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The American Chemistry Council's (ACC) High Phthalates Panel appreciates this opportunity to submit the following comments regarding the Washington State Department of Ecology's Safer Products for Washington Program's Preliminary Draft Rule Language as it pertains to ortho-phthalates in vinyl flooring.

Background

Washington State Department of Ecology (Ecology) is soliciting comments on preliminary draft rule language for the Safer Products for Washington program, Chapter 173-337 Washington Administrative Code (WAC), Safer Products Restrictions and Reporting. Section 111(2) proposes a restriction of the use of any ortho-phthalate in vinyl flooring at levels >1000 ppm, individually or combined.

Washington State law RCW § 70A.350.040(3) authorizes Ecology to restrict or prohibit a priority chemical or members of a class of priority chemicals in a priority consumer product when it determines:

- (a) Safer alternatives are feasible and available; and
- (b) (i) The restriction will reduce a significant source of or use of a priority chemical; or
(ii) The restriction is necessary to protect the health of sensitive populations or sensitive species.

We contend that none of the criteria in RCW § 70A.350.040(3)(b) have been met in general, and that none of the criteria have been met specifically with respect to high molecular weight phthalates like DINP and DIDP. Thus there is no basis for the restriction of phthalates in vinyl flooring.

Although there is no basis for enacting the proposed restriction on ortho-phthalates in vinyl flooring, if the proposed rule moves forward, Ecology should include the phrase "intentionally added," as used in section 111(1)(c)(i): "No person may manufacture, sell (including but not limited to wholesale, online, or retail), or distribute a consumer product described in (a) of this subsection that contains an *intentionally added* (emphasis added) ortho-phthalate used as a solvent or fixative for fragrance ingredients."

Thus, the language for section 111(2)(c), if used, would be:



(c) Restriction. No person may manufacture, sell (including but not limited to wholesale, online, or retail), or distribute a consumer product described in (a) of this subsection that contains more than 1,000 ppm of any **intentionally added** ortho-phthalate, individually or combined.

Table 1: Evaluation of criteria stipulated in RCW § 70A.350.040(3)(b), with respect to phthalate use in vinyl flooring

Criteria	Evaluation
<p>Will the restriction reduce a significant source of or use of phthalates in vinyl flooring?</p>	<p>No.</p> <p><i>We note that the legislation uses the term “significant source of or use...” and not “zero source of or use...”</i></p> <p>- Ecology has not demonstrated significant use:</p> <p>The DoE published a data call to US vinyl flooring manufacturers in 2020. The response, as noted by Ecology, indicated that <u>12 of 14 manufacturers confirmed that they completely phased out the use of phthalates in vinyl flooring in the United States, between 2013 and 2016.</u>¹ The results of the DoE’s data call is confirmed by findings of the Ecology Center, a US consumer advocacy group. A survey of 26 vinyl flooring tiles from US retail stores found <u>zero</u> phthalate use in any of the samples at concentrations above 1%.²</p> <p>While Ecology indicates that there is still some use for phthalates in vinyl flooring, Ecology does not clarify whether this use represents “significant use” or not, for example what market volume this use represents. However, based on the responses from the flooring manufacturers, and the blanket ban on sales of vinyl flooring containing phthalates by US big box retailers since 2016,³ this volume is unlikely to represent “significant use.”</p> <p>This conclusion is supported by vinyl flooring manufacturers. We note that Armstrong Flooring and Mohawk, in their February 2020 comments to Ecology, reported that <i>“because of these retail store policies, the vast majority of vinyl flooring sold in the state of Washington (and throughout the United States) is now manufactured without ortho-phthalates.”</i>^{4 5} Additionally, with</p>

¹ [VinylFlooring_ManufacturerData \(wa.gov\)](https://www.wa.gov/vinylflooring-manufacturer-data)

² [Success! - Home improvement retailers follow through on commitments to remove phthalates from flooring \(saferchemicals.org\)](https://saferchemicals.org/success-home-improvement-retailers-follow-through-on-commitments-to-remove-phthalates-from-flooring)

³ This includes Home Depot, Lowes, [Ace Hardware](https://www.acehardware.com), Menards, Lumber Liquidators and [Floor&Decor](https://www.flooranddecor.com). [Home Depot leads chemical cleanup of flooring | Greenbiz](https://www.home Depot.com/chemical-cleanup-of-flooring)

⁴ [w01kt8i05_document.pdf \(scs-public.s3-us-gov-west-1.amazonaws.com\)](https://scs-public.s3-us-gov-west-1.amazonaws.com/w01kt8i05_document.pdf)

⁵ [zh1kv8iqc_document.pdf \(scs-public.s3-us-gov-west-1.amazonaws.com\)](https://scs-public.s3-us-gov-west-1.amazonaws.com/zh1kv8iqc_document.pdf)



the elimination of phthalate use in vinyl flooring, as older flooring is replaced, the amount of material released into the environment will continue to decrease.

