OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT

Proposition 65

Supporting Materials for Safe Use Determinations for a Number of Foods that May Contain Detectable Amounts of Chlorothalonil

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Reproductive and Cancer Hazard Assessment Branch
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Introduction

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA), the lead agency for the implementation of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65 or the Act)[1], received a request from Dentons US LLP and Technology Sciences Group Inc. (TSG), on behalf of Syngenta Crop Protection, LLC (Syngenta). Syngenta requested that OEHHA issue Safe Use Determinations (SUDs) for certain foods that may contain detectable amounts of chlorothalonil, pursuant to Title 27 of the California Code of Regulations, section 25204[2].

For each of the specified foods that may contain chlorothalonil residues, OEHHA conducted an evaluation to determine whether chlorothalonil exposure from consumption of the food poses no significant cancer risk within the meaning of Proposition 65. For a large number of these foods, OEHHA is issuing SUDs in response to this request, and these SUDs are presented in this document. For a smaller number of these foods, OEHHA has chosen to issue interpretive guidelines (IGs)[3] in response to this request[4].

[1] Health and Safety Code section 25249.5 et seq.
[2] All further references are to sections of Title 27 of the Cal Code of Regulations, unless otherwise noted.
[3] Section 25203.
[4] Interpretive Guidelines No. 2019-01 — 2019-09 Consumption of Chlorothalonil Residues in Certain Foods: No. 2019-01 Almonds; No. 2019-02 Asparagus; No. 2019-03 Black-Eyed Peas; No. 2019-04 Garbanzo Beans; No. 2019-05 Green Beans; No. 2019-06 Hazelnuts; No. 2019-07 Lentils; No. 2019-08 Pink Beans; No. 2019-09 Pistachios. Available at https://oehha.ca.gov/proposition-65/interpretive-guidelines-proposition-65.

This document provides the results of OEHHA's analyses of chlorothalonil exposures for the following foods/food forms for which OEHHA is issuing a SUD:

- raw and cooked apricots
- dried apricots
- apricot juice
- raw and cooked peeled bananas
- peeled, dried bananas
- cooked bitter melon
- cooked black beans
- raw and cooked blueberries
- cooked broad beans
- raw and cooked broccoli
- cooked chinese broccoli
- raw and cooked brussels sprouts
- raw and cooked cabbage
- raw cantaloupe
- raw carrots
- cooked carrots
- carrot juice
- raw and cooked cauliflower
- raw and cooked celery
- celery juice
- cooked chayote
- raw cherries
- cooked cherries
- raw and cooked corn
- raw and cooked cranberries
- dried cranberries
- cranberry juice
- raw and cooked cucumbers
- raw and cooked eggplant
- raw and cooked garlic
- cooked green beans
- raw and cooked green onions
- raw honeydew melon
- prepared horseradish
- cooked kidney beans
- raw kohlrabi
- cooked kohlrabi
- cooked lima beans
- raw lychees
- raw and cooked mangos
- dried mangos
- mango juice
- cooked mung beans
- raw and cooked mushrooms
- raw nectarines
- cooked okra
- raw and cooked onions (including dry onions)
- raw and cooked papaya
- dried papaya
- papaya juice
- cooked parsnips
- raw passion fruit
- passion fruit juice
- raw peaches
- canned peaches
- dried peaches
- peach juice
- raw, boiled, and roasted peanuts
- peanut butter
- peanut oil
- raw and cooked sweet peppers (including bell peppers)
- raw and cooked hot peppers
- raw persimmons
- cooked pinto beans
- raw and cooked plums
- dried plums (prunes)
- prune juice
- cooked potatoes
- cooked pumpkin
- raw and cooked rhubarb
- immature, cooked soybeans (edamame)
- mature, cooked soybeans
- soy flour
- soy milk
- raw starfruit
- raw and cooked summer squash
- raw tomatoes
- cooked tomatoes
- dried tomatoes
- tomato juice
- raw watermelon
- cooked waxgourds
- raw winter squash
- cooked winter squash
- cooked yams

This document is intended to provide information for the general public and businesses to facilitate the implementation of Proposition 65. It is limited to the facts and assumptions contained herein. Further information can be obtained from the OEHHA website at: https://oehha.ca.gov/proposition-65.

Proposition 65 Listing of Chlorothalonil and Its No Significant Risk Level

Chlorothalonil was listed as a chemical known to cause cancer under Proposition 65, effective January 1, 1989. A No Significant Risk Level (NSRL) of 41 micrograms (µg) per day was adopted in regulation on June 15, 2012[5]. For purposes of Proposition 65, daily exposure to the chemical at this level is estimated to result in one excess cancer per 100,000 people exposed, assuming lifetime exposure at the level in question[6]. Businesses causing exposures at or below the NSRL are exempt from the Proposition 65 warning requirement[7].

Level of Exposure to Proposition 65 Chemicals that Cause Cancer

Proposition 65 regulations address how to calculate the exposure to chemicals listed as known to cause cancer:

> "For purposes of Section 25249.10(c) of the Act, the level of exposure to a chemical listed as causing cancer, assuming lifetime exposure at the level in question, shall be determined by multiplying the level in question (stated in terms of a concentration of a chemical in a given medium) times the reasonably anticipated rate of exposure for an individual to the given medium of exposure measured over a lifetime of seventy years."[8]

The regulations give further guidance for calculating the reasonably anticipated rate of exposure for chemical exposures from consumer products:

> "For exposures to consumer products, lifetime exposure shall be calculated using the average rate of intake or exposure for average users of the consumer product, and not on a per capita basis for the general population. The average rate of intake or exposure shall be based on data for use on a general category or categories of consumer products, such as the United States Department of

[5] OEHHA, 2012. No Significant Risk Level for the Proposition 65 Carcinogen Chlorothalonil, California Environmental Protection Agency, OEHHA, January 2012.
[6] Section 25703(b).
[7] Health and Safety Code section 25249.10(c).
[8] Section 25721(c)

Agriculture Home Economic Research Report, Foods Commonly Eaten by Individuals: Amount Per Day and Per Eating Occasion, where such data are available."[9]

Chlorothalonil Residue Data

The US Department of Agriculture's (USDA) Pesticide Data Program (PDP)[10] tests produce and some other foods for pesticide residues. The US Environmental Protection Agency (US EPA) uses the program's results in its dietary assessments of pesticide exposure. The California Department of Pesticide Regulation (DPR) Pesticide Residue Monitoring Program (PRMP)[11] also tests produce for chlorothalonil residues. OEHHA used both sources of residue data in the analyses that follow. The most recent residue data from both USDA and DPR are from 2017.

Food Consumption Data

The National Health and Nutrition Examination Survey (NHANES) provides data on consumption of particular types of foods by consumers of these foods. NHANES is a program of studies administered by the US Centers for Disease Control and Prevention (CDC) designed to assess the health and nutritional status of individuals throughout the United States. NHANES includes a dietary survey[12], from which an average consumption of foods in their various forms specified can be calculated.

OEHHA calculated an average consumption by consumers of the type of food addressed in this document using NHANES dietary survey data. OEHHA used data on food consumed in a form comprised entirely, or almost entirely, of the food itself (e.g., raw or cooked broccoli from a fresh head of broccoli). While some amount of this food may also be consumed in a form that is in a mixture with other food ingredients (e.g., a casserole containing green beans) or in a form that has undergone additional processing (e.g., corn syrup from corn), consumption data for these mixtures includes additional ingredients that contribute to the calculated total mass (grams) consumed. Accordingly, OEHHA could not use data for those types of foods in this document. OEHHA used NHANES dietary

[9] Section 25721(d)(4); the National Health and Nutrition Examination Survey provides the functional equivalent of the USDA survey cited in this subsection.
[10] USDA Agricultural Marketing Service, PDP, Databases and Annual Reports. Available at https://www.ams.usda.gov/datasets/pdp/pdpdata.
[11] DPR, PRMP, Annual Residue Data. Available at https://www.cdpr.ca.gov/docs/enforce/residue/rsmonmnu.htm.
[12] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

survey data for individuals reporting consumption of a particular food on either day of the two-day dietary survey for the years 2007-2016[13].

Processing Factors

US EPA has identified processing factors for certain crops and food forms to account for the anticipated degradation or concentration of chlorothalonil residues during cooking and other food-processing methods[14]. In addition, the World Health Organization (WHO) Food and Agriculture Organization's Joint Meeting on Pesticide Residues has evaluated the fate of chlorothalonil residues from storage and food processing of a number of crops and developed "calculated food processing factors"[15]. These factors represent "the concentration of pesticide after processing divided by the concentration before processing"[16]. OEHHA used US EPA processing factors for crops and food forms as appropriate in the calculations below. In the absence of US EPA processing factors, OEHHA used WHO processing factors. In the absence of either a US EPA or WHO processing factor, OEHHA used DPR adjustment factors[17].

Analyses in Support of Safe Use Determinations for Chlorothalonil

This document presents results from OEHHA's evaluation of Syngenta's request for SUDs for certain foods that may contain detectable amounts of chlorothalonil. For many of the foods included in the SUD request, OEHHA is issuing a SUD, and OEHHA's analyses supporting issuance of each SUD are presented below, organized by crop and food form.

For some other foods included in the request, OEHHA is issuing IGs (Interpretive Guidelines). These IGs, and OEHHA's analyses supporting each IG, are presented in "Interpretive Guidelines No. 2019-01 —2019-09 Consumption of Chlorothalonil Residues in Certain Foods: No. 2019-01 Almonds; No. 2019-02 Asparagus; No. 2019-03 Black-Eyed Peas; No. 2019-04 Garbanzo Beans; No. 2019-05 Green Beans; No.

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[13] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[14] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

[15] World Health Organization (WHO) & Food and Agriculture Organization (FAO) (2010). Joint FAO/WHO Meeting on Pesticide Residues, Pesticide residues in food, Evaluations Part I – Residues: Chlorothalonil, pages 442-452. Available at http://apps.who.int/pesticide-residues-jmpr-database/pesticide?name=CHLOROTHALONIL.

[16] Keikotlhaile BM and Spanoghe P, Chapter 13. Pesticide Residues in Fruits and Vegetables. In: Stoytcheva M (Editor), Pesticides – Formulations, Effects, Fate, InTech, January, 2011, ISBN: 978-953-307-532-7.

[17] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

2019-06 Hazelnuts; No. 2019-07 Lentils; No. 2019-08 Pink Beans; No. 2019-09 Pistachios, available at https://oehha.ca.gov/proposition-65/interpretive-guidelines-proposition-65.

For some foods included in the request, such as those with no reliable data on consumption, OEHHA was unable to issue either a SUD or an IG.

Apricots

Chlorothalonil Residues in Apricots

OEHHA obtained available data on chlorothalonil residue levels in apricots between 2005 and 2017. USDA did not test apricots for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 1 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 217 samples of fresh apricots were analyzed, with a maximum detected concentration of 0.09 parts per million (ppm) in 2007. No residue exceeded the US EPA tolerance level of 0.5 ppm[18].

Table 1. Chlorothalonil residues in apricots (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	51	7.8	0.01 – 0.06	0.01 – 0.05	DPR PRMP
Fresh	2006	13	0	< LOD	0.01 – 0.05	
Fresh	2007	17	5.9	0.09	0.01 – 0.02	
Fresh	2008	18	0	< LOD	0.01 – 0.05	
Fresh	2009	11	9.1	0.01	0.01 – 0.04	
Fresh	2010	5	0	< LOD	0.01 – 0.02	
Fresh	2011	8	0	< LOD	0.01 – 0.02	
Fresh	2012	13	0	< LOD	0.02 – 0.03	
Fresh	2013	14	0	< LOD	0.02 – 0.03	
Fresh	2014	22	0	< LOD	0.01 – 0.03	
Fresh	2015	12	0	< LOD	0.03	
Fresh	2016	15	0	< LOD	0.02	
Fresh	2017	18	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Apricots

Chlorothalonil Intake from Consumption of Raw and Cooked Apricots

To determine chlorothalonil intake from raw and cooked apricots, OEHHA first determined the average consumption of raw and cooked apricots in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked apricots on either day of the two-day dietary survey for the years 2007-2016[19] to

[18] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[19] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

estimate average consumption. The average level of consumption over both days is presented in Table 2.

As neither US EPA nor WHO apply processing factors for any form of apricot, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked apricots based on the two-day average consumption of users (Table 2). This mean chlorothalonil intake, 3.98 µg, displayed in the column on the right in Table 2, shows that consumption of raw and cooked apricots by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.09 µg/g.

Table 2. Consumption of raw and cooked apricots and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
44.19	0.09	3.98

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Apricots:

Consumption of chlorothalonil residues by the average consumer of raw and cooked apricots does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh apricots are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.09 ppm) and up to the tolerance level of 0.5 ppm.

Dried Apricots

Chlorothalonil Intake from Consumption of Dried Apricots

To determine chlorothalonil intake from dried apricots, OEHHA first determined the average consumption of dried apricots in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried apricots (including uncooked dried apricots and cooked dried apricots) on either day of the two-day dietary survey for

the years 2007-2016[20] to estimate average consumption. The average level of consumption over both days is presented in Table 3.

Neither US EPA nor WHO apply processing factors for any form of apricot, however DPR applies an adjustment factor of 7 for dried apricot[21], which OEHHA applied to the residue in fresh apricot to determine the upper-bound chlorothalonil concentration in dried apricot, 0.63 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried apricots based on the two-day average consumption of users (Table 3). This mean chlorothalonil intake, 6.88 µg, displayed in the column on the right in Table 3, shows that consumption of dried apricots by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.63 µg/g.

Table 3. Consumption of dried apricots and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
10.92	0.63	6.88

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop multiplied by the DPR adjustment factor (7) for dried apricots (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Apricots:

Consumption of chlorothalonil residues by the average consumer of dried apricots does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh apricots are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.09 ppm) and up to the tolerance level of 0.5 ppm.

[20] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[21] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

consumption of users (Table 6). Estimates of mean chlorothalonil intake, 0.94 µg (on day eaten) and 0.60 µg (average of two-day survey), displayed in the columns on the right in Table 6, show that consumption of raw and cooked peeled bananas by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.008 µg/g.

Table 6. Consumption of raw and cooked peeled bananas and intake of chlorothalonil

Mean consumption of users		Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Mean chlorothalonil intake	
On day eaten (g/day)[a]	Two-day average (g/day)[a]		On day eaten (µg)[c]	Two-day average (µg)[c]
118.10	74.55	0.008	0.94	0.60

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of peeled bananas (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Peeled Bananas:

Consumption of chlorothalonil residues by the average consumer of raw and cooked peeled bananas does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peeled bananas are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.008 ppm) and up to the tolerance level of 0.05 ppm.

Peeled, Dried Bananas

Chlorothalonil Intake from Consumption of Peeled, Dried Bananas

To determine chlorothalonil intake from peeled, dried bananas, OEHHA first determined the average consumption of peeled, dried bananas in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peeled, dried bananas (including banana chips) on either day of the two-day dietary survey for the

measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.09 ppm) and up to residue levels of 0.29 ppm.

Bananas

Chlorothalonil Residues in Peeled Bananas

OEHHA obtained available data on chlorothalonil residue levels in peeled bananas between 2005 and 2017. USDA residue data were only available for 2006 and 2007. DPR did not test peeled bananas for chlorothalonil residues between 2005 and 2017.

Table 5 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,486 samples of peeled bananas were tested for chlorothalonil residues. No residue was detected; limits of detection (LODs) did not exceed the US EPA tolerance level of 0.05 ppm[23] for the edible pulp of bananas.

Table 5. Chlorothalonil residues in peeled bananas (tolerance = 0.05 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2006	742	0	< LOD	0.0023 – 0.008	USDA PDP
Fresh	2007	744	0	< LOD	0.0023 – 0.008	USDA PDP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Peeled Bananas

Chlorothalonil Intake from Consumption of Raw and Cooked Peeled Bananas

To determine chlorothalonil intake from raw and cooked peeled bananas, OEHHA first determined the average consumption of raw and cooked peeled bananas in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peeled bananas (including raw bananas, baked bananas, boiled bananas, and bananas fried without batter) on either day of the two-day dietary survey for the years 2007-2016[24] to estimate average consumption. Of the population surveyed, 23.97% reported consumption of raw and cooked peeled bananas on at least one day over the two-day survey. Thus, OEHHA calculated mean consumption on both the day eaten and the two-day survey average, which are presented in Table 6.

As neither US EPA nor WHO apply processing factors for any form of banana, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked peeled bananas based on the average

[23] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[24] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

consumption of users (Table 6). Estimates of mean chlorothalonil intake, 0.94 µg (on day eaten) and 0.60 µg (average of two-day survey), displayed in the columns on the right in Table 6, show that consumption of raw and cooked peeled bananas by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.008 µg/g.

Table 6. Consumption of raw and cooked peeled bananas and intake of chlorothalonil

Mean consumption of users		Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Mean chlorothalonil intake	
On day eaten (g/day)[a]	Two-day average (g/day)[a]		On day eaten (µg)[c]	Two-day average (µg)[c]
118.10	74.55	0.008	0.94	0.60

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of peeled bananas (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Peeled Bananas:

Consumption of chlorothalonil residues by the average consumer of raw and cooked peeled bananas does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peeled bananas are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.008 ppm) and up to the tolerance level of 0.05 ppm.

Peeled, Dried Bananas

Chlorothalonil Intake from Consumption of Peeled, Dried Bananas

To determine chlorothalonil intake from peeled, dried bananas, OEHHA first determined the average consumption of peeled, dried bananas in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peeled, dried bananas (including banana chips) on either day of the two-day dietary survey for the

years 2007-2016[25] to estimate average consumption. The average level of consumption over both days is presented in Table 7.

Neither US EPA nor WHO apply processing factors for any form of banana, however DPR applies an adjustment factor of 3.9 for dried bananas[26], which OEHHA applied to the residue limit of detection in fresh bananas to determine the upper-bound chlorothalonil concentration in dried bananas, 0.031 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for peeled, dried bananas based on the two-day average consumption of users (Table 7). This mean chlorothalonil intake, 0.53 µg, displayed in the column on the right in Table 7, shows that consumption of peeled, dried bananas by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.031 µg/g.

Table 7. Consumption of peeled, dried bananas and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
17.21	0.031	0.53

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of peeled bananas multiplied by the DPR adjustment factor (3.9) for dried bananas (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Peeled, Dried Bananas:

Consumption of chlorothalonil residues by the average consumer of peeled, dried bananas does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peeled bananas are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.008 ppm) and up to the tolerance level of 0.05 ppm.

[25] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[26] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

Bitter Melon

Chlorothalonil Residues in Bitter Melon

OEHHA obtained available data on chlorothalonil residue levels in bitter melon between 2005 and 2017. USDA did not test bitter melon for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2006 through 2017.

Table 8 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 338 samples of fresh bitter melon were analyzed, with a maximum detected concentration of 3.4 ppm in 2007. No residue exceeded the US EPA tolerance level of 5.0 ppm[27].

Table 8. Chlorothalonil residues in bitter melon (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	22	4.5	0.18	0.01 – 0.05	DPR PRMP
Fresh	2007	72	18.1	0.02 – 3.4	0.01 – 0.02	
Fresh	2008	36	41.7	0.01 – 0.8	0.01 – 0.05	
Fresh	2009	110	22.7	0.01 – 0.71	0.01 – 0.04	
Fresh	2010	59	49.2	0.01 – 3.1	0.01 – 0.02	
Fresh	2011	7	42.9	0.14 – 1.44	0.01 – 0.02	
Fresh	2012	4	25	0.02	0.02 – 0.03	
Fresh	2013	4	0	< LOD	0.02 – 0.03	
Fresh	2014	10	10	0.048	0.01 – 0.03	
Fresh	2015	4	0	< LOD	0.03	
Fresh	2016	4	0	< LOD	0.02	
Fresh	2017	6	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Bitter Melon

Chlorothalonil Intake from Consumption of Cooked Bitter Melon

To determine chlorothalonil intake from cooked bitter melon, OEHHA first determined the average consumption of cooked bitter melon in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked bitter melon on either day of the two-day dietary survey for the years 2007-2016[28] to estimate

[27] Code of Federal Regulations, Title 40, Part 180, Section 180.275
[28] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

average consumption. The average level of consumption over both days is presented in Table 9.

As neither US EPA nor WHO apply processing factors for any form of bitter melon, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked bitter melon based on the two-day average consumption of users (Table 9). This mean chlorothalonil intake, 174.83 µg, displayed in the column on the right in Table 9, shows that consumption of cooked bitter melon by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 3.4 µg/g.

Table 9. Consumption of cooked bitter melon and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
51.42	3.4	174.83

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Bitter Melon:

Consumption of chlorothalonil residues by the average consumer of cooked bitter melon does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when the residue levels in fresh bitter melon are at or below 0.79 ppm.

