



DEC 29 2025

Mr. Zhou Zhengmao
Secretary General
China Association of Flame Retardant Materials
zhouzhengmao@126.com

Dear Mr. Zhengmao:

This letter is in response to your Notice of Objection and request to establish a board of review to the publication of the proposed Prohibition of Certain Toxic Substances Regulations, 2022 (proposed Regulations), which was received by Environment and Climate Change Canada on June 27, 2022. The proposed Regulations were published in the *Canada Gazette*, Part I, on May 14, 2022.

I have carefully considered all the issues in your Notice of Objection, including those dealing with the nature and extent of the danger posed by decabromodiphenyl ethane (DBDPE) and the other questions and considerations that you brought to my attention. In my opinion, your Notice of Objection does not raise sufficient uncertainty or doubt in the science underlying the proposed Regulations that would warrant the establishment of a board of review under subsection 333(1) of the *Canadian Environmental Protection Act, 1999*. Therefore, I am denying your request, and I will not establish a board of review. The reasons for my decision are explained below and in the Annex to this letter.

Responses to comments in your Notice of Objection related to the outcomes of the screening assessment for DBDPE, which concluded that there is a risk of harm to the environment due to the persistence and widespread occurrence of DBDPE in the environment along with the potential for bioaccumulation and toxicity of its transformation products, are provided in the Annex.

The comments in your Notice of Objection regarding the development of the proposed Regulations have been considered alongside other comments received on these regulations. The specific points you have raised on the proposed Regulations and how they will be addressed are also summarized in the Annex to this letter. Your Notice of Objection raised specific concerns on the proposed

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exemptions for DBDPE, and to address these concerns, the proposed timeline of the DBDPE exemptions will be extended by an additional 10 years (i.e. extended from 5 years to 15 years for new products and from 20 years to 30 years for replacement parts) and the scope of these exemptions will be broadened to include all manufactured items and additional intermediate materials. This extended timeline will allow all stakeholders additional time for the research and development of alternatives, testing and certification, and transitioning their manufacturing and supply chains. Broadening the scope of the DBDPE exemptions will help to reduce the risk of prohibiting critical components, reduce the need to apply for permits under the proposed Regulations for non-exempted parts, and reduce compliance burden of stakeholders throughout the supply chain.

Please note that the comments on the proposed Regulations will be summarized in the Regulatory Impact Analysis Statement that will be published with the final *Prohibition of Certain Toxic Substances Regulations, 2025* (2025 Regulations) in the *Canada Gazette*, Part II, which describe how these matters have been addressed.

I appreciate your bringing your concerns to my attention. Please accept my best regards.

Yours truly,

A handwritten signature in blue ink, appearing to read "Julie Dabrusin". The signature is fluid and cursive, with a large initial "J" and a stylized "D".

The Honourable Julie Dabrusin, P.C., M.P.

Att.

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The following list provides a summary of comments provided in your Notice of Objection and my responses to those comments:

- 1. In your Notice of Objection, you provided comments that time is required when switching to alternatives which require research and development from material formulation development to downstream users' confirmation to the market's stable feedback, products with more components to transition will require more time, and that without suitably assessed alternatives, increased flammability of products will create health and safety risks.**

In addition to the concerns you have raised in your Notice of Objection, a number of similar comments were received during the public comment period for the proposed Regulations. To address these concerns, the proposed timeline of the DBDPE exemptions will be extended by an additional 10 years (i.e. extended from 5 years to 15 years for new products and from 20 years to 30 years for replacement parts) and the scope of the DBDPE exemptions will be broadened to include all manufactured items and additional intermediate materials. This extended timeline will allow all stakeholders additional time for the research and development of alternatives, testing and certification, and transitioning their manufacturing and supply chains. Broadening the scope of the DBDPE exemptions will help to reduce the risk of prohibiting critical components, reduce the need to apply for permits under the Regulations for non-exempted parts, and reduce compliance burden of stakeholders throughout the supply chain.

