



Government
of Canada

Gouvernement
du Canada

CONSULTATION DOCUMENT

Proposed Risk Management Measure for

Hexabromocyclododecane (HBCD)

Chemical Abstracts Service Registry Number (CAS RN):
3194-55-6

Environment Canada
Health Canada

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1. OBJECTIVE OF CONSULTATION

The objective of this consultation document and the corresponding 60 day electronic public comment period is to solicit feedback from stakeholders and the public regarding the proposed risk management measure for hexabromocyclododecane (HBCD). Comments received will help to inform the development of the proposed risk management measure for publication in *Canada Gazette*, Part I.

2. BACKGROUND

2.1 Substance and Release Information

HBCD is a cyclo-aliphatic bromide produced by the bromination of cyclododecatriene (CAS RN 27070-59-3; Mack, 2004). HBCD is not manufactured in Canada but is primarily imported for use as a flame retardant in expanded (EPS) and extruded (XPS) polystyrene foam insulation materials in the construction industry (roofs, walls, and foundations) and other below grade applications (geofoam). EPS and XPS applications are estimated to amount to greater than 90% of HBCD usage (Environment Canada, 2010). HBCD is also known to be used in textile applications in the automotive industry.

Release of HBCD into the environment may occur during manufacture, processing, transportation, use, improper handling, improper storage or containment, product usage and disposal of the substance or products containing the substance.

The *Risk Management Approach for HBCD* was published in November 2011 (Canada, 2011b) (<http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=5F5A32FB-1>) and contains additional information on the use and potential release of HBCD.

2.2 Final Screening Assessment Report Conclusion for Hexabromocyclododecane

The final screening assessment report concluded that HBCD meets the criteria under subsection 64(a) of CEPA 1999 as it is entering or may be entering the environment in a quantity or a concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity. The report also concluded that HBCD meets the criteria for persistence and meets the criteria for bioaccumulation, as defined in the *Persistence and Bioaccumulation Regulations* made under CEPA 1999. The presence of HBCD in the environment results primarily from human activity.

In addition, the final screening assessment report concluded that HBCD meets the virtual elimination criteria set out in subsection 77(4) of CEPA 1999.

For further information on the final screening assessment report conclusion for HBCD, refer to the final screening assessment report (Canada, 2011a), available at: <http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/hexabromo-eng.php#a1#a1>.

2.3 Alternatives

An alternative to HBCD, in EPS and XPS foam applications, has been developed and is now becoming available. Interim quantities of the alternative chemical are available and large scale plant construction has commenced to make commercial volumes available. This phased production approach is intended to assist the EPS and XPS foam manufacturers in executing a smooth transition away from HBCD. Alternatives are known to exist for all other uses of HBCD (i.e., textile applications).

With respect to the HBCD alternative, a Design for the Environment alternatives assessment of HBCD is underway by the United States Environmental Protection Agency, as part of the HBCD Action Plan (Annex A). In Canada, any alternative substance would undergo assessment through either the Existing Substances Program, or New Substances Program to determine the potential impacts of substances to the health of Canadians or the environment.

2.4 Domestic Risk Management

Currently, there are no risk management measures in Canada aimed specifically at addressing HBCD.

The proposed risk management objective for HBCD is to achieve the lowest level of release of the substance, which is technically and economically feasible, into the Canadian environment (Canada, 2011b).

2.5 International Risk Management

HBCD is currently under consideration for listing to the Stockholm Convention and the Long Range Transboundary Air Pollution Protocol on Persistent Organic Pollutants. Risk management measures are also underway in other jurisdictions. These initiatives are being considered in the development of Canada's domestic measures for HBCD. Additional information and associated timelines are provided in Annex A.

The Government of Canada is actively engaged with other jurisdictions and under several international agreements. Wherever feasible, the Government of Canada endeavors to align its domestic measures with international actions.

3. PROPOSED RISK MANAGEMENT

3.1 Proposed Measure

To achieve the risk management objective, and as outlined in the proposed in the *Risk Management Approach for HBCD*, that was published in November 2011 (Canada, 2011b) (<http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=5F5A32FB-1>), the Government of Canada is proposing to implement regulations to prohibit the manufacture, use, sale, offer for sale, import and export of HBCD and products containing HBCD.

This will be achieved through the addition of HBCD to the *Prohibition of Certain Toxic Substances Regulations, 2005* (SOR/2005-41) [EC, 2005], herein referred to as “Prohibition Regulations”. The current version of the Prohibition Regulations is available at: www.ec.gc.ca/lcpe-cepa/eng/regulations/detailreg.cfm?intReg=87 .

