

September 6, 2013

Mr. Joshua Grice
Department of Ecology
PO Box 47600
Olympia, WA 47600
VIA Email: csparule@ecy.wa.gov

Dear Mr. Grice:

Please accept these comments on behalf of the Washington Toxics Coalition regarding amending Chapter 173-334 WAC, Children's Safe Product Reporting Rule to add tris (1,3-dichloro-2-propyl)phosphate (TDCPP) (CAS # 13674-87-8) to the reporting list of chemicals. We fully support the addition of TDCPP to the list of chemicals and respectfully request the agency take this rulemaking opportunity to add other chemicals that meet the legal criteria for inclusion on the Chemicals of High Concern for Children (CHCC) list.

TDCPP

TDCPP should be added to the CHCC list for the following reasons:

1. The Department of Health has confirmed that TDCPP meets the toxicity and exposure criteria to be included on the list.
2. In late 2011, the State of California made a determination that TDCPP causes cancer and added it to their list of Proposition 65 (Prop 65) chemicals.
3. Recent testing demonstrates it is widely used in products. TDCPP has been detected in the foam of children's products including changing pads, bassinet pads, and car seats. These are products that babies and older children contact for extended periods of time, and the flame retardant has been detected at levels averaging 2.6% and ranging up to 5%. When Washington Toxics Coalition commissioned testing of 20 foam-containing children's products in 2011, TDCPP was found in 80% of the products.
4. TDCPP has been widely detected in house dust as well as in indoor air, breast milk, urine, surface water, and fish.

* ESTABLISHED 1981 *

Reasons for Adding Additional Chemicals that Meet the Legal Criteria

There are several important reasons that the Department of Ecology (Ecology) should add other chemicals that meet the legal criteria in this rulemaking.

1. It is important to stay ahead of the curve and ensure companies are not just switching to chemicals that are high priority chemicals but aren't yet on the reporting list. We already know that many companies have agreed to phase out TDCPP, but it is unclear what they are using. Particularly for flame retardants, it makes sense to identify as many as possible that meet the legal criteria and add them to the list. This way the public and the agencies will have the best chance at knowing what flame retardants companies have moved to as a replacements for polybrominated biphenyl ethers (PBDEs), Tris (2-chloroethyl) phosphate (TCEP) and TDCPP.
2. The work to identify additional chemicals that meet the legal criteria has already been done and the agency should now be regularly adding batches of chemicals to the CHCC list. It took more than three years for the Departments of Health and Ecology and the University of Washington (UW) Pediatric Specialty Unit to develop a comprehensive list of chemicals that met the criteria in the law. It is more efficient to take batches of chemicals from that list rather than to wait for petitions and add one or two chemicals at a time. Rulemaking takes significant resources and is not typically carried out more than once every 3-4 years.
3. Ecology's reporting list has already proven to be an extremely valuable tool for state agencies and the public to obtain information about what chemicals are in products marketed for use by children. For example, it was because of reporting under the Children's Safe Products Act (CSPA) that we learned that Graco is now using the flame retardant tetrabromobisphenol A (TBBPA) in baby and children's products. This information helps consumers make decisions and helps Ecology prioritize action, particularly with regard to helping businesses find safer alternatives.
4. Adding chemicals to the list does not increase the workload burden on the agency. The majority of work has already been done to identify the chemicals and set up the database for reporting.

Additional Chemicals Should be Added to the Reporting List

We propose the following chemicals in these use categories be added in this rule making because they meet both the toxicity and exposure criteria in the law. In addition, all of them have been already identified as meeting the criteria in the law as part of the original CSPA rulemaking process.



1) Flame retardants

A) Short Chain Chlorinated Paraffins (SCCPs)(CAS 85535-84-8)

Toxicity: SCCPs meet the toxicity criteria in RCW 70.240.010(6)(e) because they are persistent, bioaccumulative, and toxic (PBT) at low levels. These chemicals are listed on authoritative PBT lists including Washington State's and EPA's.

<http://www.ecy.wa.gov/programs/swfa/pbt/list.html>

Exposure: SCCPs meet the exposure criteria in RCW 70.240.030 (a), (b) and (c). According to EPA:

- a) SCCPs are used as secondary plasticizers and as flame retardants in plastics, especially PVC. SCCPs are also used as plasticizers and flame-retardant additives in a variety of consumer products including: rubber formulations, paints and other coatings, and adhesives and sealants.
- b) SCCPs have been measured in a variety of environmental media including air, sediment, surface waters, and wastewater. SCCPs have also been measured in a variety of biota, including freshwater aquatic species, marine mammals, and avian and terrestrial wildlife. In addition, SCCPs have been detected in samples of human breast milk from Canada and the United Kingdom, as well as in a variety of food items from Japan and various regions of Europe.