- Ecology has not demonstrated significant source:

Ecology provides an estimate of total phthalate release to the environment from vinyl flooring in its 2020 and 2022 Priority Consumer Products Reports to the legislature.^{6 7} Overall, Ecology estimates a total of 10 million - 37 million lbs. in vinyl flooring purchased in Washington annually and 374 lbs. released to the environment.

These estimates are based on improper assumptions:

1. Ecology uses sales data for resilient flooring from 2016-2019. We note that most of the vinyl flooring manufacturers reporting data to Ecology confirmed that they had removed phthalates from new flooring between 2013 and 2016. Hence sales data for resilient flooring from 2016-2019 that is mostly phthalate free cannot provide a basis for Ecology's estimates of potential phthalate release to the environment.
2. Ecology assumes that at least 58% of flooring sold would contain phthalates. This rate is derived from the study published by the Ecology Center.⁸ However, Ecology is aware that the follow-up testing of phthalate content in vinyl flooring in 2019 resulted in a 0% detection rate.
3. The amount released to the environment is based on Ecology's 2011 report indicating that vinyl flooring contributes ~1.4% of total phthalates to the environment. Considering the significant phase-out of phthalate use in vinyl flooring since 2013, this fraction is expected to be considerably smaller. Thus, vinyl flooring would be expected to contribute <<374 lbs. of phthalates to the environment annually.

In its 2022 Priority Consumer Products Reports to the legislature, Ecology cites national sales figures from a 2021 copy of Floor Covering Weekly suggesting rapid growth in sales of luxury vinyl flooring (LVT).⁹ Ecology uses this data

⁶ [Priority Consumer Products - Report to the Legislature \(wa.gov\)](#)

⁷ [Regulatory Determinations Report to the Legislature: Safer Products for Washington Cycle 1 Implementation Phase 3](#)

⁸ See footnote 2.

⁹ [Floor Covering Weekly : The Statistical Report 2020 \(e-ditionsbyfry.com\)](#)



	<p>to conclude that “<i>vinyl flooring remains a significant source of potential exposure to ortho-phthalates.</i>” We reviewed this data. We note that the 34% rapid growth (in square feet) referenced by Ecology is specific for rigid core LVT (see Chart 17). As noted by the Resilient Floor Covering Association (RFCI),¹⁰ rigid core LVT manufacturers predominantly now adhere to the Assure Certified™ standard, which requires that products cannot contain individual or total ortho-phthalates at levels greater than 1000 ppm. In other words, a rapid growth in rigid core LVT would be expected to lead to vinyl flooring becoming an insignificant source of potential exposure to phthalates.</p> <p>Vinyl flooring is a negligible use or source of phthalates and hence the criteria in RCW § 70A.350.040(3)(b)(i) is not met.</p>
<p>Is the restriction necessary to protect the health of sensitive populations?</p>	<p>No.</p> <p>Ecology has failed to present any evidence to indicate that its action is in response to any health concerns specifically related to phthalate use in vinyl flooring. <u>Existing scientific evaluations of human exposures to phthalates in dust and indoor air show that exposure to phthalates in dust and indoor air do not pose a health concern to sensitive subpopulations.</u>^{11 12 13 14 15}</p> <p>In addition, California’s Office of Environmental Health and Hazard Assessment (OEHHA) has issued safe use determinations (SUDs) for the use of DINP in certain vinyl flooring applications for residential use.¹⁶</p>

¹⁰ [4v0oiit_document.pdf \(scs-public.s3-us-gov-west-1.amazonaws.com\)](https://www.amazonaws.com/scs-public.s3-us-gov-west-1.amazonaws.com/4v0oiit_document.pdf)

¹¹ Scientific Committee on Health and Environmental Risks (SCHER). Opinion on risk assessment on indoor air quality (2007) - https://ec.europa.eu/health/ph_risk/committees/04_scher/docs/scher_o_055.pdf.

¹² European Chemicals Agency (2013) - Evaluation of new scientific evidence concerning DINP and DIDP in relation to entry 52 of Annex XVII to REACH Regulation (EC) No 1907/2006. Final review report. <https://echa.europa.eu/documents/10162/31b4067e-de40-4044-93e8-9c9ff1960715>.

¹³ Christia C, Poma G, Harrad S, de Wit CA, Sjoström Y, Leonards P, Lamoree M, Covaci A (2019) Occurrence of legacy and alternative plasticizers in indoor dust from various EU countries and implications for human exposure via dust ingestion and dermal absorption. *Environmental Research* 171: 204-212.