Black Beans

Chlorothalonil Residues in Black Beans

OEHHA obtained available data on chlorothalonil residue levels in black beans between 2005 and 2017. USDA residue data, for canned black beans, were only available for 2010. DPR did not test black beans for chlorothalonil residues between 2005 and 2017.

Table 10 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 367 samples of canned black beans were tested for chlorothalonil residues. No residue was detected; the limit of detection did not exceed the US EPA tolerance level of 0.1 ppm[29] for "bean, dry, seed", which encompasses a variety of beans, including black beans, within the genus *Phaseolus*[30].

Table 10. Chlorothalonil residues in black beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Canned	2010	367	0	< LOD	0.02	USDA PDP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Black Beans

Chlorothalonil Intake from Consumption of Cooked Black Beans

To determine chlorothalonil intake from cooked black beans, OEHHA first determined the average consumption of cooked black beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked black beans (including canned black beans) on either day of the two-day dietary survey for the years 2007-2016[31] to estimate average consumption. The average level of consumption over both days is presented in Table 11.

As neither US EPA nor WHO apply processing factors for any form of black beans, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked black beans based on the two-day average consumption of users (Table 11). This mean chlorothalonil intake, 1.19 µg, displayed in the column on the right in Table 11, shows that consumption of cooked black beans by

[29] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[30] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[31] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 11. Consumption of cooked black beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
59.42	0.02	1.19

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of canned black beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Black Beans:

Consumption of chlorothalonil residues by the average consumer of cooked black beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or canned black beans are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.02 ppm) and up to the tolerance level of 0.1 ppm.

Blueberries

Chlorothalonil Residues in Blueberries

OEHHA obtained available data on chlorothalonil residue levels in blueberries between 2005 and 2017. USDA residue data, for fresh and frozen blueberries, were only available for 2007, 2008, and 2014. DPR residue data were available for all years.

Table 12 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,916 samples of fresh blueberries and 12 samples of frozen blueberries were tested for chlorothalonil residues, with a maximum detected concentration of 0.75 ppm in 2006. No residue exceeded the US EPA tolerance level of 1.0 ppm[32].

Table 12. Chlorothalonil residues in blueberries (tolerance = 1.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	89	6.7	0.01 – 0.22	0.01 – 0.05	DPR PRMP
Fresh	2006	77	6.5	0.01 – 0.75	0.01 – 0.05	DPR PRMP
Fresh	2007	207	5.3	0.013 – 0.076	0.008	USDA PDP
Frozen	2007	2	50	0.013	0.008	USDA PDP
Fresh	2007	21	9.5	0.02 – 0.07	0.01 – 0.02	DPR PRMP
Fresh	2008	211	2.4	0.013	0.008	USDA PDP
Frozen	2008	5	20	0.013	0.008	USDA PDP
Fresh	2008	11	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	12	0	< LOD	0.01 – 0.04	
Fresh	2010	12	0	< LOD	0.01 – 0.02	
Fresh	2011	45	2.2	0.1	0.01 – 0.02	
Fresh	2012	48	0	< LOD	0.02 – 0.03	
Fresh	2013	15	0	< LOD	0.02 – 0.03	
Fresh	2014	1062	1.7	0.021 – 0.11	0.01	USDA PDP
Frozen	2014	5	0	< LOD	0.01	USDA PDP
Fresh	2014	29	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	22	0	< LOD	0.03	
Fresh	2016	25	24	< LOD	0.02	
Fresh	2017	30	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Blueberries

Chlorothalonil Intake from Consumption of Raw and Cooked Blueberries

To determine chlorothalonil intake from raw and cooked blueberries, OEHHA first determined the average consumption of raw and cooked blueberries in keeping with the

[32] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of blueberries (including raw, cooked, and canned blueberries) on either day of the two-day dietary survey for the years 2007-2016[33] to estimate average consumption. The average level of consumption over both days is presented in Table 13.

As neither US EPA nor WHO apply processing factors for any form of blueberries, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked blueberries based on the two-day average consumption of users (Table 13). This mean chlorothalonil intake, 29.18 µg, displayed in the column on the right in Table 13, shows that consumption of raw and cooked blueberries by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.75 µg/g.

Table 13. Consumption of raw and cooked blueberries and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
38.91	0.75	29.18

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Blueberries:

Consumption of chlorothalonil residues by the average consumer of raw and cooked blueberries does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or frozen blueberries are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.75 ppm) and up to the tolerance level of 1.0 ppm.

[33] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Broad Beans

Chlorothalonil Residues in Broad Beans

OEHHA obtained available data on chlorothalonil residue levels in broad beans between 2005 and 2017. USDA did not test broad beans for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2006, 2008 through 2011, and 2013 through 2017.

Table 14 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 20 samples of broad beans were tested for chlorothalonil residues. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[34] for "bean, dry, seed", which encompasses a variety of beans, including broad beans[35].

Table 14. Chlorothalonil residues in broad beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	1	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2008	2	0	< LOD	0.01 – 0.05	
Fresh	2009	2	0	< LOD	0.01 – 0.04	
Fresh	2010	2	0	< LOD	0.01 – 0.02	
Fresh	2011	2	0	< LOD	0.01 – 0.02	
Fresh	2013	4	0	< LOD	0.02 – 0.03	
Fresh	2014	2	0	< LOD	0.01 – 0.03	
Fresh	2015	2	0	< LOD	0.03	
Fresh	2016	1	0	< LOD	0.02	
Fresh	2017	2	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Broad Beans

Chlorothalonil Intake from Consumption of Cooked Broad Beans

To determine chlorothalonil intake from cooked broad beans, OEHHA first determined the average consumption of cooked broad beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked broad beans (including canned broad beans) on either day of the two-day dietary survey for the

[34] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[35] Code of Federal Regulations, Title 40, Part 180, Section 180.41.

years 2007-2016[36] to estimate average consumption. The average level of consumption over both days is presented in Table 15.

As neither US EPA nor WHO apply processing factors for any form of broad beans, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked broad beans based on the two-day average consumption of users (Table 15). This mean chlorothalonil intake, 2.76 µg, displayed in the column on the right in Table 15, shows that consumption of cooked broad beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 15. Consumption of cooked broad beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
55.16	0.05	2.76

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of broad beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Broad Beans:

Consumption of chlorothalonil residues by the average consumer of cooked broad beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh broad beans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.1 ppm.

[36] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Broccoli

Chlorothalonil Residues in Broccoli

OEHHA obtained available data on chlorothalonil residue levels in broccoli between 2005 and 2017. USDA did not test broccoli for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 16 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 635 samples of fresh broccoli were tested for chlorothalonil residues, with a maximum detected concentration of 0.22 ppm in 2010. No residue exceeded the US EPA tolerance level of 5.0 ppm[37].

Table 16. Chlorothalonil residues in broccoli (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	53	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	39	0	< LOD	0.01 – 0.05	
Fresh	2007	39	0	< LOD	0.01 – 0.02	
Fresh	2008	17	0	< LOD	0.01 – 0.05	
Fresh	2009	26	3.8	0.03	0.01 – 0.04	
Fresh	2010	40	7.5	0.01 – 0.22	0.01 – 0.02	
Fresh	2011	14	0	< LOD	0.01 – 0.02	
Fresh	2012	41	0	< LOD	0.02 – 0.03	
Fresh	2013	97	0	< LOD	0.02 – 0.03	
Fresh	2014	53	0	< LOD	0.01 – 0.03	
Fresh	2015	56	0	< LOD	0.03	
Fresh	2016	99	0	< LOD	0.02	
Fresh	2017	61	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Broccoli

Chlorothalonil Intake from Consumption of Raw and Cooked Broccoli

To determine chlorothalonil intake from raw and cooked broccoli, OEHHA first determined the average consumption of raw and cooked broccoli in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of broccoli

[37] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

on either day of the two-day dietary survey for the years 2007-2016[38] to estimate average consumption. The average level of consumption over both days is presented in Table 17.

As neither US EPA nor WHO apply processing factors for any form of broccoli, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked broccoli based on the two-day average consumption of users (Table 17). This mean chlorothalonil intake, 12.93 µg, displayed in the column on the right in Table 17, shows that consumption of raw and cooked broccoli by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.22 µg/g.

Table 17. Consumption of raw and cooked broccoli and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
58.77	0.22	12.93

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Broccoli:

Consumption of chlorothalonil residues by the average consumer of raw and cooked broccoli does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh broccoli are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.22 ppm) and up to residue levels of 0.69 ppm.

[38] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Broccoli, Chinese

Chlorothalonil Residues in Chinese Broccoli

OEHHA obtained available data on chlorothalonil residue levels in Chinese broccoli between 2005 and 2017. USDA did not test Chinese broccoli for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2006 through 2017.

Table 18 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 250 samples of fresh Chinese broccoli were tested for chlorothalonil residues, with a maximum detected concentration of 0.51 ppm in 2011. No residue exceeded the US EPA tolerance level of 5.0 ppm[39].

Table 18. Chlorothalonil residues in Chinese broccoli (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	28	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	2	0	< LOD	0.01 – 0.02	
Fresh	2008	1	0	< LOD	0.01 – 0.05	
Fresh	2009	1	0	< LOD	0.01 – 0.04	
Fresh	2010	11	9.1	0.07	0.01 – 0.02	
Fresh	2011	144	2.1	0.02 – 0.51	0.01 – 0.02	
Fresh	2012	4	0	< LOD	0.02 – 0.03	
Fresh	2013	5	0	< LOD	0.02 – 0.03	
Fresh	2014	3	0	< LOD	0.01 – 0.03	
Fresh	2015	14	0	< LOD	0.03	
Fresh	2016	34	0	< LOD	0.02	
Fresh	2017	3	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Chinese Broccoli

Chlorothalonil Intake from Consumption of Cooked Chinese Broccoli

To determine chlorothalonil intake from cooked Chinese broccoli, OEHHA first determined the average consumption of cooked Chinese broccoli in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked Chinese broccoli on either day of the two-day dietary survey for the years 2007-2016[40] to

[39] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[40] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

estimate average consumption. The average level of consumption over both days is presented in Table 19.

As neither US EPA nor WHO apply processing factors for any form of Chinese broccoli, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked Chinese broccoli based on the two-day average consumption of users (Table 19). This mean chlorothalonil intake, 25.55 µg, displayed in the column on the right in Table 19, shows that consumption of cooked Chinese broccoli by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.51 µg/g.

Table 19. Consumption of cooked Chinese broccoli and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
50.10	0.51	25.55

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Chinese Broccoli:

Consumption of chlorothalonil residues by the average consumer of cooked Chinese broccoli does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh Chinese broccoli are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.51 ppm) and up to residue levels of 0.81 ppm.

Brussels Sprouts

Chlorothalonil Residues in Brussels Sprouts

OEHHA obtained available data on chlorothalonil residue levels in Brussels sprouts between 2005 and 2017. USDA did not test Brussels sprouts for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 20 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 131 samples of fresh Brussels sprouts were tested for chlorothalonil residues, with a maximum detected concentration of 0.15 ppm in 2012. No residue exceeded the US EPA tolerance level of 5.0 ppm[41].

Table 20. Chlorothalonil residues in Brussels sprouts (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	1	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	5	0	< LOD	0.01 – 0.05	
Fresh	2007	10	20	0.05 – 0.06	0.01 – 0.02	
Fresh	2008	3	66.7	0.01 – 0.05	0.01 – 0.05	
Fresh	2009	7	0	< LOD	0.01 – 0.04	
Fresh	2010	7	42.9	0.03 – 0.08	0.01 – 0.02	
Fresh	2011	8	37.5	0.02 – 0.11	0.01 – 0.02	
Fresh	2012	7	14.3	0.15	0.02 – 0.03	
Fresh	2013	15	0	< LOD	0.02 – 0.03	
Fresh	2014	13	0	< LOD	0.01 – 0.03	
Fresh	2015	15	0	< LOD	0.03	
Fresh	2016	24	0	< LOD	0.02	
Fresh	2017	16	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Brussels Sprouts

Chlorothalonil Intake from Consumption of Raw and Cooked Brussels Sprouts

To determine chlorothalonil intake from raw and cooked Brussels sprouts, OEHHA first determined the average consumption of raw and cooked Brussels sprouts in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked Brussels sprouts on either day of the two-day dietary survey for the

[41] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

years 2007-2016[42] to estimate average consumption. The average level of consumption over both days is presented in Table 21.

As neither US EPA nor WHO apply processing factors for any form of Brussels sprouts, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked Brussels sprouts based on the two-day average consumption of users (Table 21). This mean chlorothalonil intake, 10.12 µg, displayed in the column on the right in Table 21, shows that consumption of raw and cooked Brussels sprouts by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.15 µg/g.

Table 21. Consumption of raw and cooked Brussels sprouts and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
67.46	0.15	10.12

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Brussels Sprouts:

Consumption of chlorothalonil residues by the average consumer of raw and cooked Brussels sprouts does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh Brussels sprouts are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.15 ppm) and up to residue levels of 0.60 ppm.

[42] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Cabbage

Chlorothalonil Residues in Cabbage

OEHHA obtained available data on chlorothalonil residue levels in cabbage between 2005 and 2017. USDA did not test cabbage for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 22 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 480 samples of fresh cabbage were analyzed, with a maximum detected concentration of 0.446 ppm in 2013. No residue exceeded the US EPA tolerance level of 5.0 ppm[43].

Table 22. Chlorothalonil residues in cabbage (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	52	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	19	0	< LOD	0.01 – 0.05	
Fresh	2007	22	0	< LOD	0.01 – 0.02	
Fresh	2008	3	0	< LOD	0.01 – 0.05	
Fresh	2009	9	0	< LOD	0.01 – 0.04	
Fresh	2010	57	0	< LOD	0.01 – 0.02	
Fresh	2011	40	0	< LOD	0.01 – 0.02	
Fresh	2012	37	2.7	0.159	0.02 – 0.03	
Fresh	2013	15	6.7	0.446	0.02 – 0.03	
Fresh	2014	21	0	< LOD	0.01 – 0.03	
Fresh	2015	79	0	< LOD	0.03	
Fresh	2016	78	0	< LOD	0.02	
Fresh	2017	48	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Cabbage

Chlorothalonil Intake from Consumption of Raw and Cooked Cabbage

To determine chlorothalonil intake from raw and cooked cabbage, OEHHA first determined the average consumption of raw and cooked cabbage in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked cabbage on either day of the two-day dietary survey for the years

[43] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

2007-2016[44] to estimate average consumption. The average level of consumption over both days is presented in Table 23.

US EPA applies a processing factor of 0.2 for all forms of cabbage[45], which OEHHA applied to the residue in fresh cabbage to determine the upper-bound chlorothalonil concentration in raw and cooked cabbage, 0.09 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked cabbage based on the two-day average consumption of users (Table 23). This mean chlorothalonil intake, 3.40 µg, displayed in the column on the right in Table 23, shows that consumption of raw and cooked cabbage by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.09 µg/g.

Table 23. Consumption of raw and cooked cabbage and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
37.77	0.09	3.40

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop multiplied by the US EPA processing factor (0.2) for all forms (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Cabbage:

Consumption of chlorothalonil residues by the average consumer of raw and cooked cabbage does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cabbage are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.446 ppm) and up to the tolerance level of 5.0 ppm.

[44] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[45] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Cantaloupe

Chlorothalonil Residues in Cantaloupe

OEHHA obtained available data on chlorothalonil residue levels in cantaloupe between 2005 and 2017. USDA residue data were only available for 2005 and 2010 through 2012. DPR residue data were available for all years.

Table 24 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,977 samples of fresh cantaloupe were tested for chlorothalonil residues, with a maximum detected concentration of 0.72 ppm in 2015. No residue exceeded the US EPA tolerance level of 5.0 ppm[46].

Table 24. Chlorothalonil residues in cantaloupe (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	206	0	< LOD	0.005 – 0.008	USDA PDP
Fresh	2005	25	4.0	0.01	0.01 – 0.05	DPR PRMP
Fresh	2006	32	6.3	0.02 – 0.03	0.01 – 0.05	
Fresh	2007	23	13.0	0.01 – 0.13	0.01 – 0.02	
Fresh	2008	13	38.5	0.01 – 0.21	0.01 – 0.05	
Fresh	2009	60	0	< LOD	0.01 – 0.04	
Fresh	2010	309	1	0.005	0.003	USDA PDP
Fresh	2010	38	7.9	0.06 – 0.13	0.01 – 0.02	DPR PRMP
Fresh	2011	658	0	< LOD	0.01	USDA PDP
Fresh	2011	17	17.6	0.02 – 0.03	0.01 – 0.02	DPR PRMP
Fresh	2012	331	0	< LOD	0.01	USDA PDP
Fresh	2012	32	9.4	0.01 – 0.1	0.02 – 0.03	DPR PRMP
Fresh	2013	16	31.3	0.02 – 0.31	0.02 – 0.03	
Fresh	2014	84	2.4	0.052 – 0.12	0.01 – 0.03	
Fresh	2015	46	10.9	0.044 – 0.72	0.03	
Fresh	2016	43	2.3	0.037	0.02	
Fresh	2017	44	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Cantaloupe

Chlorothalonil Intake from Consumption of Raw Cantaloupe

To determine chlorothalonil intake from raw cantaloupe, OEHHA first determined the average consumption of raw cantaloupe in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw cantaloupe on either day of

[46] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

the two-day dietary survey for the years 2007-2016[47] to estimate average consumption. The average level of consumption over both days is presented in Table 25.

As neither US EPA nor WHO apply processing factors for any form of cantaloupe, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw cantaloupe based on the two-day average consumption of users (Table 25). This mean chlorothalonil intake, 47.19 µg, displayed in the column on the right in Table 25, shows that consumption of raw cantaloupe by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.72 µg/g.

Table 25. Consumption of raw cantaloupe and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
65.54	0.72	47.19

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Cantaloupe:

Consumption of chlorothalonil residues by the average consumer of raw cantaloupe does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cantaloupe are at or below 0.62 ppm.

[47] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Carrots

Chlorothalonil Residues in Carrots

OEHHA obtained available data on chlorothalonil residue levels in carrots between 2005 and 2017. USDA residue data were only available for 2006 and 2007. DPR residue data were available for all years.

Table 26 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,050 samples of fresh carrots were tested for chlorothalonil residues. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 1 ppm[48] for carrots.

Table 26. Chlorothalonil residues in carrots (tolerance = 1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	1	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	216	0	< LOD	0.008	USDA PDP
Fresh	2006	43	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	216	0	< LOD	0.008	USDA PDP
Fresh	2007	17	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	25	0	< LOD	0.01 – 0.05	
Fresh	2009	54	0	< LOD	0.01 – 0.04	
Fresh	2010	18	0	< LOD	0.01 – 0.02	
Fresh	2011	7	0	< LOD	0.01 – 0.02	
Fresh	2012	69	0	< LOD	0.02 – 0.03	
Fresh	2013	138	0	< LOD	0.02 – 0.03	
Fresh	2014	50	0	< LOD	0.01 – 0.03	
Fresh	2015	19	0	< LOD	0.03	
Fresh	2016	72	0	< LOD	0.02	
Fresh	2017	105	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Carrots

Chlorothalonil Intake from Consumption of Raw Carrots

To determine chlorothalonil intake from raw carrots, OEHHA first determined the average consumption of raw carrots in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw carrots on either day of the two-day

[48] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

dietary survey for the years 2007-2016[49] to estimate average consumption. The average level of consumption over both days is presented in Table 27.

As neither US EPA nor WHO apply processing factors for raw carrots, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw carrots based on the two-day average consumption of users (Table 27). This mean chlorothalonil intake, 1.33 µg, displayed in the column on the right in Table 27, shows that consumption of raw carrots by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 27. Consumption of raw carrots and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
26.50	0.05	1.33

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh carrots (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Carrots:

Consumption of chlorothalonil residues by the average consumer of raw carrots does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh carrots are at recent historical levels measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 1 ppm.

Cooked Carrots

Chlorothalonil Intake from Consumption of Cooked Carrots

To determine chlorothalonil intake from cooked carrots, OEHHA first determined the average consumption of cooked carrots in keeping with the approach described on page

[49] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked carrots (including canned carrots and glazed cooked carrots) on either day of the two-day dietary survey for the years 2007-2016[50] to estimate average consumption. The average level of consumption over both days is presented in Table 28.

US EPA applies a processing factor of 0.005 for all cooked and processed forms of carrots[51], which OEHHA applied to the residue in fresh carrots to determine the upper-bound chlorothalonil concentration in cooked carrots, 0.00025 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked carrots based on the two-day average consumption of users (Table 28). This mean chlorothalonil intake, 0.009 µg, displayed in the column on the right in Table 28, shows that consumption of cooked carrots by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.00025 µg/g.