<http://www.epa.gov/opptintr/existingchemicals/pubs/ecactionpln.html#posted>

B) Dechlorane Plus (CAS 13560-89-9)

Toxicity: Dechlorane Plus meets the toxicity criteria in RCW 70.240.010 (6) (e) because it is a listed European Union Persistent Bioaccumulative Toxic chemical (PBT).

Exposure: Dechlorane Plus meets the exposure criteria in RCW 70.240.030 (b) and (c). According Ecology, the chemical has been found in house dust. There is additional information demonstrating it has been found in sediment, plankton, mussels, and fish, and recent evidence indicates it can bioaccumulate. It is incorporated into plastics that are used in consumer products used or present in the home.

This compound was on Ecology's original list of chemicals meeting the criteria for toxicity and exposure, but was eliminated because it is also a registered pesticide. Its use as a pesticide is irrelevant and it should be listed.

C) Tris (1-chloro-2-propyl) phosphate (TCPP) (CAS 13674-84-5)

Toxicity: TCPP meets the toxicity criteria in RCW 70.240.010(6)(b) because it is structurally similar to the other cancer-causing Tris flame retardants (TCEP and TDCPP). They should be treated as a family of cancer-causing flame retardants. The European Union recently did this when they proposed regulatory standards for all three tris flame retardants in toys and cited the structural similarity of TCPP to the others as the reason for its inclusion in the rule.

<http://www.openpr.com/news/269759/EU-to-Strengthen-Chemical-Regulation-on-BPA-and-Flame-Retardants-in-Toys.html?SID=830c92292165dfed13c44e9b6b0a43f9>

In addition, basic laboratory testing shows that TCPP has low to moderate acute toxicity and moderate to high aquatic toxicity. Full testing on reproductive and immune effects has not been conducted, but one study found that hens ceased egg production after treatment with TCPP. Recent research found that chicken embryos exposed to TCPP showed developmental effects potentially caused by thyroid hormone pathway disruption.

Exposure: TCPP meets the exposure criteria in RCW 70.240.030 (b) and (c).

TCPP has been found in discharges from homes and industries. It is known to leach out of foam into air, and has been found in air samples in cars, offices, and furniture stores. Testing of new baby products by Washington Toxics Coalition in 2011 found TCPP in 14 of 20 products, at levels up to 3.8%.

D) Bis (2-ethylhexyl) tetrabromophthalate or 1,2-benzene dicarboxylic acid (TBPH) (CAS 26040-51-7)

Toxicity: TBPH meets the developmental toxicity criteria in RCW 70.240.010(6) (a) according to EPA's Toxic Substances Control Act (TSCA) workplan chemical methods document.

<http://www.epa.gov/oppt/existingchemicals/pubs/wpmethods.pdf>

According to Ecology TBPH is also a European Union PBT chemical.

Exposure: TBPH meets the exposure criteria in RCW 70.240.030 (b) and (c). According to EPA it is used in consumer products and it is present in indoor environments. TBPH is a substitute for PBDEs and Tris flame retardants in polyurethane foam so it is particularly important that information be obtained about its use.

<http://www.epa.gov/oppt/existingchemicals/pubs/wpmethods.pdf>

2) Plastic Building Block Chemicals:

There are many plastics used in children's products and the existing CHCC list is not adequate to capture some of the most widely used chemicals. The following chemicals should be added to the list:

(A) 4,4'-Methylene bis (2-chloroaniline) (CAS 101-14-4)

Toxicity: The chemical meets the toxicity criteria in RCW 70.240.010(6)(b) for carcinogenicity according to EPA's TSCA workplan chemical methods document. California has also listed it as a Prop 65 carcinogen.

<http://www.epa.gov/oppt/existingchemicals/pubs/wpmethods.pdf>.

Exposure: The chemical also meets the exposure criteria in RCW 70.240.030 (b) and (c). According to EPA it is widely used in consumer products and it is present in the ambient air.

(B) 4,4 Diaminodiphenylmethane (CAS 101-77-9)

Toxicity: The chemical meets the toxicity criteria in RCW 70.240.010(6)(b) for carcinogenicity. It was identified by the State of California as a carcinogen in 1988 and is a Prop 65 chemical.

Exposure: The chemical meets the exposure criteria in RCW 70.240.030 (c) because it is added or present in consumer products.

Ecology citation for presence in consumer products:

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

(C) Epichlorohydrin (CAS 106-89-8)

Toxicity: The chemical meets the toxicity criteria in RCW 70.240.010(6)(b) for carcinogenicity. It was identified by the State of California as a carcinogen in 1987 and is a Prop 65 chemical.

