6E-07 | 3.2E-07            | 2.0E-07 | 9.7E-07         | 1.5E-06 |
| 6<11 years                           | 9.7E-08               | 4.3E-07 | 3.8E-07            | 2.4E-07 | 1.2E-06         | 1.8E-06 |
| 11<16 years                          | 4.2E-08               | 1.9E-07 | 1.6E-07            | 1.0E-07 | 5.0E-07         | 7.6E-07 |
| 16<30 years                          | 2.6E-08               | 1.1E-07 | 1.0E-07            | 6.4E-08 | 3.1E-07         | 4.7E-07 |
| 30<40 years                          | 1.6E-08               | 7.1E-08 | 6.3E-08            | 4.0E-08 | 1.9E-07         | 2.9E-07 |
| 40<50 years                          | 1.6E-08               | 7.2E-08 | 6.4E-08            | 4.1E-08 | 1.9E-07         | 2.9E-07 |
| 50<70 years                          | 3.3E-08               | 1.4E-07 | 1.3E-07            | 8.1E-08 | 3.9E-07         | 5.9E-07 |
| <b>All Carcinogens</b>               |                       |         |                    |         |                 |         |



| Chemical Designation  | RISK <sub>field</sub> |         |                    |         |                 |         |
|-----------------------|-----------------------|---------|--------------------|---------|-----------------|---------|
|                       | Minimum               | Mean    | Standard Deviation | Median  | 95th Percentile | Maximum |
| Third trimester fetus | 2.3E-09               | 1.9E-08 | 1.7E-08            | 1.1E-08 | 5.4E-08         | 7.7E-08 |
| 0<2 years             | 1.5E-07               | 1.3E-06 | 1.1E-06            | 7.0E-07 | 3.4E-06         | 5.0E-06 |
| 2<6 years             | 4.8E-08               | 4.0E-07 | 3.5E-07            | 2.2E-07 | 1.1E-06         | 1.6E-06 |
| 6<11 years            | 5.7E-08               | 4.7E-07 | 4.2E-07            | 2.6E-07 | 1.3E-06         | 1.9E-06 |
| 11<16 years           | 2.5E-08               | 2.0E-07 | 1.8E-07            | 1.1E-07 | 5.6E-07         | 8.1E-07 |
| 16<30 years           | 1.5E-08               | 1.3E-07 | 1.1E-07            | 7.0E-08 | 3.4E-07         | 5.0E-07 |
| 30<40 years           | 9.4E-09               | 7.8E-08 | 7.0E-08            | 4.4E-08 | 2.2E-07         | 3.1E-07 |
| 40<50 years           | 9.5E-09               | 7.9E-08 | 7.0E-08            | 4.4E-08 | 2.2E-07         | 3.1E-07 |
| 50<70 years           | 1.9E-08               | 1.6E-07 | 1.4E-07            | 8.9E-08 | 4.4E-07         | 6.3E-07 |

<sup>a</sup> 35 field-specific RISK<sub>field</sub> are included in the table.

<sup>b</sup> Inhalation exposure is the only route assessed for off-field chemicals that field-specific Off-Field RISK<sub>field</sub> equals to field-specific off-field Risk<sub>inh-sum-field</sub> of the corresponding field.