To ensure Canada meets its international obligations, the addition of HBCD to the *Export Control List* (Schedule 3 of CEPA 1999) will be evaluated in due course to consider the implementation of export restrictions. Separate consultations will be undertaken for the export controls on HBCD and products containing HBCD when deemed timely and appropriate.

Annex B summarizes the main elements of the Prohibition Regulations currently in force. Amendments to the regulations have been proposed in *Canada Gazette*, Part I and are available at: <http://www.ec.gc.ca/lcpe-cepa/eng/Regulations/DetailReg.cfm?intReg=207> .

3.2 Elements of the Proposed Prohibition for HBCD

3.2.1 Intent

The intent of the proposed risk management measure is to prohibit the manufacture, import, use, sale, and offer for sale of HBCD and products containing HBCD effective from the coming into force of the regulations.

3.2.2 Application

The proposed risk management measure would apply to all Canadians, including chemical manufacturers, material processors, importers of product components and finished products, and the general public.

It is proposed to add HBCD to either Schedule 1 or Schedule 2, Part 2 of the Prohibition Regulations to prohibit their manufacture, use, sale, and offer for sale and import in Canada.

3.2.3 Permitted Uses

A time limited exemption is being considered such that the continued manufacture, import, use, sale, offer for sale of service, legacy, replacement and warranty parts for automobiles would be permitted for vehicle models that commenced production prior to the coming into force of the regulations. This permitted use would result in HBCD being included in Schedule 2, Part 2 of the Prohibition Regulations rather than Schedule 1, which sets out a general prohibition.

The Government of Canada is seeking input from interested stakeholders to determine the length of time required for this exemption as it is expected that the automotive industry will transition away from HBCD as new vehicle models are introduced and existing models undergo re-design. Information should be submitted as per the instructions in Section 6 of this document.

3.2.4 Coming Into Force

It is anticipated that the final regulations, to be published in *Canada Gazette*, Part II, will include a coming into force date whereby the regulations would only apply to the manufacture, import, use, sale, offer for sale of HBCD and products manufactured after the coming into force date. Currently, the coming into force date of December 31, 2016 is being considered.

Products containing HBCD manufactured before the coming into force date will not be affected by the regulations. Therefore, EPS and XPS foam insulations products that are in use can remain in place as they pose a negligible risk to the environment (Canada, 2011a).

Comments on this proposed coming into force date are welcomed and necessary to assist with a coordinated and timely transition away from HBCD to a suitable alternative.

4. SOCIO-ECONOMIC CONSIDERATIONS

Socio-economic factors have been considered in the selection process for a regulation and/or instrument respecting preventive or control actions, and in the development of the risk management objective(s). Socio-economic factors will also be considered in the development of regulations, instrument(s) and/or tool(s) as identified in the *Cabinet Directive on Streamlining Regulation* (Treasury Board of Canada Secretariat, 2007) and the guidance provided in the Treasury Board document *Assessing, Selecting, and Implementing Instruments for Government Action*.

The Government of Canada is moving forward with the implementation of a “One-for-One” Rule to control administrative burden on business, following the release of the Red Tape Reduction Commission’s Recommendations Report, January 2012 (<http://www.tbs-sct.gc.ca/media/nr-cp/2012/0118-eng.asp>). It provides specific advice to departments and agencies on how to reduce unnecessary burdens on business. It also proposes that the Government make systemic changes to the way it regulates businesses while ensuring that the environment and the health and safety of Canadians are not compromised.

The “One-for-One” Rule will reduce administrative burden (i.e. the time and resources spent by business to show compliance with government regulations) in two ways:

- It requires regulators to remove a regulation each time they introduce a new regulation that imposes administrative burdens.
- When a new or amended regulation increases administrative burden on business, regulators will be required to offset—from their existing regulations—an equal amount of administrative burden costs on business.

It is proposed that HBCD be added to the Prohibition Regulations. The “One-for-One” Rule may apply.

The proposed coming into force date of December 31, 2016 for the prohibition of HBCD has taken into consideration information provided by industry related to the time required to phase-out the use of HBCD and to implement a suitable alternative. This date also considers

international timelines to reduce the potential for trade, manufacturing and competitive challenges.