- 2. In your Notice of Objection, you commented that DBDPE is different from DecaBDE and that a major reason why DBDPE is listed as a hazardous substance is that DecaBDE is used as a surrogate for DBDPE in hazardous assessment, and this is problematic. Also you commented that the US National Academies of Sciences (NAS) released a study report in 2019, holding that OFRs used in consumer products cannot be made hazardous assessment as a single group; instead they should be sorted into 14 subgroups based on chemical structure, physicochemical properties, and predicted biologic activity. You also said that it is noteworthy that in the study, NAS grouped DBDPE and DecaBDE into separate subclasses.**

The use of analogues and read-across in risk assessment, much like how decaBDE is used in the [DBDPE screening assessment](#), is well established and internationally recognized. Canada's [approach to the use of analogues and read-across in risk](#)

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[assessment](#)¹ is consistent with OECD Guidance² and the approaches used in other jurisdictions, including by the European Chemicals Agency (ECHA)³.

DecaBDE is considered to be a suitably close analogue for DBDPE given the high degree of structural and functional similarities between the two substances, and the availability of relevant empirical information. In addition to Canada, the United Kingdom (UK) in 2007 and Sweden in 2024 used decaBDE as an analogue substance in their respective assessments of the target substance DBDPE⁴.

Structural and functional similarities between substances have typically translated to similarities in environmental fate, behaviour, and other properties. It is noted that some differences in molecular makeup, dimensions, and configurations exist between DBDPE and decaBDE that may affect the manner in which these molecules interact with their environment; however, these differences are well within what is typical for analogue-target differences found in regulatory risk assessments. The abundance of empirical data on decaBDE also factored into its selection as the most appropriate analogue for DBDPE. Expert judgement is applied in this process, where chemical properties, fate, or behaviour of decaBDE is read-across to DBDPE on a case-by-case (e.g., per endpoint or property) basis rather than in an absolute manner, and by taking into consideration the suitability and comparability of these attributes.

In addition, the physical-chemical and toxicological information presented in the NAS Report suggests that there are substances, other than DBDPE (e.g., pentaBDE and octaBDE), that are more comparable to decaBDE with respect to a particular set of properties considered by NAS, but it does not suggest that DBDPE is incomparable to decaBDE, nor does it suggest that some metabolites formation processes between these two substances are significantly different. It is also worth noting that these subclasses were developed by NAS for the purposes of assessing risk to human health, and therefore, may not have considered the behaviour of these substances in the environment when forming the subclasses. Thus, the NAS Report finding does not

¹ <https://www.canada.ca/en/health-canada/services/chemical-substances/fact-sheets/analogues-read-across-risk-assessment.html>.

² OECD, *Guidance on Grouping of Chemicals*, 2d ed., 13 April 2017: https://www.oecd.org/en/publications/guidance-on-grouping-of-chemicals-second-edition_9789264274679-en.html.

³ ECHA, Read-Across Assessment Framework (RAAF), 2017: https://echa.europa.eu/documents/10162/17221/raaf_en.pdf/614e5d61-891d-4154-8a47-87efebd1851a.

⁴ [Environmental risk evaluation report: 1,1'-\(Ethane-1,2-diyl\)bis\[penta-bromobenzene\]](#) by United Kingdom Environment Agency (2007) and [Substance Evaluation Conclusion and Evaluation Report for 1,1'-\(ethane-1,2-diyl\)bis\[pentabromobenzene\] \(DBDPE\)](#) by Sweden (2024).

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directly apply to the use of decaBDE for read-across to DBDPE in the screening assessment.

3. In your Notice of Objection, you noted that there is no precedent to control DBDPE in the world and it would be better to have further assessment of DBDPE, replacement feasibility and impacts.

Canada has been one of the first countries to lead action on flame retardants and was the first country to complete a risk assessment and propose risk management of DBDPE; however, Canada is not alone and since then international action for DBDPE is underway or has been finalized.