Table 28. Consumption of cooked carrots and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
36.71	0.00025	0.009

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh carrots multiplied by the US EPA processing factor (0.005) for all cooked and processed forms (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Carrots:

Consumption of chlorothalonil residues by the average consumer of cooked carrots does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh carrots are at recent historical levels

[50] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[51] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 1 ppm.

Carrot Juice

Chlorothalonil Intake from Consumption of Carrot Juice

To determine chlorothalonil intake from carrot juice, OEHHA first determined the average consumption of carrot juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of carrot juice on either day of the two-day dietary survey for the years 2007-2016[52] to estimate average consumption. The average level of consumption over both days is presented in Table 29.

US EPA applies a processing factor of 0.005 for all cooked and processed forms of carrots[53], which OEHHA applied to the residue in fresh carrots to determine the upper-bound chlorothalonil concentration in carrot juice, 0.00025 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for carrot juice based on the two-day average consumption of users (Table 29). This mean chlorothalonil intake, 0.034 µg, displayed in the column on the right in Table 29, shows that consumption of carrot juice by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.00025 µg/g.

[52] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[53] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Table 29. Consumption of carrot juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
136.79	0.00025	0.034

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh carrots multiplied by the US EPA processing factor (0.005) for all cooked and processed forms (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Carrot Juice:

Consumption of chlorothalonil residues by the average consumer of carrot juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh carrots are at recent historical levels measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 1 ppm.

Cauliflower

Chlorothalonil Residues in Cauliflower

OEHHA obtained available data on chlorothalonil residue levels in cauliflower between 2005 and 2017. USDA did not test cauliflower for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 30 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 763 samples of fresh cauliflower were analyzed, with a maximum detected concentration of 0.05 ppm in 2005. No residue exceeded the US EPA tolerance level of 5.0 ppm[54].

Table 30. Chlorothalonil residues in cauliflower (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	193	1.0	0.01 – 0.05	0.01 – 0.05	DPR PRMP
Fresh	2006	134	0	< LOD	0.01 – 0.05	
Fresh	2007	54	0	< LOD	0.01 – 0.02	
Fresh	2008	6	0	< LOD	0.01 – 0.05	
Fresh	2009	17	0	< LOD	0.01 – 0.04	
Fresh	2010	16	0	< LOD	0.01 – 0.02	
Fresh	2011	73	0	< LOD	0.01 – 0.02	
Fresh	2012	42	0	< LOD	0.02 – 0.03	
Fresh	2013	20	0	< LOD	0.02 – 0.03	
Fresh	2014	34	0	< LOD	0.01 – 0.03	
Fresh	2015	34	0	< LOD	0.03	
Fresh	2016	39	0	< LOD	0.02	
Fresh	2017	101	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Cauliflower

Chlorothalonil Intake from Consumption of Raw and Cooked Cauliflower

To determine chlorothalonil intake from raw and cooked cauliflower, OEHHA first determined the average consumption of raw and cooked cauliflower in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked cauliflower on either day of the two-day dietary survey for the years

[54] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

2007-2016[55] to estimate average consumption. The average level of consumption over both days is presented in Table 31.

As neither US EPA nor WHO apply processing factors for any form of cauliflower, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked cauliflower based on the two-day average consumption of users (Table 31). This mean chlorothalonil intake, 2.80 µg, displayed in the column on the right in Table 31, shows that consumption of raw and cooked cauliflower by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 31. Consumption of raw and cooked cauliflower and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
55.98	0.05	2.80

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Cauliflower:

Consumption of chlorothalonil residues by the average consumer of raw and cooked cauliflower does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cauliflower are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.73 ppm.

[55] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Celery

Chlorothalonil Residues in Celery

OEHHA obtained available data on chlorothalonil residue levels in celery between 2005 and 2017. USDA residue data were only available for 2007, 2008, and 2014. DPR residue data were available for all years.

Table 32 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,042 samples of fresh celery were tested for chlorothalonil residues, with a maximum detected concentration of 8.77 ppm in 2010. No residue exceeded the US EPA tolerance level of 15 ppm[56].

Table 32. Chlorothalonil residues in celery (tolerance = 15 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	24	33.3	0.02 – 3.5	0.01 – 0.05	DPR PRMP
Fresh	2006	22	50.0	0.02 – 2.1	0.01 – 0.05	DPR PRMP
Fresh	2007	214	39.7	0.01 – 1.1	0.008	USDA PDP
Fresh	2007	18	11.1	0.04 – 0.155	0.01 – 0.02	DPR PRMP
Fresh	2008	215	29.8	0.013 – 0.90	0.008	USDA PDP
Fresh	2008	12	25.0	0.07 – 1.92	0.01 – 0.05	DPR PRMP
Fresh	2009	13	15.4	0.06 – 1.44	0.01 – 0.04	
Fresh	2010	113	31.0	0.01 – 8.77	0.01 – 0.02	
Fresh	2011	67	47.8	0.01 – 2.4	0.01 – 0.02	
Fresh	2012	22	0	< LOD	0.02 – 0.03	
Fresh	2013	27	37.0	0.09 – 4.29	0.02 – 0.03	
Fresh	2014	1044	30.7	0.01 – 0.6	0.01	USDA PDP
Fresh	2014	34	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	79	10.1	0.096 – 1.2	0.03	
Fresh	2016	64	1.6	0.64	0.02	
Fresh	2017	74	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Celery

Chlorothalonil Intake from Consumption of Raw and Cooked Celery

To determine chlorothalonil intake from raw and cooked celery, OEHHA first determined the average consumption of raw and cooked celery in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and

[56] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

cooked celery on either day of the two-day dietary survey for the years 2007-2016[57] to estimate average consumption. The average level of consumption over both days is presented in Table 33.

As neither US EPA nor WHO apply processing factors for any form of celery, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked celery based on the two-day average consumption of users (Table 33). This mean chlorothalonil intake, 197.85 µg, displayed in the column on the right in Table 33, shows that consumption of raw and cooked celery by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 8.77 µg/g.

Table 33. Consumption of raw and cooked celery and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
22.56	8.77	197.85

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Celery:

Consumption of chlorothalonil residues by the average consumer of raw and cooked celery does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when the residue levels in fresh celery are at or below 1.81 ppm.

Celery Juice

Chlorothalonil Intake from Consumption of Celery Juice

To determine chlorothalonil intake from celery juice, OEHHA first determined the average consumption of celery juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in

[57] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

forms comprised entirely, or almost entirely, of celery juice on either day of the two-day dietary survey for the years 2007-2016[58] to estimate average consumption. The average level of consumption over both days is presented in Table 34.

As neither US EPA nor WHO apply processing factors for any form of celery, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for celery juice based on the two-day average consumption of users (Table 34). This mean chlorothalonil intake, 1,895.99 µg, displayed in the column on the right in Table 34, shows that consumption of celery by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 8.77 µg/g.

Table 34. Consumption of celery juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
216.19	8.77	1,895.99

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Celery Juice:

Consumption of chlorothalonil residues by the average consumer of celery juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when the residue levels in fresh celery are at or below 0.18 ppm.

[58] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Chayote

Chlorothalonil Residues in Chayote

OEHHA obtained available data on chlorothalonil residue levels in chayote between 2005 and 2017. USDA did not test chayote for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2006, and 2008 through 2017.

Table 35 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 231 samples of fresh chayote were analyzed, with a maximum detected concentration of 0.08 ppm in 2008. No residue exceeded the US EPA tolerance level of 5.0 ppm[59].

Table 35. Chlorothalonil residues in chayote (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	2	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2008	6	33.3	0.02 – 0.08	0.01 – 0.05	
Fresh	2009	14	0	< LOD	0.01 – 0.04	
Fresh	2010	16	0	< LOD	0.01 – 0.02	
Fresh	2011	7	0	< LOD	0.01 – 0.02	
Fresh	2012	9	0	< LOD	0.02 – 0.03	
Fresh	2013	9	0	< LOD	0.02 – 0.03	
Fresh	2014	47	0	< LOD	0.01 – 0.03	
Fresh	2015	51	0	< LOD	0.03	
Fresh	2016	10	0	< LOD	0.02	
Fresh	2017	60	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Chayote

Chlorothalonil Intake from Consumption of Cooked Chayote

To determine chlorothalonil intake from cooked chayote, OEHHA first determined the average consumption of cooked chayote in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked chayote on either day of the two-day dietary survey for the years 2007-2016[60] to estimate average consumption. The average level of consumption over both days is presented in Table 36.

[59] Code of Federal Regulations, Title 40, Part 180, Section 180.275
[60] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of chayote, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked chayote based on the two-day average consumption of users (Table 36). This mean chlorothalonil intake, 3.86 µg, displayed in the column on the right in Table 36, shows that consumption of cooked chayote by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.08 µg/g.

Table 36. Consumption of cooked chayote and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
48.31	0.08	3.86

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Chayote:

Consumption of chlorothalonil residues by the average consumer of cooked chayote does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh chayote are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.08 ppm) and up to residue levels of 0.84 ppm.

Cherries

Chlorothalonil Residues in Cherries

OEHHA obtained available data on chlorothalonil residue levels in cherries between 2005 and 2017. USDA residue data were only available for 2007. DPR residue data were available for all years.

Table 37 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 391 samples of fresh cherries were tested for chlorothalonil residues, with a maximum detected concentration of 0.03 ppm in 2013. Neither the detected residue nor the upper bound limit of detection (0.05 ppm) from any survey conducted by DPR or USDA exceeded the US EPA tolerance level of 0.5 ppm[61].

Table 37. Chlorothalonil residues in cherries (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	15	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	8	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	122	0	< LOD	0.008	USDA PDP
Fresh	2007	14	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	11	0	< LOD	0.01 – 0.05	
Fresh	2009	16	0	< LOD	0.01 – 0.04	
Fresh	2010	11	0	< LOD	0.01 – 0.02	
Fresh	2011	42	0	< LOD	0.01 – 0.02	
Fresh	2012	41	0	< LOD	0.02 – 0.03	
Fresh	2013	20	5.0	0.03	0.02 – 0.03	
Fresh	2014	24	0	< LOD	0.01 – 0.03	
Fresh	2015	32	0	< LOD	0.03	
Fresh	2016	18	0	< LOD	0.02	
Fresh	2017	17	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Cherries

Chlorothalonil Intake from Consumption of Raw Cherries

To determine chlorothalonil intake from raw cherries, OEHHA first determined the average consumption of raw cherries in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw cherries on either day of the

[61] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

two-day dietary survey for the years 2007-2016[62] to estimate average consumption. The average level of consumption over both days is presented in Table 38.

As neither US EPA nor WHO apply processing factors for raw cherries, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw cherries based on the two-day average consumption of users (Table 38). This mean chlorothalonil intake, 3.19 µg, displayed in the column on the right in Table 38, shows that consumption of raw cherries by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 38. Consumption of raw cherries and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
63.70	0.05	3.19

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh cherries (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Cherries:

Consumption of chlorothalonil residues by the average consumer of raw cherries does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cherries are at recent historical levels measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.5 ppm.

Cooked Cherries

Chlorothalonil Intake from Consumption of Cooked Cherries

To determine chlorothalonil intake from cooked cherries, OEHHA first determined the average consumption of cooked cherries in keeping with the approach described on page

[62] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked cherries (including canned cherries) on either day of the two-day dietary survey for the years 2007-2016[63] to estimate average consumption. The average level of consumption over both days is presented in Table 39.

US EPA applies a processing factor of 0.05 for processed forms of cherries[64], which OEHHA applied to the residue limit of detection in fresh cherries to determine the upper-bound chlorothalonil concentration in cooked cherries, 0.0025 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked cherries based on the two-day average consumption of users (Table 39). This mean chlorothalonil intake, 0.16 µg, displayed in the column on the right in Table 39, shows that consumption of cooked cherries by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.0025 µg/g.

Table 39. Consumption of cooked cherries and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
63.24	0.0025	0.16

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh cherries multiplied by the US EPA processing factor (0.05) for all processed forms. (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Cherries:

Consumption of chlorothalonil residues by the average consumer of cooked cherries does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cherries are at recent historical levels

[63] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[64] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.5 ppm.

Corn

Chlorothalonil Residues in Corn

OEHHA obtained available data on chlorothalonil residue levels in corn between 2005 and 2017. USDA residue data were only available for 2008. DPR residue data were available for all years.

Table 40 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period 772 samples of fresh corn and seven samples of frozen corn were tested for chlorothalonil residues. No residue was detected; the limits of detection did not exceed the US EPA tolerance level of 1 ppm[65].

Table 40. Chlorothalonil residues in corn (tolerance = 1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	25	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	23	0	< LOD	0.01 – 0.05	
Fresh	2007	29	0	< LOD	0.01 – 0.02	
Fresh	2008	47	0	< LOD	0.008	USDA PDP
Frozen	2008	7	0	< LOD	0.008	USDA PDP
Fresh	2008	12	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	115	0	< LOD	0.01 – 0.04	
Fresh	2010	65	0	< LOD	0.01 – 0.02	
Fresh	2011	17	0	< LOD	0.01 – 0.02	
Fresh	2012	77	0	< LOD	0.02 – 0.03	
Fresh	2013	50	0	< LOD	0.02 – 0.03	
Fresh	2014	81	0	< LOD	0.01 – 0.03	
Fresh	2015	72	0	< LOD	0.03	
Fresh	2016	99	0	< LOD	0.02	
Fresh	2017	60	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Corn

Chlorothalonil Intake from Consumption of Raw and Cooked Corn

To determine chlorothalonil intake from raw and cooked corn, OEHHA first determined the average consumption of raw and cooked corn in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of corn (including raw corn, cooked corn, and canned corn) on either day of the two-day dietary survey for

[65] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

the years 2007-2016[66] to estimate average consumption. The average level of consumption over both days is presented in Table 41.

As neither US EPA nor WHO apply processing factors for any form of corn, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked corn based on the two-day average consumption of users (Table 41). This mean chlorothalonil intake, 2.46 µg, displayed in the column on the right in Table 41, shows that consumption of raw and cooked corn by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 41. Consumption of raw and cooked corn and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
49.13	0.05	2.46

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh corn (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Corn:

Consumption of chlorothalonil residues by the average consumer of raw and cooked corn does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or frozen corn are at recent historical levels measured for chlorothalonil in DPR and USDA surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.83 ppm.

[66] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Cranberries

Chlorothalonil Residues in Cranberries

OEHHA obtained available data on chlorothalonil residue levels in cranberries between 2005 and 2017. USDA residue data were only available for 2006. DPR residue data were only available for 2006 through 2011, 2013, 2014, 2016, and 2017.

Table 42 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 109 samples of fresh cranberries were tested for chlorothalonil residues, with a maximum detected concentration of 0.60 ppm in 2006. No residue exceeded the US EPA tolerance level of 5.0 ppm[67].

Table 42. Chlorothalonil residues in cranberries (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	84	56.0	0.013 – 0.60	0.008	USDA PDP
Fresh	2006	1	100.0	0.4	0.01 – 0.02	DPR PRMP
Fresh	2007	2	50.0	0.07	0.01 – 0.02	
Fresh	2008	2	100.0	0.02 – 0.03	0.01 – 0.05	
Fresh	2009	5	20.0	0.28	0.01 – 0.04	
Fresh	2010	3	66.7	0.01 – 0.3	0.01 – 0.02	
Fresh	2011	1	100.0	0.08	0.01 – 0.02	
Fresh	2013	1	100.0	0.02	0.02 – 0.03	
Fresh	2014	4	0	< LOD	0.01 – 0.03	
Fresh	2016	3	0	< LOD	0.02	
Fresh	2017	3	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Cranberries

Chlorothalonil Intake from Consumption of Raw and Cooked Cranberries

To determine chlorothalonil intake from raw and cooked cranberries, OEHHA first determined the average consumption of raw and cooked cranberries in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cranberries (including raw cranberries, cooked cranberries, and canned cranberries) on either day of the two-day dietary survey for the years 2007-2016[68] to estimate average consumption. The average level of consumption over both days is presented in Table 43.

[67] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[68] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of cranberry, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked cranberries based on the two-day average consumption of users (Table 43). This mean chlorothalonil intake, 21.01 µg, displayed in the column on the right in Table 43, shows that consumption of raw and cooked cranberries by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.60 µg/g.

Table 43. Consumption of raw and cooked cranberries and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
35.01	0.60	21.01

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Cranberries:

Consumption of chlorothalonil residues by the average consumer of raw and cooked cranberries does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cranberries are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.60 ppm) and up to residue levels of 1.17 ppm.

Dried Cranberries

Chlorothalonil Intake from Consumption of Dried Cranberries

To determine chlorothalonil intake from dried cranberries, OEHHA first determined the average consumption of dried cranberries in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried cranberries

on either day of the two-day dietary survey for the years 2007-2016[69] to estimate average consumption. The average level of consumption over both days is presented in Table 44.

As neither US EPA nor WHO apply processing factors for any form of cranberry, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried cranberries based on the two-day average consumption of users (Table 44). This mean chlorothalonil intake, 6.93 µg, displayed in the column on the right in Table 44, shows that consumption of dried cranberries by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.60 µg/g.

Table 44. Consumption of dried cranberries and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
11.55	0.60	6.93

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Cranberries:

Consumption of chlorothalonil residues by the average consumer of dried cranberries does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cranberries are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.60 ppm) and up to residue levels of 3.54 ppm.

Cranberry Juice

Chlorothalonil Intake from Consumption of Cranberry Juice

To determine chlorothalonil intake from cranberry juice, OEHHA first determined the average consumption of cranberry juice in keeping with the approach described on page

[69] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cranberry juice on either day of the two-day dietary survey for the years 2007-2016[70] to estimate average consumption. The average level of consumption over both days is presented in Table 45.

As neither US EPA nor WHO apply processing factors for any form of cranberry, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cranberry juice based on the two-day average consumption of users (Table 45). This mean chlorothalonil intake, 56.11 µg, displayed in the column on the right in Table 45, shows that consumption of cranberry juice by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.60 µg/g.

Table 45. Consumption of cranberry juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
93.52	0.60	56.11

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cranberry Juice:

Consumption of chlorothalonil residues by the average consumer of cranberry juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cranberries are at or below 0.43 ppm.

[70] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Cucumbers

Chlorothalonil Residues in Cucumbers

OEHHA obtained available data on chlorothalonil residue levels in cucumbers between 2005 and 2017. USDA residue data were only available for 2015 through 2017. DPR residue data were available for all years.

Table 46 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,335 samples of fresh cucumbers were tested for chlorothalonil residues, with a maximum detected concentration of 0.64 ppm in 2017. No residue exceeded the US EPA tolerance level of 5.0 ppm[71].

Table 46. Chlorothalonil residues in cucumber (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	79	5.1	0.01 – 0.12	0.01 – 0.05	DPR PRMP
Fresh	2006	89	4.5	0.01 – 0.07	0.01 – 0.05	
Fresh	2007	88	13.6	0.01 – 0.3	0.01 – 0.02	
Fresh	2008	43	11.6	0.01 – 0.32	0.01 – 0.05	
Fresh	2009	58	6.9	0.02 – 0.18	0.01 – 0.04	
Fresh	2010	48	12.5	0.01 – 0.19	0.01 – 0.02	
Fresh	2011	40	25.0	0.01 – 0.15	0.01 – 0.02	
Fresh	2012	44	0	< LOD	0.02 – 0.03	
Fresh	2013	47	12.8	0.02 – 0.176	0.02 – 0.03	
Fresh	2014	39	0	< LOD	0.01 – 0.03	
Fresh	2015	378	22.0	0.0051 – 0.17	0.005	USDA PDP
Fresh	2015	122	0	< LOD	0.03	DPR PRMP
Fresh	2016	754	13.9	0.005 – 0.3	0.005	USDA PDP
Fresh	2016	62	0	< LOD	0.02	DPR PRMP
Fresh	2017	378	8.2	0.0052 – 0.64	0.005	USDA PDP
Fresh	2017	66	0	< LOD	0.01	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Cucumbers

Chlorothalonil Intake from Consumption of Raw and Cooked Cucumbers

To determine chlorothalonil intake from raw and cooked cucumbers, OEHHA first determined the average consumption of raw and cooked cucumbers in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely,

[71] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

of raw and cooked cucumbers on either day of the two-day dietary survey for the years 2007-2016[72] to estimate average consumption. The average level of consumption over both days is presented in Table 47.

As US EPA and WHO apply processing factors only for brined cucumbers or cold- and hot- canned pickles made from cucumbers, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked cucumbers based on the two-day average consumption of users (Table 47). This mean chlorothalonil intake, 21.48 µg, displayed in the column on the right in Table 47, shows that consumption of raw and cooked cucumbers by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.64 µg/g.

Table 47. Consumption of raw and cooked cucumbers and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
33.57	0.64	21.48

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Cucumbers:

Consumption of chlorothalonil residues by the average consumer of raw and cooked cucumbers does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh cucumbers are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.64 ppm) and up to residue levels of 1.22 ppm.