Exposure: The chemical meets the exposure criteria in RCW 70.240.030 (c) because it is added or present in consumer products.

Ecology citation for presence in consumer products:

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

(D) 1,3 Butadiene (CAS 106-99-0)

Toxicity: The chemical meets the toxicity criteria in RCW 70.240.010(6)(a) and (b) for developmental toxicity and carcinogenicity. It was identified by the State of California as a carcinogen in 1987 and in 2004 as a developmental toxicant. It is a Prop 65 chemical.

Exposure: The chemical meets the exposure criteria in RCW 70.240.030 (c) because it is added or present in consumer products.

Ecology citations for presence in consumer products:

CAARB. Report to the California Legislature: Indoor Air Pollution in California. 2005.

Zhu, J., Newhook, R., Marro, L., & Chan, C. 2005. Selected Volatile Organic Compounds in Residential Air in the City of Ottawa, Canada. Environ.Sci.Technol., 39(11): 3964-6971.

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

(E) Toluene diisocyanate (CAS 26471-62-5)

Toxicity: The chemical meets the toxicity criteria in RCW 70.240.010 (b) for carcinogenicity. It has been identified in 1989 as a carcinogen by the state of California and added to the list of Prop 65 chemicals.

Exposure: The chemical meets the exposure criteria in RCW 70.240.030 (c) because it is added or present in consumer products.

Ecology citations for presence in consumer products:

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

3) Metals

The recent reporting to the agency shows that there are numerous metals used in children's products, but a number of toxic metals are missing from the CHCC list even though they meet the exposure and toxicity requirements. We recommend the following metals be added because they have all been identified by the state of California as carcinogens and they are added or present in children's and/or consumer products.

(A) Nickel and Nickel Compounds (CAS 7440-02-0)

Ecology children's product and consumer product citations:

DEPA No. 67, Svendsen, Nanna, Pederson, Soren F., Hansen, Ole Chr., Pedersen, Eva, Bernth, Nils, and Danish Technological Institute. Survey and release of chemical substances in "slimy" toys. 2005. Survey of Chemical Substances in Consumer Products.

DEPA No. 84, Svendsen, Nanna, Bjarnov, Erik, and Poulsen, Pia Brunn. Survey as well as health assessment of chemical substances in school bags, toy bags, pencil cases and erasers, 1-153. 2007. Survey of Chemical Substances in Consumer Products.

DEPA No.93, Hansen, Paul Lyck, Tonning, Kathe, Malmgren-Hansen, Bjorn, Jacobsen, Eva, and Danish Technological Institute. Survey and health assessment of chemical substances in hobby products for children. 2008. Survey of Chemical Substances in Consumer Products.

DEPA No. 51, Mapping and release of chemical substances from products made of chloroprene, 2004. Survey of Chemical Substances in Consumer Products.

(B) Beryllium (CAS 7440-47-3)

Ecology consumer product citations:

DEPA No. 65, Bernth, Nils, Hansen, Ole Chr., Hansen, Steen Faergemann, and Pedersen, Eva. Survey of chemical substances in kohl and henna products. 2005. Survey of chemical substances in consumer products.

Centers for Disease Control. Third National Report on Human Exposure to Environmental Chemicals. 2005

4) Dyes and Pigments

There were 1,000 reports for pigments and dyes in the first two rounds of reports submitted under the CSPA rule. This indicates a significant use of chemicals for this purpose in children's products. It is important that the list of chemicals used for this purpose is as complete as possible. The following chemicals used for pigments and

dyes meet the criteria and should be added to the list. These chemicals have been listed by the state of California as carcinogens under Prop 65 and are added or present in consumer products.

(A) 6-Methoxy-m-toluidine (CAS 120-71-8), 4,4 Methylenedi-otoluidine (CAS 838-88-0), 2-Naphthylamine (CAS 91-59-8) and, Benzidene and salts (CAS 92-87-5).

Ecology citation for presence in consumer products:

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

(B) CI Solvent Yellow 3 (CAS 97-56-3)

Ecology citation for presence in consumer products:

DEPA No. 94, Strandesen, Maria and Poulsen, Pia Brunn. Survey and health assessment of chemical substances in jewelleryes. 2008. Survey of Chemical Substances in Consumer Products.

5) Other chemicals that should be added that meet the legal criteria and are used for multiple purposes.