In March 2023, the European Union (EU), under the [European Chemicals Agency \(ECHA\)](#) published their [Regulatory strategy for flame retardants](#), which has a focus on brominated flame retardants and their prioritization for restriction, including DBDPE. This document noted that:

For decabromodiphenyl ethane (EC 284-366-9, DBDPE) data was requested regarding potential bioaccumulation under substance evaluation and has been assessed by the PBT expert group. The available data, including field studies, appear to confirm the persistent, bioaccumulative and toxic (PBT) properties of the substance.

Furthermore, on October 31, 2024, ECHA updated the [substance evaluation status for DBDPE](#) as “Concluded” and published a [Substance Evaluation Conclusion and Evaluation Report](#) that considers DBDPE to meet the [Regulation on the registration, evaluation, authorisation and restriction of chemicals \(REACH\)](#), Annex XIII very persistent and very bioaccumulative criteria, wide dispersive use and high aggregated tonnage concerns and the need for follow-up regulatory action at the EU level. The report notes the restriction of aromatic brominated flame retardants as proposed in ECHA’s Regulatory strategy for flame retardants appears as a logical continuation following a formal hazard identification as very persistent and very bioaccumulative for DBDPE.

On June 27, 2025, ECHA published a [proposal](#) for identification of DBDPE as a substance of very high concern (SVHC) on the basis of the criteria set out in REACH Article 57. A [REACH Annex XV report](#) was prepared by Sweden to support the proposal for identification of DBDPE as a SVHC.

In the United States (US), DBDPE is listed as a new chemical and is [subject to a Significant New Use Rule](#), which requires manufacturers and processors to notify the US [Environmental Protection Agency \(EPA\)](#) before a new use for the manufacture, import

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or processing of DBDPE begins. In June 2021, the EPA made [DBDPE subject to a Final Health and Safety Data Reporting rule](#) pursuant to the [Toxic Substances Control Act \(TSCA\)](#) as part of a grouping of 30 organohalogen flame retardants being evaluated for risks by the [Consumer Product Safety Commission \(CPSC\)](#). In January 2024, the CPSC published [Organohalogen Flame Retardant Scope Document: Polyhalogenated Benzene Aliphatic and Functionalized Subclass](#) report (the PHBzAF subclass, which includes DBDPE) which concludes that “the PHBzAF subclass has sufficient data to proceed with risk assessment.” Furthermore, DBDPE is restricted in some consumer products under general flame retardant restrictions in some states, such as [California](#), [Maine](#), and [New Hampshire](#).

In August of 2021, Australia published their [assessment of DBDPE](#) and found that DBDPE:

meets the persistence, bioaccumulation, adverse effects in aquatic and terrestrial organisms and long-range transport criteria of Annex D of the Stockholm Convention on Persistent Organic Pollutants. Therefore, on the basis of the current hazard information available, the assessed chemical could pose an unreasonable risk to the environment.

The Australian report also recommended control measures be developed under the [Industrial Chemicals Environmental Management \(Register\) Act 2021](#).

On June 26, 2025, the Australian government finalized its risk management for DBDPE after publishing a statutory public consultation on the proposed risk management for DBDPE in April 2025. The [Industrial Chemicals Environmental Management Standard for decabromodiphenyl ethane \(DBDPE\)](#) is a final scheduling decision to list DBDPE to Schedule 6 of the [Industrial Chemicals Environmental Management \(Register\) Instrument 2022](#). Schedule 6 of this instrument lists “Relevant industrial chemicals that are likely to cause serious or irreversible harm with essential uses” and specifies the risk management measures, including prohibitions and restrictions, that apply to the relevant industrial chemical or a mixture or article containing such a chemical (Australia, 2025).

Canadian risk management for DBDPE takes into consideration actions taken in jurisdictions, including the EU and the US, with the possibility of aligning where appropriate.