5. NEXT STEPS AND TIMELINES

Actions	Date
60-day electronic public consultation period on this Consultation Document	October 3 – December 2, 2012
Publication of the proposed regulations in <i>Canada Gazette</i> , Part I	No later than November 2013
Formal public comment period on the proposed regulations	No later than November 2013
Publication of the final regulations in <i>Canada Gazette</i> , Part II	No later than 18 months following the publication of the proposed instrument
Coming into force of the regulations	December 31, 2016

Industry and other interested stakeholders are invited to submit comments on the content of this consultation document or provide other information that would help to inform decision making. Please submit comments prior to December 2, 2012, since the development of the proposed regulations for HBCD will be moving forward after this date. Comments and information submissions should be submitted to the address provided below:

Chemicals Management Division
 Gatineau Quebec K1A 0H3
 Tel: 1-888-228-0530 / 819-956-9313
 Fax: 819-953-7155
 Email: GR-RM@ec.gc.ca

6. REFERENCES

Canada. 2011a. Screening Assessment of Hexabromocyclododecane, Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada. Available from: <http://www.ec.gc.ca/toxiques-toxics/Default.asp?lang=En&n=98E80CC6-1&xml=58F1CC80-7565-49EA-BC75-1739EC20DF1A>

Canada. 2011b. Risk Management Approach for Hexabromocyclododecane, Chemical Abstracts Service Registry Number 3194-55-6. Environment Canada, Health Canada. Available from: <http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=5F5A32FB-1>

Environment Canada. 2010. Confidential Environment Canada Study. Unpublished report. Gatineau (QC): Environment Canada, Chemicals Management Division.

[EC] Environment Canada, 2005. *Prohibition of Certain Toxic Substances Regulations, 2005* (SOR/2005-41). Available from: www.ec.gc.ca/lcpe-cepa/eng/regulations/detailreg.cfm?intReg=87 .

Mack AG. 2004. Flame retardants, halogenated. In: Kirk-Othmer Encyclopedia of Chemical Technology. Available from: <http://www.mrw.interscience.wiley.com/> [restricted access].

Treasury Board of Canada Secretariat. 2007. *Cabinet Directive on Streamlining Regulation*, section 4.4. Available from: <http://www.tbs-sct.gc.ca/ri-qr/directive/directive00-eng.asp>

ANNEX A: SUMMARY OF INTERNATIONAL RISK MANAGEMENT ACTIONS FOR HEXABROMOCYCLODODECANE

Jurisdiction	Action	Timeline/ Status
Stockholm Convention on Persistent Organic Pollutants (POPs)	At the fifth meeting of the POPs Review Committee (POPRC) in October 2009, the committee concluded that HBCD fulfilled the criteria in Annex D of the Convention for adverse effects, persistence, bioaccumulation and long-range transport. A risk profile for HBCD (Annex E) was discussed and accepted at the sixth POPRC meeting in October 2010. The Risk Management Evaluation for HBCD was prepared in accordance with Annex F and was accepted at the seventh POPRC meeting in October 2011. The document recommends that HBCD be listed to Annex A, B, and/or C. Additional information is being gathered and assessed by the working group on HBCD to determine if the recommendation could be refined to specify which Annex the Conference of the Parties (COP) should consider listing HBCD at COP6 (May 2013).	Decision to add HBCD to the Stockholm Convention is expected to be made in May 2013.
United Nations Economic Commission for Europe (UN ECE) Convention on Long Range Transboundary Air Pollution (LRTAP)	At the 27 th Session of the Executive Body, in December 2009, the Executive Body agreed that HBCD should be considered as a persistent organic pollutant as defined under the Protocol. Risk management options are currently being discussed under the Protocol.	
United States	In August 2010, the US EPA announced its Action Plan (http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/hbcd.html) for HBCD (US EPA, 2009).	
	Consider initiating rulemaking under TSCA section 5(b)(4) (http://www.epa.gov/oppt/existingchemicals/pubs/sect5b4.html) to add HBCD to the Concern List of chemicals which present or may present an unreasonable risk of injury to health or the environment.	EPA intends to publish this notice of proposed rulemaking by the end of 2011. Proposal pending.
	Initiate rulemaking under <u>TSCA section 5(a)(2)</u> to designate manufacture or processing of HBCD for use as a flame retardant in consumer textiles as a significant new use. The rule would require manufacturers (including importers) and processors to notify EPA before manufacturing (including importing) or processing HBCD for use in covered consumer textiles, other than for use in motor vehicles. For this proposed rule, the general SNUR article exemption for persons who import or process chemical substances as part of an article would not apply. A Significant New Use Rule (SNUR) was proposed on March 20, 2012 that would require manufacturers (including importers) and processors	Proposed SNUR (March 20, 2012)