[72] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Eggplant

Chlorothalonil Residues in Eggplant

OEHHA obtained available data on chlorothalonil residue levels in eggplant between 2005 and 2017. USDA residue data were only available for 2005 and 2006. DPR residue data were available for all years.

Table 48 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,219 samples of fresh eggplant were tested for chlorothalonil residues, with a maximum detected concentration of 0.38 ppm in 2008 and 2015. No residue exceeded the US EPA tolerance level of 6.0 ppm[73].

Table 48. Chlorothalonil residues in eggplant (tolerance = 6.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	736	1.4	0.012 – 0.073	0.007	USDA PDP
Fresh	2005	183	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	740	0.4	0.012 – 0.045	0.007	USDA PDP
Fresh	2006	85	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	75	0	< LOD	0.01 – 0.02	
Fresh	2008	27	7.4	0.2 – 0.38	0.01 – 0.05	
Fresh	2009	25	0	< LOD	0.01 – 0.04	
Fresh	2010	34	0	< LOD	0.01 – 0.02	
Fresh	2011	17	5.9	0.3	0.01 – 0.02	
Fresh	2012	18	0	< LOD	0.02 – 0.03	
Fresh	2013	28	0	< LOD	0.02 – 0.03	
Fresh	2014	75	0	< LOD	0.01 – 0.03	
Fresh	2015	74	1.4	0.38	0.03	
Fresh	2016	37	0	< LOD	0.02	
Fresh	2017	65	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Eggplant

Chlorothalonil Intake from Consumption of Raw and Cooked Eggplant

To determine chlorothalonil intake from raw and cooked eggplant, OEHHA first determined the average consumption of raw and cooked eggplant in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked eggplant on either day of the two-day dietary survey for the years

[73] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

2007-2016[74] to estimate average consumption. The average level of consumption over both days is presented in Table 49.

As neither US EPA nor WHO apply processing factors for any form of eggplant, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked eggplant based on the two-day average consumption of users (Table 49). This mean chlorothalonil intake, 15.99 µg, displayed in the column on the right in Table 49, shows that consumption of raw and cooked eggplant by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.38 µg/g.

Table 49. Consumption of raw and cooked eggplant and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
42.09	0.38	15.99

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Eggplant:

Consumption of chlorothalonil residues by the average consumer of raw and cooked eggplant does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh eggplant are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.38 ppm) and up to residue levels of 0.97 ppm.

[74] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Garlic

Chlorothalonil Residues in Garlic

OEHHA obtained available data on chlorothalonil residue levels in garlic between 2005 and 2017. USDA did not test garlic for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 50 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 489 samples of fresh garlic were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.5 ppm[75].

Table 50. Chlorothalonil residues in garlic (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	7	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	3	0	< LOD	0.01 – 0.05	
Fresh	2007	62	0	< LOD	0.01 – 0.02	
Fresh	2008	86	0	< LOD	0.01 – 0.05	
Fresh	2009	72	0	< LOD	0.01 – 0.04	
Fresh	2010	61	0	< LOD	0.01 – 0.02	
Fresh	2011	43	0	< LOD	0.01 – 0.02	
Fresh	2012	24	0	< LOD	0.02 – 0.03	
Fresh	2013	14	0	< LOD	0.02 – 0.03	
Fresh	2014	29	0	< LOD	0.01 – 0.03	
Fresh	2015	27	0	< LOD	0.03	
Fresh	2016	26	0	< LOD	0.02	
Fresh	2017	35	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Garlic

Chlorothalonil Intake from Consumption of Raw and Cooked Garlic

To determine chlorothalonil intake from raw and cooked garlic, OEHHA first determined the average consumption of raw and cooked garlic in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked garlic on either day of the two-day dietary survey for the years 2007-2016[76] to

[75] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[76] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

estimate average consumption. The average level of consumption over both days is presented in Table 51.

As neither US EPA nor WHO apply processing factors for any form of garlic, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked garlic based on the two-day average consumption of users (Table 51). This mean chlorothalonil intake, 0.12 µg, displayed in the column on the right in Table 51, shows that consumption of raw and cooked garlic by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 51. Consumption of raw and cooked garlic and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
2.37	0.05	0.12

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh garlic (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Garlic:

Consumption of chlorothalonil residues by the average consumer of raw and cooked garlic does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh garlic are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.5 ppm.

Green Beans

Chlorothalonil Residues in Green Beans

OEHHA obtained available data on chlorothalonil residue levels in fresh, uncooked green beans between 2005 and 2017. USDA residue data were available only for 2005, 2007, and 2008. DPR residue data were only available for 2006 through 2017.

Table 52 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,283 samples of fresh green beans were analyzed. Two samples tested in 2007 exceeded the US EPA tolerance level of 5 ppm[77] for "bean, snap, succulent", with residues of 5.6 and 9.1 ppm.

Table 52. Chlorothalonil residues in green beans (tolerance = 5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	181	35.9	0.003 – 3.9	0.002 – 0.005	USDA PDP
Fresh	2006	68	2.9	0.03 – 0.5	0.01 – 0.05	DPR PRMP
Fresh	2007	739	15.6	0.008 – 9.1	0.0075 – 0.0375	USDA PDP
Fresh	2007	68	2.9	0.12 – 0.13	0.01 – 0.02	DPR PRMP
Fresh	2008	741	11.1	0.009 – 2.6	0.0075 – 0.15	USDA PDP
Fresh	2008	37	2.6	1.5	0.01 – 0.05	DPR PRMP
Fresh	2009	27	0	< LOD	0.01 – 0.04	
Fresh	2010	27	7.4	0.07 – 0.15	0.01 – 0.02	
Fresh	2011	23	8.7	0.08 – 0.3	0.01 – 0.02	
Fresh	2012	30	16.7	0.06 – 1.46	0.02 – 0.03	
Fresh	2013	95	6.3	0.031 – 0.92	0.02 – 0.03	
Fresh	2014	64	3.1	0.06 – 0.07	0.01 – 0.03	
Fresh	2015	27	3.7	0.2	0.03	
Fresh	2016	67	0	< LOD	0.02	
Fresh	2017	89	0	0.12 – 0.13	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Green Beans

Chlorothalonil Intake from Consumption of Cooked Green Beans

To determine chlorothalonil intake from cooked green beans, OEHHA first determined the average consumption of cooked green beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked green beans (including canned green beans) on either day of the two-day dietary survey for the

[77] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

years 2007-2016[78] to estimate average consumption. The average level of consumption over both days is presented in Table 53.

US EPA applies a processing factor of 0.05 for all cooked, canned, or frozen green beans[79], which OEHHA applied to the tolerance level for chlorothalonil of 5 ppm to determine the upper-bound chlorothalonil concentration in cooked green beans of 0.25 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked grean beans based on the two-day average consumption of users (Table 53). This mean chlorothalonil intake, 12.47 µg, displayed in the column on the right in Table 53, shows that consumption of cooked green beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.25 µg/g.

Table 53. Consumption of cooked green beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
49.89	0.25	12.47

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop assumed to be at the tolerance level of 5.0 ppm, multiplied by the US EPA processing factor (0.05) for all cooked forms.
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Green Beans:

Consumption of chlorothalonil residues by the average consumer of cooked green beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh green beans are at or below the tolerance level of 5 ppm.

[78] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[79] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

Green Onion

Chlorothalonil Residues in Green Onion

OEHHA obtained available data on chlorothalonil residue levels in green onions between 2005 and 2017. USDA did not test green onions for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 54 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 322 samples of fresh green onions were analyzed, with a maximum detected concentration of 0.26 ppm in 2010. No residue exceeded the US EPA tolerance level of 5 ppm[80].

Table 54. Chlorothalonil residues in green onion (tolerance = 5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	11	9.1	0.2	0.01 – 0.05	DPR PRMP
Fresh	2006	20	10.0	0.01 – 0.19	0.01 – 0.05	
Fresh	2007	22	0	< LOD	0.01 – 0.02	
Fresh	2008	18	5.6	0.06	0.01 – 0.05	
Fresh	2009	25	0	< LOD	0.01 – 0.04	
Fresh	2010	23	13.0	0.04 – 0.26	0.01 – 0.02	
Fresh	2011	13	15.4	0.13 – 0.16	0.01 – 0.02	
Fresh	2012	9	22.2	0.03 – 0.22	0.02 – 0.03	
Fresh	2013	9	11.1	0.22	0.02 – 0.03	
Fresh	2014	16	0	< LOD	0.01 – 0.03	
Fresh	2015	76	0	< LOD	0.03	
Fresh	2016	53	0	< LOD	0.02	
Fresh	2017	27	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Green Onion

Chlorothalonil Intake from Consumption of Raw and Cooked Green Onion

To determine chlorothalonil intake from raw and cooked green onion, OEHHA first determined the average consumption of raw and cooked green onion in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and cooked green onion on either day of the two-day dietary survey for the years

[80] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

2007-2016[81] to estimate average consumption. The average level of consumption over both days is presented in Table 55.

As neither US EPA nor WHO apply processing factors for any form of green onion, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked green onion based on the two-day average consumption of users (Table 55). This mean chlorothalonil intake, 2.98 µg, displayed in the column on the right in Table 55, shows that consumption of raw and cooked green onion by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.26 µg/g.

Table 55. Consumption of raw and cooked green onion and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
11.47	0.26	2.98

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Green Onion:

Consumption of chlorothalonil residues by the average consumer of raw and cooked green onion does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh green onion are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.26 ppm) and up to residue levels of 3.57 ppm.

[81] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Honeydew Melon

Chlorothalonil Residues in Honeydew Melon

OEHHA obtained available data on chlorothalonil residue levels in honeydew melon between 2005 and 2017. USDA did not test honeydew melon for chlorothalonil residues between 2005 and 2017. DPR residue data were available for all years.

Table 56 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 139 samples of fresh honeydew melons were analyzed, with a maximum detected concentration of 0.03 ppm in 2011. No residue exceeded the US EPA tolerance level of 5.0 ppm[82].

Table 56. Chlorothalonil residues in honeydew melon (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	8	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	11	9.1	0.01	0.01 – 0.05	
Fresh	2007	3	0	< LOD	0.01 – 0.02	
Fresh	2008	1	0	< LOD	0.01 – 0.05	
Fresh	2009	23	0	< LOD	0.01 – 0.04	
Fresh	2010	9	11.1	0.02	0.01 – 0.02	
Fresh	2011	5	20.0	0.03	0.01 – 0.02	
Fresh	2012	6	0	< LOD	0.02 – 0.03	
Fresh	2013	5	0	< LOD	0.02 – 0.03	
Fresh	2014	9	0	< LOD	0.01 – 0.03	
Fresh	2015	15	0	< LOD	0.03	
Fresh	2016	19	0	< LOD	0.02	
Fresh	2017	25	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Honeydew Melon

Chlorothalonil Intake from Consumption of Raw Honeydew Melon

To determine chlorothalonil intake from raw honeydew melon, OEHHA first determined the average consumption of raw honeydew melon in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw honeydew melon on either day of the two-day dietary survey for the years 2007-2016[83] to estimate

[82] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[83] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

average consumption. The average level of consumption over both days is presented in Table 57.

As neither US EPA nor WHO apply processing factors for any form of honeydew melon, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw honeydew melon based on the two-day average consumption of users (Table 57). This mean chlorothalonil intake, 2.73 µg, displayed in the column on the right in Table 57, shows that consumption of raw honeydew melon by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 57. Consumption of raw honeydew melon and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
54.69	0.05	2.73

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh honeydew melon (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Honeydew Melon:

Consumption of chlorothalonil residues by the average consumer of raw honeydew melon does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh honeydew melon are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.74 ppm.

Horseradish

Chlorothalonil Residues in Horseradish

OEHHA obtained available data on chlorothalonil residue levels in horseradish between 2005 and 2017. USDA did not test horseradish for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2007, 2009 through 2012, 2014, 2015, and 2017.

Table 58 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 10 samples of fresh horseradish were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 4.0 ppm[84] for horseradish.

Table 58. Chlorothalonil residues in horseradish (tolerance = 4.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2007	1	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2009	1	0	< LOD	0.01 – 0.04	
Fresh	2010	1	0	< LOD	0.01 – 0.02	
Fresh	2011	1	0	< LOD	0.01 – 0.02	
Fresh	2012	1	0	< LOD	0.02 – 0.03	
Fresh	2014	2	0	< LOD	0.01 – 0.03	
Fresh	2015	1	0	< LOD	0.03	
Fresh	2017	2	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Prepared Horseradish

Chlorothalonil Intake from Consumption of Prepared Horseradish

To determine chlorothalonil intake from prepared horseradish, OEHHA first determined the average consumption of prepared horseradish in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of prepared horseradish on either day of the two-day dietary survey for the years 2007-2016[85] to estimate average consumption. The average level of consumption over both days is presented in Table 59.

[84] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[85] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of horseradish, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for prepared horseradish based on the two-day average consumption of users (Table 59). This mean chlorothalonil intake, 0.25 µg, displayed in the column on the right in Table 59, shows that consumption of prepared horseradish by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.04 µg/g.

Table 59. Consumption of prepared horseradish and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
6.18	0.04	0.25

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh horseradish (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Prepared Horseradish:

Consumption of chlorothalonil residues by the average consumer of prepared horseradish does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh horseradish are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.04 ppm) and up to the tolerance level of 4.0 ppm.

Kidney Beans

Chlorothalonil Residues in Kidney Beans

OEHHA obtained available data on chlorothalonil residue levels in kidney beans between 2005 and 2017. USDA residue data, for canned kidney beans, were only available for 2008 and 2009. DPR did not test kidney beans for chlorothalonil residues between 2005 and 2017.

Table 60 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 252 samples of canned kidney beans were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[86] for "bean, dry, seed", which encompasses a variety of beans, including kidney beans, within the genus *Phaseolus*[87].

Table 60. Chlorothalonil residues in kidney beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Canned	2008	120	0	< LOD	0.008 – 0.0194	USDA PDP
Canned	2009	132	0	< LOD	0.0194	USDA PDP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Kidney Beans

Chlorothalonil Intake from Consumption of Cooked Kidney Beans

To determine chlorothalonil intake from cooked kidney beans, OEHHA first determined the average consumption of cooked kidney beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked kidney beans (including canned kidney beans) on either day of the two-day dietary survey for the years 2007-2016[88] to estimate average consumption. The average level of consumption over both days is presented in Table 61.

As neither US EPA nor WHO apply processing factors for any form of kidney bean, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a

[86] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[87] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[88] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

mean chlorothalonil intake for cooked kidney beans based on the two-day average consumption of users (Table 61). This mean chlorothalonil intake, 1.17 µg, displayed in the column on the right in Table 61, shows that consumption of cooked kidney beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.0194 µg/g.

Table 61. Consumption of cooked kidney beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
60.20	0.0194	1.17

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of canned kidney beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Kidney Beans:

Consumption of chlorothalonil residues by the average consumer of cooked kidney beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or canned kidney beans are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.0194 ppm) and up to the tolerance level of 0.1 ppm.

Kohlrabi

Chlorothalonil Residues in Kohlrabi

OEHHA obtained available data on chlorothalonil residue levels in kohlrabi between 2005 and 2017. USDA did not test kohlrabi for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2005, 2007, 2009, 2010, 2014, 2016, and 2017.

Table 62 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 13 samples of fresh kohlrabi were tested for chlorothalonil residues, with a maximum detected concentration of 0.2 ppm in 2007. No residue exceeded the US EPA tolerance level of 5.0 ppm[89].

Table 62. Chlorothalonil residues in kohlrabi (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	2	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	2	50.0	0.2	0.01 – 0.02	
Fresh	2009	1	0	< LOD	0.01 – 0.04	
Fresh	2010	1	0	< LOD	0.01 – 0.02	
Fresh	2014	2	0	< LOD	0.01 – 0.03	
Fresh	2016	4	0	< LOD	0.02	
Fresh	2017	1	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Kohlrabi

Chlorothalonil Intake from Consumption of Raw Kohlrabi

To determine chlorothalonil intake from raw kohlrabi, OEHHA first determined the average consumption of raw kohlrabi in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw kohlrabi on either day of the two-day dietary survey for the years 2007-2016[90] to estimate average consumption. The average level of consumption over both days is presented in Table 63.

As neither US EPA nor WHO apply processing factors for any form of kohlrabi, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean

[89] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[90] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

chlorothalonil intake for raw kohlrabi based on the two-day average consumption of users (Table 63). This mean chlorothalonil intake, 6.30 µg, displayed in the column on the right in Table 63, shows that consumption of raw kohlrabi by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.2 µg/g.

Table 63. Consumption of raw kohlrabi and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
31.49	0.2	6.30

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Kohlrabi:

Consumption of chlorothalonil residues by the average consumer of raw kohlrabi does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh kohlrabi are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.2 ppm) and up to residue levels of 1.30 ppm.

Cooked Kohlrabi

Chlorothalonil Intake from Consumption of Cooked Kohlrabi

To determine chlorothalonil intake from cooked kohlrabi, OEHHA first determined the average consumption of cooked kohlrabi in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked kohlrabi on either day of the two-day dietary survey for the years 2007-2016[91] to estimate average consumption. The average level of consumption over both days is presented in Table 64.

[91] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of kohlrabi, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked kohlrabi based on the two-day average consumption of users (Table 64). This mean chlorothalonil intake, 30.76 µg, displayed in the column on the right in Table 64, shows that consumption of cooked kohlrabi by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.2 µg/g.

Table 64. Consumption of cooked kohlrabi and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
153.80	0.2	30.76

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Kohlrabi:

Consumption of chlorothalonil residues by the average consumer of cooked kohlrabi does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh kohlrabi are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.2 ppm) and up to residue levels of 0.26 ppm.

Lima Beans

Chlorothalonil Residues in Lima Beans

OEHHA obtained available data on chlorothalonil residue levels in lima beans between 2005 and 2017. USDA did not test lima beans for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2014.

Table 65 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1 sample of fresh lima beans was analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[92] for "bean, dry, seed", which encompasses a variety of beans, including lima beans, within the genus *Phaseolus*[93].

Table 65. Chlorothalonil residues in lima beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2014	1	0	< LOD	0.01 – 0.03	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Lima Beans

Chlorothalonil Intake from Consumption of Cooked Lima Beans

To determine chlorothalonil intake from cooked lima beans, OEHHA first determined the average consumption of cooked lima beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked lima beans (including cooked mature lima beans, cooked immature lima beans, and canned immature lima beans) on either day of the two-day dietary survey for the years 2007-2016[94] to estimate average consumption. The average level of consumption over both days is presented in Table 66.

As neither US EPA nor WHO apply processing factors for any form of lima bean, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked lima beans based on the two-day average

[92] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[93] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[94] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

consumption of users (Table 66). This mean chlorothalonil intake, 2.01 µg, displayed in the column on the right in Table 66, shows that consumption of cooked lima beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.03 µg/g.

Table 66. Consumption of cooked lima beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
67.02	0.03	2.01

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR survey of fresh lima beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Lima Beans:

Consumption of chlorothalonil residues by the average consumer of cooked lima beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh lima beans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.03 ppm) and up to the tolerance level of 0.1 ppm.

Lychees

Chlorothalonil Residues in Lychees

OEHHA obtained available data on chlorothalonil residue levels in lychees between 2005 and 2017. USDA did not test lychees for chlorothalonil residues between 2005 and 2017. DPR residue data were available for 2007 through 2017.

Table 67 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 71 samples of fresh lychees were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 15 ppm[95] for lychee.

Table 67. Chlorothalonil residues in lychees (tolerance = 15 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2007	4	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	1	0	< LOD	0.01 – 0.05	
Fresh	2009	8	0	< LOD	0.01 – 0.04	
Fresh	2010	2	0	< LOD	0.01 – 0.02	
Fresh	2011	2	0	< LOD	0.01 – 0.02	
Fresh	2012	7	0	< LOD	0.02 – 0.03	
Fresh	2013	3	0	< LOD	0.02 – 0.03	
Fresh	2014	9	0	< LOD	0.01 – 0.03	
Fresh	2015	12	0	< LOD	0.03	
Fresh	2016	18	0	< LOD	0.02	
Fresh	2017	5	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Lychees

Chlorothalonil Intake from Consumption of Raw Lychees

To determine chlorothalonil intake from raw lychees, OEHHA first determined the average consumption of raw lychees in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw lychees on either day of the two-day dietary survey for the years 2007-2016[96] to estimate average consumption. The average level of consumption over both days is presented in Table 68.

[95] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[96] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of lychee, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for lychees based on the two-day average consumption of users (Table 68). This mean chlorothalonil intake, 2.98 µg, displayed in the column on the right in Table 68, shows that consumption of raw lychees by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 68. Consumption of raw lychees and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
59.50	0.05	2.98

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR survey of fresh lychees (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Lychees:

Consumption of chlorothalonil residues by the average consumer of raw lychees does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh lychees are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.68 ppm.