¹⁴ Kim H-H, Yang J-Y, Kim S-D, Yang S-H, Lee C-S, Shin D-C, Lim Y-W (2011) Health Risks Assessment in Children for Phthalate Exposure Associated with Childcare Facilities and Indoor Playgrounds. *Environ Anal Health Toxicol* 26: e2011008.

¹⁵ Hammel SC, Levasseur JL, Hoffman K, Phillips AL, Lorenzo AM, Calafat AM, Webster TF, Stapleton HM: Children's exposure to phthalates and non-phthalate plasticizers in the home: The TESIE study. *Environment International* 2019, 132:105061.

¹⁶ [Issuance of a Safe Use Determination for Exposure to Residents to Diisononyl Phthalate in Vinyl Flooring Products - OEHHA \(ca.gov\)](https://oehha.ca.gov/issuance-of-a-safe-use-determination-for-exposure-to-residents-to-diisononyl-phthalate-in-vinyl-flooring-products)



	DINP and DIDP continue to be used safely in vinyl flooring across numerous other regions, including Europe ¹⁷ and Canada.
Is the restriction necessary to protect the health of sensitive species?	<p>No.</p> <p>Since PVC flooring will account for <1% of total environmental release to phthalates (well below Ecology’s estimate of 374 lbs./year), this restriction is not expected to make any difference with respect to protecting the health of sensitive species.</p> <p>In addition, there is strong evidence that DINP¹⁸ and DIDP¹⁹ are not persistent, bioaccumulative or toxic to the environment. Hence, a restriction on use in vinyl flooring provides no benefit to the health of sensitive species.</p>

Conclusions

Overall, the criteria set out in RCW § 70A.350.040(3)(b) necessary to restrict DINP and DIDP use have not been met with respect to phthalate use in vinyl flooring. The proposed restriction offers no human health or environmental benefits.

As noted by RFCI, in its January 2022 comments on the Draft Regulatory Determinations Report to the Legislature,²⁰ there is strong evidence that vinyl flooring manufacturers no longer use phthalates, and that vinyl flooring containing phthalates is not sold at big box retail stores (since 2016). Ecology notes that DEHP and DINP are still used in a subset of products. If this is true, this subset is unlikely to represent any more than a negligible fraction of vinyl flooring. RFCI provides environmental product declaration (EPD) transparency summaries on its website,²¹ covering all vinyl flooring types, including heterogeneous and homogenous vinyl flooring, rigid core flooring, rubber flooring, vinyl tile and vinyl composite tile. **No vinyl flooring type on the site contains a phthalate.**

We urge Ecology to determine that no regulatory restrictions are necessary to address the use of phthalates in vinyl flooring. There is precedent for this type of action. Due to the lack of phthalate use in vinyl flooring, California’s Department of Toxic Substances Control (DTSC)

¹⁷ See footnote 4. For example - “ECHA concluded that dermal exposure (from articles which are in direct contact with the skin such as garments, plastic bags, shower curtains etc.) to DINP and DIDP are not expected to result in a risk for adults or the developing foetus in pregnant women.”

¹⁸ Munn S; Allanou R; Aschberger K; Berthault F; De Bruijn J; Musset C; O` Connor S; Pakalin S; Pellegrini G; Scheer S; Vegro S *European Union Risk Assessment Report. DINP, CAS No. 68515-48-0 and 28553-12-0, EINECS No. 271-090-9 and 249-079-5. EUR 20784 EN.*; European Commission: 2003.

¹⁹ Munn S; Allanou R; Aschberger K; Berthault F; De Bruijn J; Musset C; O` Connor S; Pakalin S; Pellegrini G; Scheer S; Vegro S *European Union Risk Assessment Report. DIDP, CAS No. 68515-49-1 and 26761-40-0, EINECS nO. 271-091-4 and 247-977-1. EUR 20785 EN.*; European Commission: 2003.

²⁰ See footnote 10.

²¹ [Environmental Product Declaration - RFCI](#)



removed vinyl flooring as a priority product under its Safer Consumer Products program in 2018.²²

²² DTSC, Draft Three Year Priority Product Work Plan (2018-2020) (February 2018) (removing “vinyl flooring” as a priority product; noting on page 16: “Note that the Building Products category in the 2015-2017 Work Plan ... focused on painting products, adhesives, sealants, and flooring. ... Although this category has been broadened from the prior Work Plan, we believe there is ample opportunity to streamline decision-making by leveraging progress made by manufacturers, retailers, large institutional buyers ..., and non-governmental agency efforts in reducing harmful chemical content in the built environment”); DTSC, Three Year Priority Product Work Plan (2018-2020) (May 1, 2018).