	to notify EPA before manufacturing (including importing) or processing HBCD and articles containing HBCD for use in covered consumer textiles, other than for use in motor vehicles (US EPA, 2012).	
	Consider initiating rulemaking under TSCA section 6(a) (http://www.epa.gov/oppt/existingchemicals/pubs/sect5b4.html) to regulate HBCD. A section 6(a) action could take the form of a comprehensive ban on the manufacturing, processing, distribution in commerce and use of a chemical substance, or a more targeted regulation to address specific activities.	Proposal pending.
	Initiate rulemaking in 2011 to add HBCD to the Toxics Release Inventory (TRI) (http://www.epa.gov/TRI/). Listing will require manufacturers and importers to provide environmental release information.	Proposal pending.
	Conduct a Design for the Environment (DfE) (http://www.epa.gov/oppt/dfc) alternatives assessment of HBCD. The information developed may be used to encourage industry to move away from HBCD instead of, in addition to, or as part of any regulatory action taken under TSCA.	This partnership started work in April 2011 and is expected to publish a final report in 2012.
European Union	In June 2009, the European Chemical Agency (ECHA) recommended that HBCD be added to Annex XIV of the REACH (Registration, Evaluation, Authorisation and Restriction of Chemical substances) Regulation (EC No 1907/2006) (ECHA, 2009) on the basis that it is persistent, bioaccumulative and toxic, in accordance with the criteria set out in Annex III of the Regulation. Substances listed in Annex XIV, also known as the “Authorization List”, should not be placed on the market or used after a set date unless the company is granted an authorization. HBCD cannot be placed on the market or used after August 2015 unless authorization is granted.	HBCD can no longer be used after August 2015 unless and authorization is granted.
	The European Union’s Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC (European Parliament and Council of the European Union, 2003) promotes the collection and recycling of such equipment. The Directive requires separation of all brominated flame retardant plastics (including HBCD) from equipment prior to disposal, recovery or recycling.	In force since February 2003

Annex A References:

[ECHA] European Chemicals Agency. 2009. Press Release: *ECHA recommends strict control for seven substances of very high concern*, Helsinki, 02 June 2009.

European Parliament and Council of the European Union. 2003. Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE). 13.2.2003. L37/24.

European Commission. Available from: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:037:0024:0038:EN:PDF>

[US EPA] United States Environmental Protection Agency. 2009. Existing Chemicals Action Plans. Available from: <http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/hbcd.html>

[US EPA] United States Environmental Protection Agency. 2012. Significant New Use Rule for Hexabromocyclododecane used in consumer textiles. Available from:
<http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OPPT-2011-0489>

ANNEX B: SUMMARY OF THE PROHIBITION OF CERTAIN TOXIC SUBSTANCES REGULATIONS, 2005

The existing Prohibition Regulations prohibit the manufacture, use, sale, offer for sale and import of the substances listed in Schedule 1 and 2 to the Regulations. Sections of these regulations are briefly outlined below. The full text of the Prohibition Regulations is available on the CEPA Registry website: www.ec.gc.ca/lcpe-cepa/eng/regulations/detailreg.cfm?intReg=87 .

Application

Section 1 sets out the application of the Regulations applicable to the toxic substance listed in Schedule 1 and 2 of these Regulations.

Exceptions

Sections 2 and 3 describe the exemptions to the prohibitions that are permitted.

Prohibitions

Sections 4 and 5 set out the prohibition for manufacture, use, sale, offer for sale or import of a toxic substance (listed in Schedule 1 and 2) or a mixture or product containing that substance. Of note, section 4 indicates that no person shall manufacture, use, sale, offer for sale or import a toxic substance set out in Schedule 1 or a mixture or product containing any such toxic substance unless the substance is incidentally present.

Permit and Administrative Requirements

Sections 6 to 10 are related to the permit system established to allow the manufacture, use, sale, offer for sale or import of a toxic substance or a mixture or product containing such a substance referred to in either section 4 or 5. Those sections describe conditions of issuance of a permit, revocation provisions, reporting requests, laboratory testing requests, the format of a submission and record keeping. Sections 11, 12, and 14 are administrative in nature and set out requirements for reporting and laboratories and recordkeeping.

Schedules	
<i>Schedule 1</i>	Prohibited Toxic Substances
<i>Schedule 2, Part 1</i>	Permitted Concentration Limits
<i>Schedule 2, Part 2</i>	Permitted Uses
<i>Schedule 2, Part 3</i>	Reporting Thresholds