Mangos

Chlorothalonil Residues in Mangos

OEHHA obtained available data on chlorothalonil residue levels in mangos between 2005 and 2017. USDA residue data were only available for 2017. DPR residue data were only available for 2006 through 2017.

Table 69 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 665 samples of fresh mangos were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 1.0 ppm[97] for mangos.

Table 69. Chlorothalonil residues in mangos (tolerance = 1.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	22	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	31	0	< LOD	0.01 – 0.05	
Fresh	2007	31	0	< LOD	0.01 – 0.02	
Fresh	2008	25	0	< LOD	0.01 – 0.05	
Fresh	2009	34	0	< LOD	0.01 – 0.04	
Fresh	2010	33	0	< LOD	0.01 – 0.02	
Fresh	2011	20	0	< LOD	0.01 – 0.02	
Fresh	2012	27	0	< LOD	0.02 – 0.03	
Fresh	2013	26	0	< LOD	0.02 – 0.03	
Fresh	2014	25	0	< LOD	0.01 – 0.03	
Fresh	2015	59	0	< LOD	0.03	
Fresh	2016	88	0	< LOD	0.02	
Fresh	2017	177	0	< LOD	0.005	USDA PDP
Fresh	2017	67	0	< LOD	0.01	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Mangos

Chlorothalonil Intake from Consumption of Raw and Cooked Mangos

To determine chlorothalonil intake from raw and cooked mangos, OEHHA first determined the average consumption of raw and cooked mangos in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and

[97] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

cooked mangos on either day of the two-day dietary survey for the years 2007-2016[98] to estimate average consumption. The average level of consumption over both days is presented in Table 70.

As neither US EPA nor WHO apply processing factors for any form of mango, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked mangos based on the two-day average consumption of users (Table 70). This mean chlorothalonil intake, 3.81 µg, displayed in the column on the right in Table 70, shows that consumption of raw and cooked mangos by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 70. Consumption of raw and cooked mangos and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
76.15	0.05	3.81

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh mangos (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Mangos:

Consumption of chlorothalonil residues by the average consumer of raw and cooked mangos does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh mangos are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.53 ppm.

[98] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Dried Mangos

Chlorothalonil Intake from Consumption of Dried Mangos

To determine chlorothalonil intake from dried mangos, OEHHA first determined the average consumption of dried mangos in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried mangos on either day of the two-day dietary survey for the years 2007-2016[99] to estimate average consumption. The average level of consumption over both days is presented in Table 71.

As neither US EPA nor WHO apply processing factors for any form of mango, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried mangos based on the two-day average consumption of users (Table 71). This mean chlorothalonil intake, 1.15 µg, displayed in the column on the right in Table 71, shows that consumption of dried mangos by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 71. Consumption of dried mangos and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
22.97	0.05	1.15

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh mango (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Mangos:

Consumption of chlorothalonil residues by the average consumer of dried mangos does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh mangos are at recent historical levels

[99] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 1.0 ppm.

Mango Juice

Chlorothalonil Intake from Consumption of Mango Juice

To determine chlorothalonil intake from mango juice, OEHHA first determined the average consumption of mango juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of mango juice on either day of the two-day dietary survey for the years 2007-2016[100] to estimate average consumption. The average level of consumption over both days is presented in Table 72.

As neither US EPA nor WHO apply processing factors for any form of mango, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for mango juice based on the two-day average consumption of users (Table 72). This mean chlorothalonil intake, 9.37 µg, displayed in the column on the right in Table 72, shows that consumption of mango juice by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 72. Consumption of mango juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
187.41	0.05	9.37

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh mango (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

[100] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary

Safe Use Determination for Mango Juice:

Consumption of chlorothalonil residues by the average consumer of mango juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh mangos are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.21 ppm.

Mung Beans

Chlorothalonil Residues in Mung Beans

OEHHA obtained available data on chlorothalonil residue levels in mung beans between 2005 and 2017. USDA did not test mung beans for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2013.

Table 73 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1 sample of fresh mung beans was analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[101] for "bean, dry, seed", which encompasses a variety of beans, including mung beans, within the genus *Vigna*[102].

Table 73. Chlorothalonil residues in mung beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2013	1	0	< LOD	0.02 – 0.03	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Mung Beans

Chlorothalonil Intake from Consumption of Cooked Mung Beans

To determine chlorothalonil intake from cooked mung beans, OEHHA first determined the average consumption of cooked mung beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked mung beans (including canned mung beans) on either day of the two-day dietary survey for the years 2007-2016[103] to estimate average consumption. The average level of consumption over both days is presented in Table 74.

As neither US EPA nor WHO apply processing factors for any form of mung bean, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked mung beans based on the two-day average consumption of users (Table 74). This mean chlorothalonil intake, 1.31 µg, displayed in

[101] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[102] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[103] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

the column on the right in Table 74, shows that consumption of cooked mung beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.03 µg/g.

Table 74. Consumption of cooked mung beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
43.50	0.03	1.31

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR survey of fresh mung beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Mung Beans:

Consumption of chlorothalonil residues by the average consumer of cooked mung beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh mung beans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.03 ppm) and up to the tolerance level of 0.1 ppm.

Mushrooms

Chlorothalonil Residues in Mushrooms

OEHHA obtained available data on chlorothalonil residue levels in mushrooms between 2005 and 2017. USDA residue data were only available for 2011 through 2013. DPR residue data were available for all years.

Table 75 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,979 samples of fresh mushrooms were analyzed, with a maximum detected concentration of 0.45 ppm in 2008. No residue exceeded the US EPA tolerance level of 1.0 ppm[104] for mushroom.

Table 75. Chlorothalonil residues in mushrooms (tolerance = 1.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	3	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	10	0	< LOD	0.01 – 0.05	
Fresh	2007	19	0	< LOD	0.01 – 0.02	
Fresh	2008	30	10.0	0.02 – 0.45	0.01 – 0.05	
Fresh	2009	85	2.4	0.02 – 0.06	0.01 – 0.04	
Fresh	2010	27	3.7	0.08	0.01 – 0.02	
Fresh	2011	186	0	< LOD	0.02	USDA PDP
Fresh	2011	29	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2012	744	0.1	0.02	0.02	USDA PDP
Fresh	2012	61	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2013	532	0.2	0.026	0.02	USDA PDP
Fresh	2013	85	1.2	0.14	0.02 – 0.03	DPR PRMP
Fresh	2014	64	0	< LOD	0.01 – 0.03	
Fresh	2015	35	0	< LOD	0.03	
Fresh	2016	43	0	< LOD	0.02	
Fresh	2017	26	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Mushrooms

Chlorothalonil Intake from Consumption of Raw and Cooked Mushrooms

To determine chlorothalonil intake from raw and cooked mushrooms, OEHHA first determined the average consumption of raw and cooked mushrooms in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely,

[104] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

of mushrooms (including raw mushrooms, cooked mushrooms, and canned mushrooms) on either day of the two-day dietary survey for the years 2007-2016[105] to estimate average consumption. The average level of consumption over both days is presented in Table 76.

As neither US EPA nor WHO apply processing factors for any form of mushroom, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked mushrooms based on the two-day average consumption of users (Table 76). This mean chlorothalonil intake, 10.40 µg, displayed in the column on the right in Table 76, shows that consumption of raw and cooked mushrooms by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.45 µg/g.

Table 76. Consumption of raw and cooked mushrooms and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
23.12	0.45	10.40

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Mushrooms:

Consumption of chlorothalonil residues by the average consumer of raw and cooked mushrooms does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh mushrooms are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.45 ppm) and up to the tolerance level of 1.0 ppm.

[105] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Nectarines

Chlorothalonil Residues in Nectarines

OEHHA obtained available data on chlorothalonil residue levels in nectarines between 2005 and 2017. USDA residue data were only available for 2007, 2008, and 2015. DPR residue data were available for all years.

Table 77 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,410 samples of fresh nectarines were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.5 ppm[106] for nectarine.

Table 77. Chlorothalonil residues in nectarines (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	36	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	43	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	563	0	< LOD	0.011	USDA PDP
Fresh	2007	43	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	672	0	< LOD	0.011	USDA PDP
Fresh	2008	33	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	25	0	< LOD	0.01 – 0.04	
Fresh	2010	18	0	< LOD	0.01 – 0.02	
Fresh	2011	13	0	< LOD	0.01 – 0.02	
Fresh	2012	37	0	< LOD	0.02 – 0.03	
Fresh	2013	39	0	< LOD	0.02 – 0.03	
Fresh	2014	73	0	< LOD	0.01 – 0.03	
Fresh	2015	578	0	< LOD	0.005 – 0.01	USDA PDP
Fresh	2015	117	0	< LOD	0.03	DPR PRMP
Fresh	2016	87	0	< LOD	0.02	
Fresh	2017	33	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Nectarines

Chlorothalonil Intake from Consumption of Raw Nectarines

To determine chlorothalonil intake from raw nectarines, OEHHA first determined the average consumption of raw nectarines in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw nectarines on either day of

[106] Code of Federal Regulations, Title 40, Part 180, Section 180.275

the two-day dietary survey for the years 2007-2016[107] to estimate average consumption. The average level of consumption over both days is presented in Table 78.

As neither US EPA nor WHO apply processing factors for any form of nectarine, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for nectarines based on the two-day average consumption of users (Table 78). This mean chlorothalonil intake, 3.83 µg, displayed in the column on the right in Table 78, shows that consumption of nectarines by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 78. Consumption of raw nectarines and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
76.52	0.05	3.83

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detetion from DPR surveys of fresh nectarines (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Nectarines:

Consumption of chlorothalonil residues by the average consumer of raw nectarines does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh nectarines are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.5 ppm.

[107] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Okra

Chlorothalonil Residues in Okra

OEHHA obtained available data on chlorothalonil residue levels in okra between 2005 and 2017. USDA did not test okra for chlorothalonil residues between 2005 and 2017. DPR residue data were only available for 2006 through 2017.

Table 79 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 87 samples of fresh okra were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 6 ppm[108] for okra.

Table 79. Chlorothalonil residues in okra (tolerance = 6 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	1	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	6	0	< LOD	0.01 – 0.02	
Fresh	2008	4	0	< LOD	0.01 – 0.05	
Fresh	2009	2	0	< LOD	0.01 – 0.04	
Fresh	2010	8	0	< LOD	0.01 – 0.02	
Fresh	2011	9	0	< LOD	0.01 – 0.02	
Fresh	2012	8	0	< LOD	0.02 – 0.03	
Fresh	2013	7	0	< LOD	0.02 – 0.03	
Fresh	2014	9	0	< LOD	0.01 – 0.03	
Fresh	2015	4	0	< LOD	0.03	
Fresh	2016	12	0	< LOD	0.02	
Fresh	2017	17	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Okra

Chlorothalonil Intake from Consumption of Cooked Okra

To determine chlorothalonil intake from cooked okra, OEHHA first determined the average consumption of cooked okra in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked okra (including canned okra) on either day of the two-day dietary survey for the years 2007-2016[109] to estimate average consumption. The average level of consumption over both days is presented in

[108] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[109] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Table 80. Further, data were submitted by TSG on the frequency of consumption of okra from the National Eating Trends survey conducted by The NPD Group, Inc. Approximately 2,000 households are chosen to participate in this survey each year by recording information in daily diaries on all foods eaten for 14 days. Data for okra were collected for a period of nine years, ending in May 2014, and 1016 individuals reported consuming okra. For users, okra was eaten an average of 1.5 times (or on 1.5 days) within a typical two-week window.

As neither US EPA nor WHO apply processing factors for any form of okra, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked okra based on the two-day average consumption of users (Table 80). This mean chlorothalonil intake, 2.81 µg, displayed in the column on the right in Table 80, shows that consumption of cooked okra by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 80. Consumption of cooked okra and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
56.29	0.05	2.81

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detetion from DPR surveys of fresh okra (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Okra:

Consumption of chlorothalonil residues by the average consumer of cooked okra does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh okra are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.72 ppm.

Onions (including Dry Onions)

Chlorothalonil Residues in Onions

OEHHA obtained available data on chlorothalonil residue levels in onions between 2005 and 2017. USDA residue data were only available for 2017. DPR residue data were available for all years.

Table 81 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 722 samples of fresh onions were analyzed, with a maximum detected concentration of 0.22 ppm in 2013. No residue exceeded the US EPA tolerance level of 0.5 ppm[110] for onion.

Table 81. Chlorothalonil residues in onions (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	31	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	29	0	< LOD	0.01 – 0.05	
Fresh	2007	35	0	< LOD	0.01 – 0.02	
Fresh	2008	20	0	< LOD	0.01 – 0.05	
Fresh	2009	43	0	< LOD	0.01 – 0.04	
Fresh	2010	20	0	< LOD	0.01 – 0.02	
Fresh	2011	9	0	< LOD	0.01 – 0.02	
Fresh	2012	21	0	< LOD	0.02 – 0.03	
Fresh	2013	21	4.8	0.22	0.02 – 0.03	
Fresh	2014	70	0	< LOD	0.01 – 0.03	
Fresh	2015	58	0	< LOD	0.03	
Fresh	2016	38	0	< LOD	0.02	
Fresh	2017	290	0	< LOD	0.005	USDA PDP
Fresh	2017	37	0	< LOD	0.01	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Onions

Chlorothalonil Intake from Consumption of Raw and Cooked Onions

To determine chlorothalonil intake from raw and cooked onions, OEHHA first determined the average consumption of raw and cooked onions in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw and

[110] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

cooked onions on either day of the two-day dietary survey for the years 2007-2016[111] to estimate average consumption. The average level of consumption over both days is presented in Table 82.

As neither US EPA nor WHO apply processing factors for any form of onion, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked onions based on the two-day average consumption of users (Table 82). This mean chlorothalonil intake, 3.48 µg , displayed in the column on the right in Table 82, show that consumption of raw and cooked onions by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.22 µg/g.

Table 82. Consumption of raw and cooked onions and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
15.83	0.22	3.48

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Onions:

Consumption of chlorothalonil residues by the average consumer of raw and cooked onions does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh onions are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.22 ppm) and up to the tolerance level of 0.5 ppm.

[111] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Papaya

Chlorothalonil Residues in Papaya

OEHHA obtained available data on residue levels for chlorothalonil in papaya between 2005 and 2017. USDA residue data were only available for 2011 and 2012. DPR residue data were available for all years.

Table 83 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1,245 samples of fresh papaya were analyzed, with a maximum detected concentration of 0.5 ppm in 2009. No residue exceeded the US EPA tolerance level of 15 ppm[112] for papaya.

Table 83. Chlorothalonil residues in papaya (tolerance = 15 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	2	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	9	11.1	0.11	0.01 – 0.05	
Fresh	2007	16	0	< LOD	0.01 – 0.02	
Fresh	2008	17	29.4	0.01 – 0.1	0.01 – 0.05	
Fresh	2009	106	10.4	0.02 – 0.5	0.01 – 0.04	
Fresh	2010	82	3.7	0.05 – 0.39	0.01 – 0.02	
Fresh	2011	383	0	< LOD	0.18	USDA PDP
Fresh	2011	14	21.4	0.01 – 0.25	0.01 – 0.02	DPR PRMP
Fresh	2012	366	0	< LOD	0.18	USDA PDP
Fresh	2012	6	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2013	65	1.5	0.15	0.02 – 0.03	
Fresh	2014	49	4.1	0.02 – 0.09	0.01 – 0.03	
Fresh	2015	21	0	< LOD	0.03	
Fresh	2016	52	0	< LOD	0.02	
Fresh	2017	57	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Papaya

Chlorothalonil Intake from Consumption of Raw and Cooked Papaya

To determine chlorothalonil intake from raw and cooked papaya, OEHHA first determined the average consumption of raw and cooked papaya in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of papaya (including raw papaya, cooked papaya, and canned papaya) on either day of the two-day

[112] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

dietary survey for the years 2007-2016[113] to estimate average consumption. The average level of consumption over both days is presented in Table 84.

As neither US EPA nor WHO apply processing factors for fresh papaya, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked papaya based on the two-day average consumption of users (Table 84). This mean chlorothalonil intake, 32.91 µg, displayed in the column on the right in Table 84, shows that consumption of raw and cooked papaya by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.5 µg/g.

Table 84. Consumption of raw and cooked papaya and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
65.82	0.5	32.91

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Papaya:

Consumption of chlorothalonil residues by the average consumer of raw and cooked papaya does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh papaya are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.5 ppm) and up to residue levels of 0.62 ppm.

[113] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Dried Papaya

Chlorothalonil Intake from Consumption of Dried Papaya

To determine chlorothalonil intake from papaya, OEHHA first determined the average consumption of dried papaya in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried papaya on either day of the two-day dietary survey for the years 2007-2016[114] to estimate average consumption. The average level of consumption over both days is presented in Table 85.

Neither US EPA nor WHO apply processing factors for any form of papaya, however DPR applies an adjustment factor of 1.8 for dried papaya[115], which OEHHA applied to the residue in fresh papaya to determine the upper-bound chlorothalonil concentration in dried papaya, 0.9 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried papaya based on the two-day average consumption of users (Table 85). This mean chlorothalonil intake, 23.11 µg, displayed in the column on the right in Table 85, shows that consumption of dried papaya by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.9 µg/g.

Table 85. Consumption of dried papaya and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
25.68	0.9	23.11

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop multiplied by the DPR adjustment factor (1.8) for dried papaya (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

[114] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[115] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

Safe Use Determination for Dried Papaya:

Consumption of chlorothalonil residues by the average consumer of dried papaya does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh papaya are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.5 ppm) and up to residue levels of 0.88 ppm.

Papaya Juice

Chlorothalonil Intake from Consumption of Papaya Juice

To determine chlorothalonil intake from papaya juice, OEHHA first determined the average consumption of papaya in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of papaya juice (including papaya nectar) on either day of the two-day dietary survey for the years 2007-2016[116] to estimate average consumption. The average level of consumption over both days is presented in Table 86.

Neither US EPA nor WHO apply processing factors for any form of papaya, however DPR applies an adjustment factor of 1.5 for papaya juice[117], which OEHHA applied to the residue in fresh papaya to determine the upper-bound chlorothalonil concentration in papaya juice, 0.75 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw papaya based on the two-day average consumption of users (Table 86). This mean chlorothalonil intake, 124.40 µg, displayed in the column on the right in Table 86, shows that consumption of papaya by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.75 µg/g.

[116] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[117] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

Table 86. Consumption of papaya juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
165.87	0.75	124.40

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop multiplied by the DPR adjustment factor (1.5) for papaya juice (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Papaya Juice:

Consumption of chlorothalonil residues by the average consumer of papaya juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh papaya are at or below 0.16 ppm.

Parsnips

Chlorothalonil Residues in Parsnips

OEHHA obtained available data on residue levels for chlorothalonil in parsnips between 2005 and 2017. USDA did not test parsnips for chlorothalonil residue between 2005 and 2017. DPR residue data were only available for 2006 and 2009 through 2016.

Table 87 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 18 samples of fresh parsnips were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 1 ppm[118] for parsnip roots.

Table 87. Chlorothalonil residues in parsnips (tolerance = 1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2006	1	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	2	0	< LOD	0.01 – 0.04	
Fresh	2010	3	0	< LOD	0.01 – 0.02	
Fresh	2011	1	0	< LOD	0.01 – 0.02	
Fresh	2012	2	0	< LOD	0.02 – 0.03	
Fresh	2013	1	0	< LOD	0.02 – 0.03	
Fresh	2014	2	0	< LOD	0.01 – 0.03	
Fresh	2015	1	0	< LOD	0.03	
Fresh	2016	5	0	< LOD	0.02	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Parsnips

Chlorothalonil Intake from Consumption of Cooked Parsnips

To determine chlorothalonil intake from cooked parsnips, OEHHA first determined the average consumption of cooked parsnips in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked parsnips (including canned parsnips) on either day of the two-day dietary survey for the years

[118] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

2007-2016[119] to estimate average consumption. The average level of consumption over both days is presented in Table 88.

As neither US EPA nor WHO apply processing factors for any form of parsnip, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked parsnips based on the two-day average consumption of users (Table 88). This mean chlorothalonil intake, 1.94 µg, displayed in the column on the right in Table 88, shows that consumption of cooked parsnips by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 88. Consumption of cooked parsnips and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
38.75	0.05	1.94

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh parsnips (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Parsnips:

Consumption of chlorothalonil residues by the average consumer of cooked parsnips does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh parsnips are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 1 ppm.

[119] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Passion Fruit

Chlorothalonil Residues in Passion Fruit

OEHHA obtained available data on residue levels for chlorothalonil in passion fruit between 2005 and 2017. USDA did not test passion fruit for chlorothalonil residue between 2005 and 2017. DPR residue data were only available for 2013, 2015, and 2016.

