NORTH AMERICAN METAL PACKAGING ALLIANCE, INC.
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April 10, 2013

Via E-Mail

Ms. Monet Vela
Office of Environmental Health Hazard Assessment
P. O. Box 4010
1001 I Street
Sacramento, California 95812-4010

Re: MADL -- Bisphenol A

Dear Ms. Vela:

The North American Metal Packaging Alliance, Inc. (NAMPA)[1] is pleased to respond to the proposal by the Office of Environmental Health Hazard Assessment (OEHHA) to adopt a Maximum Allowable Dose Level (MADL) of 290 micrograms per day for exposures to bisphenol A (BPA) by amending Section 25805(b) of Title 27 of the California Code of Regulations. As outlined below, NAMPA does not support the proposed level and believes that the current data on BPA support a higher MADL of 2,900 micrograms per day, or 2.9 milligrams per day.

NAMPA opposed the listing of BPA under Proposition 65 (Prop 65) in its March 27, 2013, comments to OEHHA. For the reasons set forth in those comments, NAMPA does not believe BPA meets the criteria for authoritative bodies listings, as OEHHA proposes. While NAMPA does not believe listing is appropriate, scientifically justified, or legally sustainable, NAMPA members appreciate OEHHA's decision concurrently to propose listing BPA and propose a MADL for BPA, as a quantitative exposure limit provides a contextual framework for assessing exposure for the public. NAMPA recognizes the potential benefits of a MADL, particularly to inform the public on the potential commercial and marketing impacts should the listing proceed, and particularly for businesses that do not have in-house technical expertise to establish a MADL for their products. While we applaud OEHHA's decision proactively to propose a MADL for BPA, NAMPA does not support the current proposed MADL because the

[1] NAMPA is a not-for-profit corporation committed to protecting health through the safety of metal packaging and metal packaged foods. NAMPA's membership includes companies and associations representing various sectors along the supply chain for the food and beverage packaging industry.

MADL was miscalculated, being incorrectly based on a non-reproductive/developmental endpoint, and should be set 10 times higher, at a level of 2.9 milligrams per day.

Background

OEHHA is proposing to list BPA as a substance known to the State to cause reproductive toxicity (developmental endpoint) under Prop 65. While the proposal to list has not yet been finalized, OEHHA decided to propose an MADL under Section 25805(b) to assist the public in assessing the potential impact of the listing.

In its Initial Statement of Reasons to amend Section 25805(b),[2] OEHHA identified the studies by Tinwell, *et al.* (2002),[3] Tyl, *et al.* (2002b),[4] and Tyl, *et al.* (2008),[5] and the National Toxicology Program's (NTP) Center for the Evaluation of Risks to Human Reproduction *Monograph on the Potential Human Reproductive and Developmental Effects of Bisphenol A*[6] as the basis for calculating the BPA MADL. Of the three studies listed, OEHHA stated that the highest no observed effect level (NOEL) was 5 mg/kg/day, which was seen in

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2 Initial Statement of Reasons, Title 27, California Code of Regulations; Proposed Amendment to Section 25805(b) Maximum Allowable Does for Bisphenol A, Safe Drinking Water and Toxic Enforcement Act of 1986, PROPOSITION 65, available at http://www.oehha.ca.gov/prop65/law/pdf_zip/012513ISORBisphenolA_MADL.pdf.

3 Tinwell, H., Haseman, J., Lefevre, P.A., Wallis, N., Ashby, J. (2002). Normal sexual development of two strains of rat exposed *in utero* to low doses of bisphenol A. *Toxicol. Sci.* 68:339-348.

4 Tyl, R.W., Myers, C.B., Marr, M.C., Thomas, B.F., Keimowitz, A.R., Brine, D.R., Veselica, M.M., Fail, P.A., Chang, T.Y., Seely, J.C., Joiner, R.L., Butala, J.H., Dimond, S.S., Cagen, S.Z., Shiotsuka, R.N., Stropp, G.D., Waechter, J.M. (2002b). Three-generation reproductive toxicity study of dietary bisphenol A in CD Sprague-Dawley rats. *Toxicol. Sci.* 68:121-146.

5 Tyl, R.W., Myers, C.B., Marr, M.C., Sloan, C.S., Castillo, N.P., Veselica, M.M., Seely, J.C., Dimond, S.S., Van Miller, J.P., Shiotsuka, R.N., Beyer, D., Hentges, S.G., Waechter, J.M., Jr. (2008). Two-generation reproductive toxicity study of dietary bisphenol A (Bisphenol A) in CD-1(R) (Swiss) mice. *Toxicol. Sci.* 104:362-384.

6 NTP, CERHR, "NTP-CERHR, Monograph on the Potential Human Reproductive and Developmental Effects of Bisphenol A" (Sept. 2008) (BPA Monograph), available at http://www.ntp.niehs.nih.gov/ntp/ohat/bisphenol/bisphenol.pdf.

both Tyl studies (2002b and 2008). This dose is also at the top of the range of doses defined by the NTP as "low," that had been the focus of the sole "some concern" finding in the BPA Monograph.

As outlined in the Initial Statement of Reasons, the BPA MADL calculation was derived as follows:

- The studies by Tyl, *et al*. (2002b; 2008) provided a NOEL of 5 mg/kg-day.
- Using this value, the NOEL for a 58 kg woman would be 290 mg/day (5 mg/kg-day x 58 kg).
- Per Section 25801(b)(1), the adjusted NOEL of 290 mg/day was divided by 1,000 to obtain the proposed MADL of 290 micrograms/day.[7]

OEHHA Did Not Rely on the NOEL for Reproductive/Developmental Effects

The California Code of Regulations state that the NOEL used to derive a proposed MADL shall be based on the maximum dose level at which the subject chemical has no observable reproductive effect.[8] That is not, however, what OEHHA did in calculating the proposed MADL for BPA. As stated above, OEHHA used a NOEL of 5/mg/kg in its proposed MADL calculation, but the abstract for the 2008 Tyl study clearly states:

> The systemic no observable effect level (NOEL) was 30 ppm BPA (~5 mg/kg/day); the reproductive/developmental NOEL was 300 ppm (~50 mg/kg/day).[9]

Likewise, the findings for the Tyl 2002b study as identified in the study abstract were:

> Adult systemic no observed adverse effect level (NOAEL) = 75 ppm (5 mg/kg/day); reproductive and postnatal NOAELs = 750 ppm (50 mg/kg/day).[10]

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7 Initial Statement of Reasons at 3.

8 *See* Cal. Code Regs. tit. 27, §§ 25801 and 25803.

9 Tyl, *et al*. (2008).

10 Tyl, *et al*. (2002b).

Using the stated NOELs of 50 mg/kg/day for reproductive effects, and not the systemic toxicity NOEL of 5/mg/kg/day, and the calculation outlined by OEHHA in the Initial Statement of Reasons, the MADL for BPA would be adjusted upwards to 2.9 milligrams per day.

Because OEHHA did not use the appropriate NOEL value in its calculations for its proposed MADL, NAMPA does not support the currently proposed value. NAMPA respectfully requests that OEHHA revise the MADL calculus, use the appropriate NOELs for reproductive effects, and re-propose the MADL to 2.9 milligrams per day.

Thank you for this opportunity. If you or your staff has any questions regarding this letter, please do not hesitate to contact me. I can be reached at kroberts@metal-pack.org or 443-964-4653.

Regards,

Kathleen M. Roberts
Executive Director