(A) 1,2 Dibromomethane, Ethylene dibromide (CAS 106-93-4) and 1,2 Dichloroethane, Ethylene dichloride (CAS 107-06-2)

These two chemicals meet the toxicity requirements because they are listed on California's Prop 65 list along with numerous other authoritative lists and the following sources of information clearly demonstrate they meet the exposure criteria:

Rowe, B. L., Toccalino, P. L., Moran, M. J., Zogorski, J. S., & Price, C. V. 2007. Occurrence and Potential Human-Health Relevance of Volatile Organic Compounds in Drinking Water from Domestic Wells in the United States. *Environmental Health Perspectives*, 115(No. 11): 1539-1546.

US Environmental Protection Agency Drinking Water Contaminant Standards.
<http://www.epa.gov/safewater/contaminants/index.html>.

CAARB. Report to the California Legislature: Indoor Air Pollution in California. 2005.

Zhu, J., Newhook, R., Marro, L., & Chan, C. 2005. Selected Volatile Organic Compounds in Residential Air in the City of Ottawa, Canada. *Environ.Sci.Technol.*, 39(11): 3964-6971.

Danish Environment Protection Agency (DEPA) No. 32, Malmgren-Hansen, Bjorn, Olesen, Steen, Pommer, Kirsten, Funch, Lis Winther, Pedersen, Eva, Willum, Ole, and Olsen, Stig. Survey of

chemical substances in consumer products: Emission and evaluation of chemical substances from selected electrical and electronic products, 1-80. 2003. Survey of chemicals substances in consumer products.

(B) Trichloroethylene (CAS 79-01-6)

This chemical solvent meets the toxicity requirements because it is listed on California's Prop 65 list and IRIS for cancer and the following sources of information clearly demonstrate it meets the exposure criteria:

Rowe, B. L., Toccalino, P. L., Moran, M. J., Zogorski, J. S., & Price, C. V. 2007. Occurrence and Potential Human-Health Relevance of Volatile Organic Compounds in Drinking Water from Domestic Wells in the United States. *Environmental Health Perspectives*, 115(No. 11): 1539-1546.

US Environmental Protection Agency Drinking Water Contaminant Standards.
<http://www.epa.gov/safewater/contaminants/index.html>.

CAARB. Report to the California Legislature: Indoor Air Pollution in California. 2005.

Zhu, J., Newhook, R., Marro, L., & Chan, C. 2005. Selected Volatile Organic Compounds in Residential Air in the City of Ottawa, Canada. *Environ.Sci.Technol.*, 39(11): 3964-6971.

Cohn, P., Klotz, J., Bove, F., Berkowitz, M., & Fagliano, J. 1994. Drinking Water Contamination and the Incidence of Leukemia and Non-Hodgkin's Lymphoma. *Environmental Health Perspectives*, 102: 556-561. 1994.

Squillace, P. J., Scott, J. C., Moran, M. J., Nolan, B. T., & Kolpin, D. W. 2002. VOCs, Pesticides, Nitrate, and Their Mixtures in Groundwater Used for Drinking Water in the United States. *Environ.Sci.Technol.*, 36: 1923-1930.

Adgate, J. L., Church, T. R., Ryan, A. D., Ramachandran, G., Fredrickson, A. A., Stock, T., Morandi, M. T., & Sexton, K. 2004. Outdoor, Indoor, and Personal Exposure to VOCs in Children. *Environmental Health Perspectives*, 112(14): 1386-1392.

CAARB. Common Indoor Sources of Volatile Organic Compounds. 95-392. 1999.

Weisel, C. P., Alimokhtari, S., & Sanders, P. F. 2008. Indoor Air VOC Concentrations in Suburban and Rural New Jersey. *Environ.Sci.Technol.*

(C) Acrylimide (CAS 79-06-1)

This chemical used to manufacture polymers meets the toxicity requirements because it is listed on California's Prop 65 list and numerous other authoritative lists for cancer. It also meets the exposure criteria according to this source:

US Environmental Protection Agency Drinking Water Contaminant Standards.
<http://www.epa.gov/safewater/contaminants/index.html>.

(D) 1,2,3-Trichloropropane (CAS 96-18-4)

This chemical meets the toxicity requirements because it is listed on California's Prop 65 list and other authoritative lists for cancer. The following source demonstrates it meets the exposure criteria:

Rowe, B. L., Toccalino, P. L., Moran, M. J., Zogorski, J. S., & Price, C. V. 2007. Occurrence and Potential Human-Health Relevance of Volatile Organic Compounds in Drinking Water from Domestic Wells in the United States. *Environmental Health Perspectives*, 115(No. 11): 1539-1546.

Thank you for the opportunity to provide these comments. Please contact me at 206-200-2824 if you have any further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Laurie Valeriano", with a long horizontal flourish extending to the right.

Laurie Valeriano
Executive Director