Table 89 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, six samples of fresh passion fruit were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 3 ppm[120] for passion fruit.

Table 89. Chlorothalonil residues in passion fruit (tolerance = 3 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2013	1	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2015	2	0	< LOD	0.03	
Fresh	2016	3	0	< LOD	0.02	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Passion Fruit

Chlorothalonil Intake from Consumption of Raw Passion Fruit

To determine chlorothalonil intake from raw passion fruit, OEHHA first determined the average consumption of raw passion fruit in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw passion fruit on either day of the two-day dietary survey for the years 2007-2016[121] to estimate average consumption. The average level of consumption over both days is presented in Table 90.

As neither US EPA nor WHO apply processing factors for any form of passion fruit, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw passion fruit based on the two-day average consumption of users (Table 90). This mean chlorothalonil intake, 1.08 µg, displayed in

[120] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[121] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

the column on the right in Table 90, shows that consumption of raw passion fruit by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.03 µg/g.

Table 90. Consumption of raw passion fruit and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
35.94	0.03	1.08

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh passion fruit (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Passion Fruit:

Consumption of chlorothalonil residues by the average consumer of raw passion fruit does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh passion fruit are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.03 ppm) and up to residue levels of 1.14 ppm.

Passion Fruit Juice

Chlorothalonil Intake from Consumption of Passion Fruit Juice

To determine chlorothalonil intake from passion fruit juice, OEHHA first determined the average consumption of passion fruit juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of passion fruit juice on either day of the two-day dietary survey for the years 2007-2016[122] to estimate average consumption. The average level of consumption over both days is presented in Table 91.

[122] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for any form of passion fruit, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw passion fruit based on the two-day average consumption of users (Table 91). This mean chlorothalonil intake, 3.80 µg, displayed in the column on the right in Table 91, shows that consumption of passion fruit juice by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.03 µg/g.

Table 91. Consumption of passion fruit juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
126.74	0.03	3.80

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh passion fruit (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Passion Fruit Juice:

Consumption of chlorothalonil residues by the average consumer of passion fruit juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh passion fruit are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.03 ppm) and up to residue levels of 0.32 ppm.

Peaches

Chlorothalonil Residues in Peaches

OEHHA obtained available data on residue levels for chlorothalonil in peaches between 2005 and 2017. USDA residue data were available for 2006 through 2008 and 2013 through 2015. DPR residue data were available for all years.

Table 92 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 3,740 samples of fresh peaches were analyzed, with a maximum detected concentration of 0.088 ppm in 2013. No residue exceeded the US EPA tolerance level of 0.5 ppm[123] for peaches.

Table 92. Chlorothalonil residues in peaches (tolerance = 0.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	38	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	90	0	< LOD	0.008	USDA PDP
Fresh	2006	98	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	555	0.4	0.075 – 0.085	0.008	USDA PDP
Fresh	2007	105	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	616	0.2	0.013	0.008	USDA PDP
Fresh	2008	67	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	133	0	< LOD	0.01 – 0.04	
Fresh	2010	89	0	< LOD	0.01 – 0.02	
Fresh	2011	101	1.0	0.02	0.01 – 0.02	
Fresh	2012	168	0	< LOD	0.02 – 0.03	
Fresh	2013	285	0	0.024 – 0.088	0.005	USDA PDP
Fresh	2013	76	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2014	677	1.0	0.0059 – 0.029	0.005	USDA PDP
Fresh	2014	56	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	362	0.3	0.0051	0.005	USDA PDP
Fresh	2015	48	0	< LOD	0.03	DPR PRMP
Fresh	2016	84	0	< LOD	0.02	
Fresh	2017	92	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Peaches

Chlorothalonil Intake from Consumption of Raw Peaches

To determine chlorothalonil intake from raw peaches, OEHHA first determined the average consumption of raw peaches in keeping with the approach described on page

[123] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw peaches on either day of the two-day dietary survey for the years 2007-2016[124] to estimate average consumption. The average level of consumption over both days is presented in Table 93.

As neither US EPA nor WHO apply processing factors for raw peaches, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw peaches based on the two-day average consumption of users (Table 93). This mean chlorothalonil intake, 7.30 µg, displayed in the column on the right in Table 93, shows that consumption of raw peaches by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.088 µg/g.

Table 93. Consumption of raw peaches and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
82.90	0.088	7.30

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Peaches:

Consumption of chlorothalonil residues by the average consumer of raw peaches does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peaches are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.088 ppm) and up to residue levels of 0.49 ppm.

[124] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Canned Peaches

Chlorothalonil Intake from Consumption of Canned Peaches

To determine chlorothalonil intake from canned peaches, OEHHA first determined the average consumption of canned peaches in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of canned peaches (including spiced canned peaches) on either day of the two-day dietary survey for the years 2007-2016[125] to estimate average consumption. The average level of consumption over both days is presented in Table 94.

US EPA applies a processing factor of 0.02 for canned peaches[126], which OEHHA applied to the residue in fresh peaches to determine the upper-bound chlorothalonil concentration in canned peaches, 0.0018 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for canned peaches based on the two-day average consumption of users (Table 94). This mean chlorothalonil intake, 0.13 µg, displayed in the column on the right in Table 94, shows that consumption of canned peaches by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.0018 µg/g.

Table 94. Consumption of canned peaches and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
72.07	0.0018	0.13

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh peaches multiplied by the US EPA processing factor (0.02) for canned peaches (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

[125] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[126] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Safe Use Determination for Canned Peaches:

Consumption of chlorothalonil residues by the average consumer of canned peaches does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peaches are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.088 ppm) and up to the tolerance level of 0.5 ppm.

Dried Peaches

Chlorothalonil Intake from Consumption of Dried Peaches

To determine chlorothalonil intake from dried peaches, OEHHA first determined the average consumption of dried peaches in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried peaches (including uncooked dried peaches and cooked dried peaches) on either day of the two-day dietary survey for the years 2007-2016[127] to estimate average consumption. The average level of consumption over both days is presented in Table 95.

Neither US EPA nor WHO apply processing factors for dried peaches, however DPR applies an adjustment factor of 7 for dried peaches[128], which OEHHA applied to the residue in fresh peaches to determine the upper-bound chlorothalonil concentration in dried peaches, 0.62 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried peaches based on the two-day average consumption of users (Table 95). This mean chlorothalonil intake, 16.48 µg, displayed in the column on the right in Table 95, shows that consumption of dried peaches by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.62 µg/g.

[127] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[128] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

Table 95. Consumption of dried peaches and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
26.58	0.62	16.48

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop multiplied by the DPR adjustment factor (7) for dried peaches (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Peaches:

Consumption of chlorothalonil residues by the average consumer of dried peaches does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peaches are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.088 ppm) and up to residue levels of 0.22 ppm.

Peach Juice

Chlorothalonil Intake from Consumption of Peach Juice

To determine chlorothalonil intake from peach juice, OEHHA first determined the average consumption of peach juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peach juice (including peach nectar) on either day of the two-day dietary survey for the years 2007-2016[129] to estimate average consumption. The average level of consumption over both days is presented in Table 96.

As neither US EPA nor WHO apply processing factors for peach juice, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for peach juice based on the two-day average consumption of users (Table 96). This mean chlorothalonil intake, 10.69 µg, displayed in the column on the right in Table

[129] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

96, shows that consumption of peach juice by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.088 µg/g.

Table 96. Consumption of peach juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
121.50	0.088	10.69

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Peach Juice:

Consumption of chlorothalonil residues by the average consumer of peach juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peaches are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.088 ppm) and up to residue levels of 0.33 ppm.

Peanuts

Chlorothalonil Residues in Peanuts

OEHHA obtained available data on chlorothalonil residue levels in peanuts between 2005 and 2017. USDA did not test peanuts for chlorothalonil between 2005 and 2017. DPR residue data were only available for 2009. USDA residue for peanut butter were also available for 2015.

Table 97 summarizes the chlorothalonil residue data available in years 2005-2017. During this time, one sample of peanuts and 315 samples of peanut butter were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.3 ppm[130] for peanuts.

Table 97. Chlorothalonil residues in peanuts (tolerance = 0.3 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Peanuts	2009	1	0	< LOD	0.04	DPR PRMP
Peanut Butter	2015	315	0	< LOD	0.0194	USDA PDP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw, Boiled, and Roasted Peanuts

Chlorothalonil Intake from Consumption of Raw, Boiled, and Roasted Peanuts

To determine chlorothalonil intake from raw, boiled, and roasted peanuts, OEHHA first determined the average consumption of raw, boiled, and roasted peanuts in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw, boiled, and roasted peanuts on either day of the two-day dietary survey for the years 2007-2016[131] to estimate average consumption. The average level of consumption over both days is presented in Table 98.

As neither US EPA nor WHO apply processing factors for a form of peanut other than peanut oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw, boiled, and roasted peanuts based on the

[130] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[131] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

two-day average consumption of users (Table 98). This mean chlorothalonil intake, 1.22 µg, displayed in the column on the right in Table 98, shows that consumption of raw, boiled, and roasted peanuts by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.04 µg/g.

Table 98. Consumption of raw, boiled, and roasted peanuts and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
30.49	0.04	1.22

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of peanuts (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw, Boiled, and Roasted Peanuts:
Consumption of chlorothalonil residues by the average consumer of raw, boiled, and roasted peanuts does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in peanuts are at recent historical levels measured for chlorothalonil in the DPR survey (*i.e.*, at or below 0.04 ppm) and up to the tolerance level of 0.3 ppm.

Peanut Butter

Chlorothalonil Intake from Consumption of Peanut Butter

To determine chlorothalonil intake from peanut butter, OEHHA first determined the average consumption of peanut butter in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peanut butter on either day of the two-day dietary survey for the years 2007-2016[132] to estimate average consumption. The average level of consumption over both days is presented in Table 99.

[132] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for a form of peanut other than peanut oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for peanut butter based on the two-day average consumption of users (Table 99). This mean chlorothalonil intake, 0.66 µg, displayed in the column on the right in Table 99, shows that consumption of peanut butter by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.04 µg/g.

Table 99. Consumption of peanut butter and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
16.41	0.04	0.66

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of peanuts (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Peanut Butter:
Consumption of chlorothalonil residues by the average consumer of peanut butter does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in peanuts and peanut butter are at recent historical levels measured for chlorothalonil in the DPR and USDA surveys (*i.e.*, at or below 0.04 ppm) and up to the tolerance level of 0.3 ppm in peanuts.

Peanut Oil

Chlorothalonil Intake from Consumption of Peanut Oil

To determine chlorothalonil intake from peanut oil, OEHHA first determined the average consumption of peanut oil in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of peanut oil on either day of the two-day

dietary survey for the years 2007-2016[133] to estimate average consumption. The average level of consumption over both days is presented in Table 100.

US EPA applies a processing factor of 0.5 for peanut oil[134], which OEHHA applied to the residue in peanuts to determine the upper-bound chlorothalonil concentration in peanut oil, 0.02 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for peanut oil based on the two-day average consumption of users (Table 100). This mean chlorothalonil intake, 0.077 µg, displayed in the column on the right in Table 100, shows that consumption of peanut oil by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 100. Consumption of peanut oil and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
3.85	0.02	0.077

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of peanuts multiplied by the US EPA processing factor (0.5) for peanut oil (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Peanut Oil:

Consumption of chlorothalonil residues by the average consumer of peanut oil does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in peanuts are at recent historical levels measured for chlorothalonil in the DPR survey (*i.e.*, at or below 0.04 ppm) and up to the tolerance level of 0.3 ppm.

[133] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[134] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Peppers

Chlorothalonil Residues in Peppers

OEHHA obtained available data on chlorothalonil residue levels in peppers between 2005 and 2017. USDA did not test peppers for chlorothalonil residues between 2005 and 2017. DPR residue data, for all varieties of fruiting peppers, were available for all years.

Table 101 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,866 samples of fresh peppers were analyzed, with a maximum detected concentration of 2.68 ppm in 2010. No residue exceeded the US EPA tolerance level of 6.0 ppm[135] for "Vegetable, fruiting, group 8, except tomato", which includes peppers.

Table 101. Chlorothalonil residues in peppers (tolerance = 6.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	419	6.0	0.01 – 1.07	0.01 – 0.05	DPR PRMP
Fresh	2006	377	2.4	0.01 – 1.22	0.01 – 0.05	
Fresh	2007	370	3.2	0.01 – 1.92	0.01 – 0.02	
Fresh	2008	260	3.8	0.01 – 0.04	0.01 – 0.05	
Fresh	2009	136	0.7	0.01	0.01 – 0.04	
Fresh	2010	184	5.4	0.01 – 2.68	0.01 – 0.02	
Fresh	2011	167	7.8	0.01 – 1.08	0.01 – 0.02	
Fresh	2012	140	6.4	0.02 – 2.45	0.02 – 0.03	
Fresh	2013	102	9.8	0.03	0.02 – 0.03	
Fresh	2014	168	1.2	0.03 – 0.043	0.01 – 0.03	
Fresh	2015	227	0	< LOD	0.03	
Fresh	2016	147	0	< LOD	0.02	
Fresh	2017	169	0.6	0.1	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Sweet Peppers (including Bell Peppers)

Chlorothalonil Intake from Consumption of Raw and Cooked Sweet Peppers (including Bell Peppers)

To determine chlorothalonil intake from raw and cooked sweet peppers, OEHHA first determined the average consumption of raw and cooked sweet peppers in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely,

[135] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

of raw and cooked sweet peppers on either day of the two-day dietary survey for the years 2007-2016[136] to estimate average consumption. The average level of consumption over both days is presented in Table 102.

As neither US EPA nor WHO apply processing factors for any form of sweet pepper, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked sweet peppers based on the two-day average consumption of users (Table 102). This mean chlorothalonil intake, 68.31 µg, displayed in the column on the right in Table 102, shows that consumption of raw and cooked sweet peppers by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 2.68 µg/g.

Table 102. Consumption of raw and cooked sweet peppers and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
25.49	2.68	68.31

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Sweet Peppers (including Bell Peppers):

Consumption of chlorothalonil residues by the average consumer of raw and cooked sweet peppers does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peppers are at or below 1.60 ppm.

[136] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Raw and Cooked Hot Peppers

Chlorothalonil Intake from Consumption of Raw and Cooked Hot Peppers

To determine chlorothalonil intake from raw and cooked hot peppers, OEHHA first determined the average consumption of raw and cooked hot peppers in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of hot peppers (including raw hot peppers, cooked hot peppers, and canned hot peppers) on either day of the two-day dietary survey for the years 2007-2016[137] to estimate average consumption. The average level of consumption over both days is presented in Table 103.

As neither US EPA nor WHO apply processing factors for any form of hot pepper, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked hot peppers based on the two-day average consumption of users (Table 103). This mean chlorothalonil intake, 37.79 µg, displayed in the column on the right in Table 103, shows that consumption of raw and cooked hot peppers by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 2.68 µg/g.

Table 103. Consumption of raw and cooked hot peppers and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
14.10	2.68	37.79

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

[137] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Safe Use Determination for Raw and Cooked Hot Peppers:

Consumption of chlorothalonil residues by the average consumer of raw and cooked hot peppers does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh peppers are at recent historical levels measured for chlorothalonil in the DPR surveys (*i.e*., at or below 2.68 ppm) and up to residue levels of 2.90 ppm.

Persimmons

Chlorothalonil Residues in Persimmons

OEHHA obtained available data on residue levels for chlorothalonil in persimmons between 2005 and 2017. USDA did not test persimmons for chlorothalonil residue between 2005 and 2017. DPR residue data were available for all years.

Table 104 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 80 samples of fresh persimmons were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 1.5 ppm[138] for persimmons.

Table 104. Chlorothalonil residues in persimmons (tolerance = 1.5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	9	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	8	0	< LOD	0.01 – 0.05	
Fresh	2007	8	0	< LOD	0.01 – 0.02	
Fresh	2008	2	0	< LOD	0.01 – 0.05	
Fresh	2009	1	0	< LOD	0.01 – 0.04	
Fresh	2010	6	0	< LOD	0.01 – 0.02	
Fresh	2011	4	0	< LOD	0.01 – 0.02	
Fresh	2012	4	0	< LOD	0.02 – 0.03	
Fresh	2013	8	0	< LOD	0.02 – 0.03	
Fresh	2014	5	0	< LOD	0.01 – 0.03	
Fresh	2015	15	0	< LOD	0.03	
Fresh	2016	6	0	< LOD	0.02	
Fresh	2017	4	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Persimmons

Chlorothalonil Intake from Consumption of Raw Persimmons

To determine chlorothalonil intake from raw persimmons, OEHHA first determined the average consumption of raw persimmons in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw persimmons on either day of the two-day dietary survey for the years 2007-2016[139] to estimate

[138] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[139] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

average consumption. The average level of consumption over both days is presented in Table 105. Further, data were submitted by TSG on the frequency of consumption of persimmons from the National Eating Trends survey conducted by The NPD Group, Inc. Approximately 2,000 households are chosen to participate in this survey each year by recording information in daily diaries on all foods eaten for 14 days. Data for persimmons were collected for a period of nine years, ending in May 2014. Ninety-six individuals reported consuming persimmons. For users, persimmons were eaten an average of 2.9 times (or on 2.9 days) within a typical two-week window.

As neither US EPA nor WHO apply processing factors for raw persimmons, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw persimmons based on the two-day average consumption of users (Table 105). This mean chlorothalonil intake, 6.26 µg, displayed in the column on the right in Table 105, shows that consumption of raw persimmons by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 105. Consumption of raw persimmons and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
125.13	0.05	6.26

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh persimmons (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Persimmons:

Consumption of chlorothalonil residues by the average consumer of raw persimmons does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh persimmons are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.32 ppm.

Pinto Beans

Chlorothalonil Residues in Pinto Beans

OEHHA obtained available data on chlorothalonil residue levels in pinto beans between 2005 and 2017. USDA residue data, for canned pinto beans, were only available for 2009. DPR did not test pinto beans between 2005 and 2017.

Table 106 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 267 samples of canned pinto beans were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[140] for "bean, dry, seed", which encompasses a variety of beans, including pinto beans, within the genus *Phaseolus*[141].

Table 106. Chlorothalonil residues in pinto beans (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Canned	2009	267	0	< LOD	0.0194	USDA PDP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Pinto Beans

Chlorothalonil Intake from Consumption of Cooked Pinto Beans

To determine chlorothalonil intake from cooked pinto beans, OEHHA first determined the average consumption of cooked pinto beans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked pinto beans (including canned pinto beans) on either day of the two-day dietary survey for the years 2007-2016[142] to estimate average consumption. The average level of consumption over both days is presented in Table 107.

As neither US EPA nor WHO apply processing factors for any form of pinto bean, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked pinto beans based on the two-day average consumption of users (Table 107). This mean chlorothalonil intake, 1.42 µg, displayed

[140] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[141] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[142] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

in the column on the right in Table 107, shows that consumption of cooked pinto beans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.0194 µg/g.

Table 107. Consumption of cooked pinto beans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
73.03	0.0194	1.42

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the USDA surveys of canned pinto beans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Pinto Beans:

Consumption of chlorothalonil residues by the average consumer of cooked pinto beans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or canned pinto beans are at recent historical levels measured for chlorothalonil in USDA surveys (*i.e.*, at or below 0.0194 ppm) and up to the tolerance level of 0.1 ppm.

Plums

Chlorothalonil Residues in Plums

OEHHA obtained available data on chlorothalonil residue levels in plums between 2005 and 2017. USDA residue data, for fresh plums and dried plums (prunes), were only available for 2005, 2006, 2013, and 2017. DPR residue data, for fresh plums, were available for all years.

Table 108 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,172 samples of fresh plums and 536 samples of dried plums (prunes) were analyzed with a maximum detected concentration of 0.02 ppm in fresh plums in 2005 and a maximum detected concentration of 0.013 ppm in dried plums in 2006. No residue exceeded the US EPA tolerance level of 0.2 ppm[143] for plums.

Table 108. Chlorothalonil residues in plums (tolerance = 0.2 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	573	0	< LOD	0.008	USDA PDP
Dried	2005	153	0	< LOD	0.008	USDA PDP
Fresh	2005	153	0.7	0.02	0.01 – 0.05	DPR PRMP
Fresh	2006	515	0	< LOD	0.008	USDA PDP
Dried	2006	224	0.4	0.013	0.008	USDA PDP
Fresh	2006	70	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	35	0	< LOD	0.01 – 0.02	
Fresh	2008	12	0	< LOD	0.01 – 0.05	
Fresh	2009	14	0	< LOD	0.01 – 0.04	
Fresh	2010	23	0	< LOD	0.01 – 0.02	
Fresh	2011	12	0	< LOD	0.01 – 0.02	
Fresh	2012	36	0	< LOD	0.02 – 0.03	
Fresh	2013	507	0.4	0.011 – 0.015	0.01	USDA PDP
Fresh	2013	78	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2014	31	0	< LOD	0.01 – 0.03	
Fresh	2015	27	0	< LOD	0.03	
Fresh	2016	20	0	< LOD	0.02	
Dried	2017	159	0	< LOD	0.02	USDA PDP
Fresh	2017	66	0	< LOD	0.01	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

[143] Code of Federal Regulations, Title 40, Part 180, Section 180.275

Raw and Cooked Plums

Chlorothalonil Intake from Consumption of Raw and Cooked Plums

To determine chlorothalonil intake from raw and cooked plums, OEHHA first determined the average consumption of raw and cooked plums in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of plums (including raw plums, cooked plums, and canned plums) on either day of the two-day dietary survey for the years 2007-2016[144] to estimate average consumption. The average level of consumption over both days is presented in Table 109.

As neither US EPA nor WHO apply processing factors for plums, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked plums based on the two-day average consumption of users (Table 109). This mean chlorothalonil intake, 2.56 µg, displayed in the column on the right in Table 109, shows that consumption of raw and cooked plums by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 109. Consumption of raw and cooked plums and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
51.19	0.05	2.56

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Upper-bound limit of detection from DPR surveys of fresh plums, which is greater than the maximum residue detected in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Plums:

Consumption of chlorothalonil residues by the average consumer of raw and cooked plums does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day

[144] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

for the chemical, when the residue levels in fresh plums are at recent historical levels measured for chlorothalonil in the USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.2 ppm.

Dried Plums (Prunes)

Chlorothalonil Intake from Consumption of Dried Plums (Prunes)

To determine chlorothalonil intake from dried plums, OEHHA first determined the average consumption of dried plums in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of dried plums (including uncooked dried plums and cooked dried plums) on either day of the two-day dietary survey for the years 2007-2016[145] to estimate average consumption. The average level of consumption over both days is presented in Table 110.

US EPA applies a processing factor of 0.33 for dried plums[146]. Applying this processing factor to the upper-bound estimate of chlorothalonil concentration in fresh plums yields a value of 0.017 µg/g, which is lower than the maximum limit of detection from the USDA surveys of dried plums, 0.02 µg/g. Thus, OEHHA used the upper-bound estimate of chlorothalonil concentration from the USDA surveys of dried plums to calculate a mean chlorothalonil intake for dried plums based on the two-day average consumption of users (Table 110). This mean chlorothalonil intake, 0.46 µg, displayed in the column on the right in Table 110, shows that consumption of dried plums by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

[145] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[146] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Table 110. Consumption of dried plums and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
23.20	0.02	0.46

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Upper-bound limit of detection from USDA surveys of dried plums (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Plums (Prunes):

Consumption of chlorothalonil residues by the average consumer of dried plums does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh and dried plums are at recent historical levels measured for chlorothalonil in the USDA and DPR surveys (*i.e.*, at or below 0.05 and 0.02 ppm, respectively) and up to the tolerance level of 0.2 ppm for fresh plums.

Prune Juice

Chlorothalonil Intake from Consumption of Prune Juice

To determine chlorothalonil intake from prune juice, OEHHA first determined the average consumption of prune juice in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of prune juice on either day of the two-day dietary survey for the years 2007-2016[147] to estimate average consumption. The average level of consumption over both days is presented in Table 111.

Neither US EPA nor WHO apply processing factors for prune juice, however DPR applies an adjustment factor of 1.4 for prune juice[148], which OEHHA applied to the upper-bound estimate of chlorothalonil concentration in dried plums to determine the upper-bound chlorothalonil concentration in prune juice, 0.028 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil

[147] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

[148] DPR (2005). California Department of Pesticide Regulation. Chlorothalonil Risk Characterization Document for Dietary Exposure. January 2005.

intake for prune juice based on the two-day average consumption of users (Table 111). This mean chlorothalonil intake, 4.09 µg, displayed in the column on the right in Table 111, shows that consumption of prune juice by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.028 µg/g.

Table 111. Consumption of prune juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
146.22	0.028	4.09

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Upper-bound limit of detection from USDA surveys of dried plums, multiplied by the DPR adjustment factor (1.4) for prune juice (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Prune Juice:

Consumption of chlorothalonil residues by the average consumer of prune juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh and dried plums are at recent historical levels measured for chlorothalonil in the USDA and DPR surveys (*i.e.*, at or below 0.05 and 0.02 ppm, respectively) and up to the tolerance level of 0.2 ppm for fresh plums.

Potatoes

Chlorothalonil Residues in Potatoes

OEHHA obtained available data on chlorothalonil residue levels in potatoes between 2005 and 2017. USDA residue data, for fresh and frozen potatoes, were only available for 2006 through 2009. DPR residue data were available for all years.

Table 112 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,045 samples of fresh potatoes and 1,544 samples of frozen potatoes were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.1 ppm[149] for potatoes.

Table 112. Chlorothalonil residues in potatoes (tolerance = 0.1 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (ppm)	Data Source
Fresh	2005	26	0	< LOD	0.01 – 0.05	DPR PRMP
Frozen	2006	744	0	< LOD	0.008	USDA PDP
Fresh	2006	46	0	< LOD	0.01 – 0.05	DPR PRMP
Frozen	2007	800	0	< LOD	0.008	USDA PDP
Fresh	2007	34	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2008	744	0	< LOD	0.008 – 0.0194	USDA PDP
Fresh	2008	17	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	534	0	< LOD	0.0194	USDA PDP
Fresh	2009	78	0	< LOD	0.01 – 0.04	DPR PRMP
Fresh	2010	43	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2011	97	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2012	105	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2013	63	0	< LOD	0.02 – 0.03	DPR PRMP
Fresh	2014	70	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	65	0	< LOD	0.03	DPR PRMP
Fresh	2016	66	0	< LOD	0.02	DPR PRMP
Fresh	2017	57	0	< LOD	0.01	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Potatoes

Chlorothalonil Intake from Consumption of Cooked Potatoes

To determine chlorothalonil intake from cooked potatoes, OEHHA first determined the average consumption of cooked potatoes in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting

[149] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

consumption of foods in forms comprised entirely, or almost entirely, of cooked potatoes with or without peel (including baked potatoes, boiled potatoes, roasted potatoes, and canned potatoes) on either day of the two-day dietary survey for the years 2007-2016[150] to estimate average consumption. The average level of consumption over both days is presented in Table 113.

As neither US EPA nor WHO apply processing factors for any form of potato, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked potatoes with or without peel based on the two-day average consumption of users (Table 113). This mean chlorothalonil intake, 3.74 µg, displayed in the column on the right in Table 113, shows that consumption of cooked potatoes by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 113. Consumption of cooked potatoes and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
74.86	0.05	3.74

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh potatoes (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Potatoes:

Consumption of chlorothalonil residues by the average consumer of cooked potatoes does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh or frozen potatoes are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.1 ppm.

[150] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Pumpkin

Chlorothalonil Residues in Pumpkin

OEHHA obtained available data on chlorothalonil residue levels in pumpkin between 2005 and 2017. USDA did not test pumpkin for chlorothalonil residues between 2005 and 2017. DPR data were only available for 2007, 2009, 2012, 2015, and 2017.

Table 114 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 6 samples of fresh pumpkin were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 5.0 ppm[151] for "Vegetable, cucurbit, group 9", which includes pumpkin[152].

Table 114. Chlorothalonil residues in pumpkin (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2007	1	0	< LOD	0.01 – 0.02	DPR PRMP
Fresh	2009	1	0	< LOD	0.01 – 0.04	
Fresh	2012	2	0	< LOD	0.02 – 0.03	
Fresh	2015	1	0	< LOD	0.03	
Fresh	2017	1	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Pumpkin

Chlorothalonil Intake from Consumption of Cooked Pumpkin

To determine chlorothalonil intake from cooked pumpkin, OEHHA first determined the average consumption of cooked pumpkin in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked pumpkin (including canned pumpkin) on either day of the two-day dietary survey for the years 2007-2016[153] to estimate average consumption. The average level of consumption over both days is presented in Table 115.

As neither US EPA nor WHO apply processing factors for cooked pumpkin, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked pumpkin based on the two-day average consumption of

[151] Code of Federal Regulations, Title 40, Part 180, Section 180.275
[152] Code of Federal Regulations, Title 40, Part 180, Section 180.41
[153] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary

users (Table 115). This mean chlorothalonil intake, 2.29 µg, displayed in the column on the right in Table 115, shows that consumption of cooked pumpkin by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.04 µg/g.

Table 115. Consumption of cooked pumpkin and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
57.23	0.04	2.29

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh pumpkin (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Pumpkin:

Consumption of chlorothalonil residues by the average consumer of cooked pumpkin does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh pumpkin are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.04 ppm) and up to residue levels of 0.71 ppm.

Rhubarb

Chlorothalonil Residues in Rhubarb

OEHHA obtained available data on chlorothalonil residue levels in rhubarb between 2005 and 2017. USDA did not test rhubarb for chlorothalonil residues between 2005 and 2017. DPR data were only available for 2006 through 2008, 2010, and 2012 through 2016.

Table 116 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 13 samples of fresh rhubarb were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 4.0 ppm[154] for rhubarb.

Table 116. Chlorothalonil residues in rhubarb (tolerance = 4.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2006	2	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2007	1	0	< LOD	0.01 – 0.02	
Fresh	2008	1	0	< LOD	0.01 – 0.05	
Fresh	2010	1	0	< LOD	0.01 – 0.02	
Fresh	2012	2	0	< LOD	0.02 – 0.03	
Fresh	2013	1	0	< LOD	0.02 – 0.03	
Fresh	2014	1	0	< LOD	0.01 – 0.03	
Fresh	2015	2	0	< LOD	0.03	
Fresh	2016	2	0	< LOD	0.02	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Rhubarb

Chlorothalonil Intake from Consumption of Raw and Cooked Rhubarb

To determine chlorothalonil intake from raw and cooked rhubarb, OEHHA first determined the average consumption of raw and cooked rhubarb in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of rhubarb (including raw rhubarb, cooked rhubarb, and canned rhubarb) on either day of the two-day dietary survey for the years 2007-2016[155] to estimate average consumption. The average level of consumption over both days is presented in Table 117. Further, data

[154] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[155] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

were submitted by TSG on the frequency of consumption of rhubarb from the National Eating Trends survey conducted by The NPD Group, Inc. Approximately 2,000 households are chosen to participate in this survey each year by recording information in daily diaries on all foods eaten for 14 days. Data for rhubarb were collected for a period of nine years, ending in May 2014. One hundred and fifty-six individuals reported consuming rhubarb. For users, rhubarb was eaten an average of 1.4 times (or on 1.4 days) within a typical two-week window.

As neither US EPA nor WHO apply processing factors for any form of rhubarb, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked rhubarb based on the two-day average consumption of users (Table 117). This mean chlorothalonil intake, 2.99 µg, displayed in the column on the right in Table 117, shows that consumption of raw and cooked rhubarb by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 117. Consumption of raw and cooked rhubarb and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
59.78	0.05	2.99

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh rhubarb (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Rhubarb:

Consumption of chlorothalonil residues by the average consumer of raw and cooked rhubarb does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh rhubarb are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.68 ppm.

Soybeans

Chlorothalonil Residues in Soybeans

OEHHA obtained available data on chlorothalonil residue levels in soybeans between 2005 and 2017. USDA did not test soybeans for chlorothalonil residues between 2005 and 2017. DPR data were only available for 2010.

Table 118 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 1 sample of fresh soybeans was analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.2 ppm[156] for soybeans.

Table 118. Chlorothalonil residues in soybeans (tolerance = 0.2 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2010	1	0	< LOD	0.01 – 0.02	DPR PRMP

[a] Concentrations measured when chlorothalonil was detected in the sample.

Immature, Cooked Soybeans (Edamame)

Chlorothalonil Intake from Consumption of Immature, Cooked Soybeans

To determine chlorothalonil intake from immature, cooked soybeans, OEHHA first determined the average consumption of immature, cooked soybeans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of immature, cooked soybeans on either day of the two-day dietary survey for the years 2007-2016[157] to estimate average consumption. The average level of consumption over both days is presented in Table 119.

As neither US EPA nor WHO apply processing factors for a form of soybean other than soybean oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for immature, cooked soybeans based on the two-day average consumption of users (Table 119). This mean chlorothalonil intake, 0.97 µg, displayed in the column on the right in Table 119, shows that consumption of immature, cooked soybeans by the average consumer results in a chlorothalonil intake

[156] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[157] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 119. Consumption of immature, cooked soybeans and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
48.65	0.02	0.97

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR survey of fresh soybeans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Immature, Cooked Soybeans:

Consumption of chlorothalonil residues by the average consumer of immature, cooked soybeans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh soybeans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.02 ppm) and up to the tolerance level of 0.2 ppm.

Mature, Cooked Soybeans

Chlorothalonil Intake from Consumption of Mature, Cooked Soybeans

To determine chlorothalonil intake from mature, cooked soybeans, OEHHA first determined the average consumption of mature, cooked soybeans in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of mature, cooked soybeans on either day of the two-day dietary survey for the years 2007-2016[158] to estimate average consumption. The average level of consumption over both days is presented in Table 120.

[158] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

As neither US EPA nor WHO apply processing factors for a form of soybean other than soybean oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for mature, cooked soybeans based on the two-day average consumption of users (Table 120). This mean chlorothalonil intake, 1.22 µg, displayed in the column on the right in Table 120, shows that consumption of mature, cooked soybeans by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 120. Consumption of mature, cooked soybean and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
61.09	0.02	1.22

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR survey of fresh soybeans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Mature, Cooked Soybeans:

Consumption of chlorothalonil residues by the average consumer of mature, cooked soybeans does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh soybeans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.02 ppm) and up to the tolerance level of 0.2 ppm.

Soy Flour

Chlorothalonil Intake from Consumption of Soy Flour

To determine chlorothalonil intake from soy flour, OEHHA first determined the average consumption of soy flour in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of soy flour on either day of the two-day

dietary survey for the years 2007-2016[159] to estimate average consumption. The average level of consumption over both days is presented in Table 121.

As neither US EPA nor WHO apply processing factors for a form of soybean other than soybean oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for soy flour based on the two-day average consumption of users (Table 121). This mean chlorothalonil intake, 0.11 µg, displayed in the column on the right in Table 121, shows that consumption of soy flour by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 121. Consumption of soy flour and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
5.58	0.02	0.11

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR survey of fresh soybeans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Soy Flour:

Consumption of chlorothalonil residues by the average consumer of soy flour does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh soybeans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.02 ppm) and up to the tolerance level of 0.2 ppm.

Soy Milk

Chlorothalonil Intake from Consumption of Soy Milk

To determine chlorothalonil intake from soy milk, OEHHA first determined the average consumption of soy milk in keeping with the approach described on page 4. OEHHA

[159] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of soy milk (including flavored soy milk) on either day of the two-day dietary survey for the years 2007-2016[160] to estimate average consumption. The average level of consumption over both days is presented in Table 122.

As neither US EPA nor WHO apply processing factors for a form of soybean other than soybean oil, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for soy milk based on the two-day average consumption of users (Table 122). This mean chlorothalonil intake, 3.50 µg, displayed in the column on the right in Table 122, shows that consumption of soy milk by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.02 µg/g.

Table 122. Consumption of soy milk and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
174.81	0.02	3.50

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR survey of fresh soybeans (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Soy Milk:

Consumption of chlorothalonil residues by the average consumer of soy milk does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh soybeans are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.02 ppm) and up to the tolerance level of 0.2 ppm.

[160] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Starfruit

Chlorothalonil Residues in Starfruit

OEHHA obtained available data on chlorothalonil residue levels in starfruit between 2005 and 2017. USDA did not test starfruit for chlorothalonil residues between 2005 and 2017. DPR data were only available for 2009 through 2014, and 2016.

Table 123 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 21 samples of fresh starfruit were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 3.0 ppm[161].

Table 123. Chlorothalonil residues in starfruit (tolerance = 3.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2009	2	0	< LOD	0.01 – 0.04	DPR PRMP
Fresh	2010	2	0	< LOD	0.01 – 0.02	
Fresh	2011	1	0	< LOD	0.01 – 0.02	
Fresh	2012	4	0	< LOD	0.02 – 0.03	
Fresh	2013	7	0	< LOD	0.02 – 0.03	
Fresh	2014	3	0	< LOD	0.01 – 0.03	
Fresh	2016	2	0	< LOD	0.02	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Starfruit

Chlorothalonil Intake from Consumption of Raw Starfruit

To determine chlorothalonil intake from raw starfruit, OEHHA first determined the average consumption of raw starfruit in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw starfruit on either day of the two-day dietary survey for the years 2007-2016[162] to estimate average consumption. The average level of consumption over both days is presented in Table 124.

As neither US EPA nor WHO apply processing factors for any form of starfruit, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for starfruit based on the two-day average consumption of users (Table 124). This mean chlorothalonil intake, 2.41 µg, displayed in the column on the

[161] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[162] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

right in Table 124, shows that consumption of starfruit by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.04 µg/g.

Table 124. Consumption of raw starfruit and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
60.26	0.04	2.41

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from DPR surveys of fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Starfruit:

Consumption of chlorothalonil residues by the average consumer of raw starfruit does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh starfruit are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.04 ppm) and up to residue levels of 0.68 ppm.

Summer Squash

Chlorothalonil Residues in Summer Squash

OEHHA obtained available data on chlorothalonil residue levels in summer squash between 2005 and 2017. USDA residue data were only available for 2006 through 2008, and 2014. DPR data were available for all years.

Table 125 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 3,411 samples of fresh summer squash, including zucchini squash, were analyzed, with a maximum detected concentration of 0.56 ppm in 2007 and 2010. No residue exceeded the US EPA tolerance level of 5.0 ppm[163] for "Vegetable, cucurbit, group 9", which includes summer squash[164].

Table 125. Chlorothalonil residues in summer squash (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	119	2.5	0.03 – 0.12	0.01 – 0.05	DPR PRMP
Fresh	2006	186	4.8	0.013 – 0.13	0.008 – 0.01	USDA PDP
Fresh	2006	76	9.2	0.01 – 0.24	0.01 – 0.05	DPR PRMP
Fresh	2007	742	3.8	0.013 – 0.20	0.008 – 0.01	USDA PDP
Fresh	2007	116	7.8	0.01 – 0.56	0.01 – 0.02	DPR PRMP
Fresh	2008	554	4.9	0.013 – 0.21	0.008 – 0.01	USDA PDP
Fresh	2008	82	4.9	0.02 – 0.3	0.01 – 0.05	DPR PRMP
Fresh	2009	119	5.9	0.01 – 0.07	0.01 – 0.04	
Fresh	2010	91	7.7	0.01 – 0.56	0.01 – 0.02	
Fresh	2011	46	4.3	0.02	0.01 – 0.02	
Fresh	2012	37	0	< LOD	0.02 – 0.03	
Fresh	2013	60	1.7	0.05	0.02 – 0.03	
Fresh	2014	810	7.4	0.011 – 0.22	0.01	USDA PDP
Fresh	2014	116	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	110	1.8	0.071 – 0.093	0.03	
Fresh	2016	81	0	< LOD	0.02	
Fresh	2017	66	1.5	0.013	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw and Cooked Summer Squash

Chlorothalonil Intake from Consumption of Raw and Cooked Summer Squash

To determine chlorothalonil intake from raw and cooked summer squash, OEHHA first determined the average consumption of raw and cooked summer squash in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for

[163] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[164] Code of Federal Regulations, Title 40, Part 180, Section 180.41.

any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of summer squash (including raw summer squash, cooked summer squash, and canned summer squash) on either day of the two-day dietary survey for the years 2007-2016[165] to estimate average consumption. The average level of consumption over both days is presented in Table 126.

As neither US EPA nor WHO apply processing factors for any form of summer squash, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw and cooked summer squash based on the two-day average consumption of users (Table 126). This mean chlorothalonil intake, 36.49 µg, displayed in the column on the right in Table 126, shows that consumption of raw and cooked summer squash by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.56 µg/g.

Table 126. Consumption of raw and cooked summer squash and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
65.16	0.56	36.49

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw and Cooked Summer Squash:

Consumption of chlorothalonil residues by the average consumer of raw and cooked summer squash does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh summer squash are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 0.56 ppm) and up to residue levels of 0.62 ppm.

[165] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Tomatoes

Chlorothalonil Residues in Tomatoes

OEHHA obtained available data on chlorothalonil residue levels in tomatoes between 2005 and 2017. USDA residue data, for fresh tomatoes and tomato pastes, were only available for 2007 through 2009. DPR residue data were available for all years.

Table 127 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,508 samples of fresh tomatoes and 742 samples of tomato pastes were analyzed, with a maximum detected concentration in fresh tomatoes of 2.43 ppm in 2012. No residue exceeded the US EPA tolerance level of 5 ppm[166] for tomatoes.

Table 127. Chlorothalonil residues in tomatoes (tolerance = 5 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	61	9.8	0.01 – 0.06	0.01 – 0.05	DPR PRMP
Fresh	2006	82	8.5	0.01 – 0.12	0.01 – 0.05	DPR PRMP
Fresh	2007	741	15.7	0.007 – 0.34	0.004	USDA PDP
Fresh	2007	116	9.5	0.01 – 0.19	0.01 – 0.02	DPR PRMP
Fresh	2008	740	12.6	0.007 – 0.33	0.004	USDA PDP
Fresh	2008	59	13.6	0.01 – 0.20	0.01 – 0.05	DPR PRMP
Paste	2009	742	0	< LOD	0.014	USDA PDP
Fresh	2009	60	5.0	0.03 – 0.14	0.01 – 0.04	DPR PRMP
Fresh	2010	43	4.7	0.04 – 0.11	0.01 – 0.02	
Fresh	2011	40	5.0	0.07	0.01 – 0.02	
Fresh	2012	103	4.9	0.03 – 2.43	0.02 – 0.03	
Fresh	2013	118	4.2	0.029 – 1.854	0.02 – 0.03	
Fresh	2014	79	6.3	0.02 – 0.33	0.01 – 0.03	
Fresh	2015	127	0	< LOD	0.03	
Fresh	2016	67	0	< LOD	0.02	
Fresh	2017	72	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Tomatoes

Chlorothalonil Intake from Consumption of Raw Tomatoes

To determine chlorothalonil intake from raw tomatoes, OEHHA first determined the average consumption of raw tomatoes in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption

[166] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

of foods in forms comprised entirely, or almost entirely, of raw tomatoes on either day of the two-day dietary survey for the years 2007-2016[167] to estimate average consumption. Of the population surveyed, 28.33% reported consumption of raw tomatoes on at least one day over the two-day survey. Thus, OEHHA calculated mean consumption on both the day eaten and the two-day survey average, which are presented in Table 128.

As neither US EPA nor WHO apply processing factors for raw tomatoes, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw tomatoes based on the average consumption of users (Table 128). Estimates of mean chlorothalonil intake, 157.32 µg (on day eaten) and 95.21 µg (average of two-day survey), displayed in the columns on the right in Table 128, show that consumption of raw tomatoes by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 2.43 µg/g.

Table 128. Consumption of raw tomatoes and intake of chlorothalonil

Mean consumption of users		Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Mean chlorothalonil intake	
On day eaten (g/day)[a]	Two-day average (g/day)[a]		On day eaten (µg)[c]	Two-day average (µg)[c]
64.74	39.18	2.43	157.32	95.21

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Tomatoes:

Consumption of chlorothalonil residues by the average consumer of raw tomatoes does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when the residue levels in fresh tomatoes are at or below 0.63 ppm.

[167] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Cooked Tomatoes

Chlorothalonil Intake from Consumption of Cooked Tomatoes

To determine chlorothalonil intake from cooked tomatoes, OEHHA first determined the average consumption of cooked tomatoes in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked tomatoes (including broiled tomatoes, stewed tomatoes, and canned tomatoes) on either day of the two-day dietary survey for the years 2007-2016[168] to estimate average consumption. The average level of consumption over both days is presented in Table 129.

The WHO applies processing factors ranging from <0.01 (canned) up to 0.1 (blanched) for certain types of cooked tomatoes[169], the upper-end of which OEHHA applied to the residue in fresh tomatoes to determine the upper-bound chlorothalonil concentration in cooked tomatoes, 0.24 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked tomatoes based on the two-day average consumption of users (Table 129). This mean chlorothalonil intake, 10.87 µg, displayed in the column on the right in Table 129, shows that consumption of cooked tomatoes by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.24 µg/g.

[168] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[169] World Health Organization (WHO) & Food and Agriculture Organization (FAO) (2010). Joint FAO/WHO Meeting on Pesticide Residues, Pesticide residues in food, Evaluations Part I – Residues: Chlorothalonil, pages 442-452. Available at http://apps.who.int/pesticide-residues-jmpr-database/pesticide?name=CHLOROTHALONIL.

Table 129. Consumption of cooked tomatoes and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
45.29	0.24	10.87

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop multiplied by the upper-end WHO processing factor (0.1) for cooked tomatoes (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Tomatoes:

Consumption of chlorothalonil residues by the average consumer of cooked tomatoes does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh tomatoes are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 2.43 ppm) and up to the tolerance level of 5 ppm.

Dried Tomatoes

Chlorothalonil Intake from Consumption of Dried Tomatoes

To determine chlorothalonil intake from dried tomatoes, OEHHA first determined the average consumption of dried tomatoes in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked tomatoes (including sun-dried tomatoes) on either day of the two-day dietary survey for the years 2007-2016[170] to estimate average consumption. The average level of consumption over both days is presented in Table 130.

The WHO applies a processing factor of 1.3 for dry tomato pomace[171], which OEHHA applied to the residue in fresh tomatoes to determine the upper-bound chlorothalonil

[170] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[171] World Health Organization (WHO) & Food and Agriculture Organization (FAO) (2010). Joint FAO/WHO Meeting on Pesticide Residues, Pesticide residues in food, Evaluations Part I – Residues:

concentration in dried tomatoes, 3.16 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for dried tomatoes based on the two-day average consumption of users (Table 130). This mean chlorothalonil intake, 17.85 µg, displayed in the column on the right in Table 130, shows that consumption of dried tomatoes by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 3.16 µg/g.

Table 130. Consumption of dried tomatoes and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
5.65	3.16	17.85

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop multiplied by the WHO processing factor (1.3) for dried tomato pomace (see text).
[c] Intake is calculated by multiplying mean consumption of users by upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Dried Tomatoes:

Consumption of chlorothalonil residues by the average consumer of dried tomatoes does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh tomatoes are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 2.43 ppm) and up to the tolerance level of 5 ppm.

Tomato Juice

Chlorothalonil Intake from Consumption of Tomato Juice

Table 131 shows the estimates of mean intake of tomato juice by the consumer. The values used to estimate average intake of tomato juice were for any individual reporting

Chlorothalonil, pages 442-452. Available at http://apps.who.int/pesticide-residues-jmpr-database/pesticide?name=CHLOROTHALONIL.

consumption of the food on either day of the two-day survey for the years 2007-2016[172]. The average level of consumption over both days is presented.

US EPA applies a processing factor of 0.25 for tomato juice[173], which OEHHA applied to the residue in fresh tomatoes to determine the upper-bound chlorothalonil concentration in tomato juice, 0.61 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for tomato juice based on the two-day average consumption of users (Table 131). This mean chlorothalonil intake, 101.99 µg, displayed in the column on the right in Table 131, shows that consumption of tomato juice by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.61 µg/g.

Table 131. Consumption of tomato juice and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
167.19	0.61	101.99

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop multiplied by the US EPA processing factor (0.25) for tomato juice (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Tomato Juice:

Consumption of chlorothalonil residues by the average consumer of tomato juice does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when the residue levels in fresh tomatoes are at or below 0.98 ppm.

Other Foods Containing Tomatoes

In addition to the above forms of tomatoes, OEHHA determined the two-day average consumption of users of the following tomato-containing foods, using NHANES dietary survey data: ketchup (12.01 g/day), salsa (30.02 g/day), tomato sauce (40.12 g/day), spaghetti sauce (45.26 g/day), and tomato soup (160.26 g/day). OEHHA applied the

[172] Data available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[173] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

US EPA processing factor of 0.02 to the upper-bound estimate of chlorothalonil concentration in fresh tomatoes to calculate a mean chlorothalonil intake for each of the foods. Estimates of mean daily chlorothalonil intake for these foods are as follows: ketchup (0.58 µg), salsa (1.46 µg), tomato sauce (1.95 µg), spaghetti sauce (2.20 µg), and tomato soup (7.79 µg). Thus, consumption by the average consumer of ketchup, salsa, tomato sauce, spaghetti sauce, and tomato soup, when made with tomatoes with chlorothalonil residues at or below the tolerance level of 5 ppm, will not exceed the Proposition 65 No Significant Risk Level of 41 µg/day.

Watermelon

Chlorothalonil Residues in Watermelon

OEHHA obtained available data on chlorothalonil residue levels in watermelon between 2005 and 2017. USDA residue data were only available for 2005, 2006, 2014, and 2015. DPR residue data were available for all years.

Table 132 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 2,502 samples of fresh watermelon were analyzed, with a maximum detected concentration of 0.65 ppm in 2017. No residue exceeded the US EPA tolerance level of 5.0 ppm[174] for "Vegetable, cucurbit, group 9", which includes watermelon[175].

Table 132. Chlorothalonil residues in watermelon (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	182	0	< LOD	0.0023 – 0.01	USDA PDP
Fresh	2005	3	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	550	0.4	0.0039	0.0023 – 0.01	USDA PDP
Fresh	2006	12	8.3	0.09	0.01 – 0.05	DPR PRMP
Fresh	2007	7	14.3	0.012	0.01 – 0.02	
Fresh	2008	3	0	< LOD	0.01 – 0.05	
Fresh	2009	36	2.8	0.03	0.01 – 0.04	
Fresh	2010	13	7.7	0.16	0.01 – 0.02	
Fresh	2011	8	12.5	0.07	0.01 – 0.02	
Fresh	2012	7	0	< LOD	0.02 – 0.03	
Fresh	2013	9	11.1	0.08	0.02 – 0.03	
Fresh	2014	1170	0	< LOD	0.02	USDA PDP
Fresh	2014	11	0	< LOD	0.01 – 0.03	DPR PRMP
Fresh	2015	370	0	< LOD	0.02	USDA PDP
Fresh	2015	14	0	< LOD	0.03	DPR PRMP
Fresh	2016	53	0	< LOD	0.02	
Fresh	2017	54	1.9	0.65	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Watermelon

Chlorothalonil Intake from Consumption of Raw Watermelon

To determine chlorothalonil intake from watermelon, OEHHA first determined the average consumption of raw watermelon in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting

[174] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[175] Code of Federal Regulations, Title 40, Part 180, Section 180.41.

consumption of foods in forms comprised entirely, or almost entirely, of raw watermelon on either day of the two-day dietary survey for the years 2007-2016[176] to estimate average consumption. The average level of consumption over both days is presented in Table 133.

As neither US EPA nor WHO apply processing factors for any form of watermelon, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for watermelon based on the two-day average consumption of users (Table 133). This mean chlorothalonil intake, 102.27 µg, displayed in the column on the right in Table 133, shows that consumption of watermelon by the average consumer results in a chlorothalonil intake that is above the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.65 µg/g.

Table 133. Consumption of watermelons and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
157.34	0.65	102.27

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Watermelon:

Consumption of chlorothalonil residues by the average consumer of raw watermelon does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical when residue levels in fresh watermelon are at or below 0.26 ppm.

[176] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

Waxgourds

Chlorothalonil Residues in Waxgourds

OEHHA obtained available data on chlorothalonil residue levels in waxgourds between 2005 and 2017. USDA did not test waxgourds for chlorothalonil residues between 2005 and 2017. DPR data were only available for 2008 through 2010 and 2014.

Table 134 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 11 samples of fresh waxgourds were analyzed, with a maximum detected concentration of 0.03 ppm in 2009. No residue exceeded the US EPA tolerance level of 5.0 ppm[177] for "Vegetable, cucurbit, group 9", which includes waxgourds[178].

Table 134. Chlorothalonil residues in waxgourds (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2008	3	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2009	5	20.0	0.03	0.01 – 0.04	
Fresh	2010	1	0	< LOD	0.01 – 0.02	
Fresh	2014	2	0	< LOD	0.01 – 0.03	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Waxgourds

Chlorothalonil Intake from Consumption of Cooked Waxgourds

To determine chlorothalonil intake from cooked waxgourds, OEHHA first determined the average consumption of cooked waxgourds in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked waxgourds on either day of the two-day dietary survey for the years 2007-2016[179] to estimate average consumption. The average level of consumption over both days is presented in Table 135.

As neither US EPA nor WHO apply processing factors for any form of waxgourd, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked waxgourds based on the two-day average

[177] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[178] Code of Federal Regulations, Title 40, Part 180, Section 180.41.
[179] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.

consumption of users (Table 135). This mean chlorothalonil intake, 2.62 µg, displayed in the column on the right in Table 135, shows that consumption of cooked waxgourds by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 135. Consumption of cooked waxgourds and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
52.49	0.05	2.62

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh waxgourds (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Waxgourds:

Consumption of chlorothalonil residues by the average consumer of cooked waxgourds does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh waxgourds are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to residue levels of 0.78 ppm.

Winter Squash

Chlorothalonil Residues in Winter Squash

OEHHA obtained available data on chlorothalonil residue levels in winter squash between 2005 and 2017. USDA residue data for winter squash were only available for 2005 and 2006. DPR residue data were available for all years.

Table 136 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 517 samples of fresh winter squash were analyzed, with a maximum detected concentration of 1.0 ppm in 2005. No residue exceeded the US EPA tolerance level of 5.0 ppm[180] for "Vegetable, cucurbit, group 9", which includes winter squash[181].

Table 136. Chlorothalonil residues in winter squash (tolerance = 5.0 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	256	5.5	0.008 – 1.0	0.005 – 0.008	USDA PDP
Fresh	2005	17	5.9	0.07	0.01 – 0.05	DPR PRMP
Fresh	2006	109	8.3	0.013 – 0.1	0.0072 – 0.008	USDA PDP
Fresh	2006	13	7.7	0.05	0.01 – 0.05	DPR PRMP
Fresh	2007	13	0	< LOD	0.01 – 0.02	
Fresh	2008	9	11.1	0.13	0.01 – 0.05	
Fresh	2009	40	0	< LOD	0.01 – 0.04	
Fresh	2010	14	14.3	0.01 – 0.04	0.01 – 0.02	
Fresh	2011	4	25.0	0.04	0.01 – 0.02	
Fresh	2012	6	16.7	0.01	0.02 – 0.03	
Fresh	2013	5	0	< LOD	0.02 – 0.03	
Fresh	2014	6	0	< LOD	0.01 – 0.03	
Fresh	2015	3	0	< LOD	0.03	
Fresh	2016	7	0	< LOD	0.02	
Fresh	2017	15	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Raw Winter Squash

Chlorothalonil Intake from Consumption of Raw Winter Squash

To determine chlorothalonil intake from raw winter squash, OEHHA first determined the average consumption of raw winter squash in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of raw winter

[180] Code of Federal Regulations, Title 40, Part 180, Section 180.275.
[181] Code of Federal Regulations, Title 40, Part 180, Section 180.41.

squash on either day of the two-day dietary survey for the years 2007-2016[182] to estimate average consumption. The average level of consumption over both days is presented in Table 137.

US EPA applies a processing factor of 0.002 for raw forms of winter squash[183], which OEHHA applied to the residue in fresh winter squash to determine the upper-bound chlorothalonil concentration in raw winter squash, 0.002 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for raw winter squash based on the two-day average consumption of users (Table 137). This mean chlorothalonil intake, 0.034 µg, displayed in the column on the right in Table 137, shows that consumption of raw winter squash by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.002 µg/g.

Table 137. Consumption of raw winter squash and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
16.85	0.002	0.034

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop multiplied by the US EPA processing factor (0.002) for raw winter squash (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Raw Winter Squash:

Consumption of chlorothalonil residues by the average consumer of raw winter squash does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh winter squash are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e.*, at or below 1.0 ppm) and up to the tolerance level of 5.0 ppm.

[182] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[183] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Cooked Winter Squash

Chlorothalonil Intake from Consumption of Cooked Winter Squash

To determine chlorothalonil intake from cooked winter squash, OEHHA first determined the average consumption of cooked winter squash in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked winter squash (including baked winter squash) on either day of the two-day dietary survey for the years 2007-2016[184] to estimate average consumption. The average level of consumption over both days is presented in Table 138.

US EPA applies a processing factor of 0.001 for cooked forms of winter squash[185], which OEHHA applied to the residue in fresh winter squash to determine the upper-bound chlorothalonil concentration in cooked winter squash, 0.001 µg/g. OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked winter squash based on the two-day average consumption of users (Table 138). This mean chlorothalonil intake, 0.085 µg, displayed in the column on the right in Table 138, shows that consumption of cooked winter squash by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.001 µg/g.

Table 138. Consumption of cooked winter squash and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
85.17	0.001	0.085

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Maximum residue detected in fresh crop multiplied by the US EPA processing factor (0.001) for cooked winter squash (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

[184] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.
[185] US EPA (1999). United States Environmental Protection Agency. Reregistration Eligibility Decision (RED) Document for Chlorothalonil. Document number EPA 738-R-99-004. April 1999.

Safe Use Determination for Cooked Winter Squash:

Consumption of chlorothalonil residues by the average consumer of cooked winter squash does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh winter squash are at recent historical levels measured for chlorothalonil in USDA and DPR surveys (*i.e*., at or below 1.0 ppm) and up to the tolerance level of 5.0 ppm.

Yams

Chlorothalonil Residues in Yams

OEHHA obtained available data on chlorothalonil residue levels in yams between 2005 and 2017. USDA did not test yams for chlorothalonil residues between 2005 and 2017. DPR residue data were available for 2005 through 2015, and for 2017.

Table 139 summarizes the chlorothalonil residue data available in years 2005-2017. During this time period, 131 samples of fresh yams were analyzed. No residue was detected; limits of detection did not exceed the US EPA tolerance level of 0.10 ppm[186] for yams.

Table 139. Chlorothalonil residues in yams (tolerance = 0.10 ppm)

Food form	Year	Number of samples	Detection frequency (percent)	Concentration range (ppm)[a]	Limit of Detection (LOD) (ppm)	Data Source
Fresh	2005	9	0	< LOD	0.01 – 0.05	DPR PRMP
Fresh	2006	16	0	< LOD	0.01 – 0.05	
Fresh	2007	16	0	< LOD	0.01 – 0.02	
Fresh	2008	7	0	< LOD	0.01 – 0.05	
Fresh	2009	12	0	< LOD	0.01 – 0.04	
Fresh	2010	5	0	< LOD	0.01 – 0.02	
Fresh	2011	9	0	< LOD	0.01 – 0.02	
Fresh	2012	16	0	< LOD	0.02 – 0.03	
Fresh	2013	11	0	< LOD	0.02 – 0.03	
Fresh	2014	21	0	< LOD	0.01 – 0.03	
Fresh	2015	6	0	< LOD	0.03	
Fresh	2017	3	0	< LOD	0.01	

[a] Concentrations measured when chlorothalonil was detected in the sample.

Cooked Yams

Chlorothalonil Intake from Consumption of Cooked Yams

To determine chlorothalonil intake from cooked yams, OEHHA first determined the average consumption of cooked yams in keeping with the approach described on page 4. OEHHA used NHANES dietary survey data for any individual reporting consumption of foods in forms comprised entirely, or almost entirely, of cooked yams on either day of

[186] Code of Federal Regulations, Title 40, Part 180, Section 180.275.

the two-day dietary survey for the years 2007-2016[187] to estimate average consumption. The average level of consumption over both days is presented in Table 140.

As neither US EPA nor WHO apply processing factors for any form of yam, OEHHA used the upper-bound estimate of chlorothalonil concentration to calculate a mean chlorothalonil intake for cooked yams based on the two-day average consumption of users (Table 140). This mean chlorothalonil intake, 3.13 µg, displayed in the column on the right in Table 140, shows that consumption of cooked yams by the average consumer results in a chlorothalonil intake that is below the Proposition 65 NSRL of 41 µg/day when the upper-bound residue estimate is 0.05 µg/g.

Table 140. Consumption of cooked yams and intake of chlorothalonil

Two-day average mean consumption of users (g/day)[a]	Upper-bound estimate of chlorothalonil concentration (µg/g)[b]	Two-day average mean chlorothalonil intake (µg)[c]
62.51	0.05	3.13

[a] Calculated by OEHHA using data from the NHANES 2007-2016 survey years (see text).
[b] Limit of detection from the DPR surveys of fresh yams (see text).
[c] Intake is calculated by multiplying two-day average mean consumption of users by the upper-bound estimate of chlorothalonil concentration.

Safe Use Determination for Cooked Yams:

Consumption of chlorothalonil residues by the average consumer of cooked yams does not result in exposures that exceed the Proposition 65 NSRL of 41 µg/day for the chemical, when the residue levels in fresh yams are at recent historical levels measured for chlorothalonil in DPR surveys (*i.e.*, at or below 0.05 ppm) and up to the tolerance level of 0.10 ppm.

[187] CDC National Center for Health Statistics, NHANES Dietary Data. Available at https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary.