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[Home](#)

> [Publications](#)

> [ARCHIVED — Vol. 145 \(2011\)](#)

> [ARCHIVED — November 12, 2011](#)

> ARCHIVED — GOVERNMENT NOTICES

ARCHIVED — Vol. 145, No. 46 — November 12, 2011

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GOVERNMENT NOTICES

DEPARTMENT OF THE ENVIRONMENT

CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999

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Ministerial Condition

(Section 84 of the *Canadian Environmental Protection Act, 1999*)

Whereas the Minister of the Environment has imposed Ministerial Condition No. EAU-591 pertaining to the substance 1-Octanamine, N,N'-(1,10-decanediyl-di-1(4H)-pyridinyl-4-ylidene)bis-, hydrochloride (1:2), Chemical Abstracts Service No. 70775-75-6, on July 15, 2011;

Whereas the ministers of Health and of the Environment have assessed additional information pertaining to the substance;

And whereas the ministers suspect that the substance is toxic or capable of becoming toxic,

The Minister of the Environment hereby varies Ministerial Condition No. EAU-591 pursuant to subsection 84(3) of the *Canadian Environmental Protection Act, 1999*, in accordance with the following annex.

PETER KENT
Minister of the Environment

ANNEX

Variation to Ministerial Condition No. EAU-591

(Subsection 84(3) of the *Canadian Environmental Protection Act, 1999*)

1. Item 3 of Ministerial Condition No. EAU-591 is replaced by the following:

3. (1) The notifier may manufacture or import the substance in order to use it only at a concentration of 1.0% or less in personal care products.

(2) The notifier shall not manufacture or import the substance in amounts exceeding 21 000 kilograms per calendar year.

DEPARTMENT OF THE ENVIRONMENT**DEPARTMENT OF HEALTH**

CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999

Publication of final decision after screening assessment of a substance — hexabromocyclododecane(subsection 77(6) and section 68 of the Canadian Environmental Protection Act, 1999)

Whereas Cyclododecane, 1,2,5,6,9,10-hexabromo- CAS RN ([see footnote *](#)) 3194-55-6 (hexabromocyclododecane) is a substance on the *Domestic Substances List* identified under subsection 73(1) of the *Canadian Environmental Protection Act, 1999*;

Whereas the CAS Registry contains more than one number for hexabromocyclododecane and the subject screening assessment considers hexabromocyclododecane irrespective of the CAS RN;

Whereas a summary of the Screening Assessment conducted on hexabromocyclododecane pursuant to paragraph 68(b) and section 74 of the Act is annexed hereby;

Whereas hexabromocyclododecane meets one or more of the criteria set out in section 64 of the Act; and

Whereas the Minister of the Environment and the Minister of Health (the Ministers) are satisfied that hexabromocyclododecane meets the criteria set out in subsection 77(4) of the Act since it is persistent and bioaccumulative in accordance with the *Persistence and Bioaccumulation Regulations*, its presence in the environment results primarily from human activity and it is not a naturally occurring radionuclide or naturally occurring inorganic substance,

Therefore, notice is hereby given that the Ministers intend to recommend to His Excellency the Governor in Council that hexabromocyclododecane be added to Schedule 1 to the Act.

Notice is further given that the Ministers propose risk management measures to achieve the objective of virtually eliminating releases of hexabromocyclododecane.

Notice is furthermore given that the Ministers are releasing a risk management approach document for hexabromocyclododecane on the Government of Canada's Chemical Substances Web site (www.chemicalsubstances.gc.ca) to continue discussions with stakeholders on the manner in which the Ministers intend to develop a proposed regulation or instrument respecting preventive or control actions in relation to the substance.

Public comment period on the proposed risk management approach document

Any person may, within 60 days after publication of the proposed risk management approach document, file with the Minister of the Environment written comments on the risk management approach document. More information regarding the proposed risk management approach may be obtained from the Government of Canada's Chemical Substances Web site (www.chemicalsubstances.gc.ca). All comments must cite the *Canada Gazette*, Part I, and the date of publication of this notice and be sent to the Executive Director, Program Development and Engagement Division, Gatineau, Quebec K1A 0H3, 819-953-7155 (fax), substances@ec.gc.ca (email).

In accordance with section 313 of the *Canadian Environmental Protection Act, 1999*, any person who provides information in response to this notice may submit with the information a request that it be treated as confidential.

PETER KENT
Minister of the Environment
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Minister of Health

ANNEX

Summary of the Screening Assessment of Hexabromocyclododecane

Pursuant to section 74 and paragraph 68(b) of the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the Ministers of the Environment and of Health have conducted a screening assessment of hexabromocyclododecane (HBCD). HBCD, Chemical Abstracts Service Registry Number (CAS RN) 3194-55-6, also referred to as cyclododecane, 1,2,5,6,9,10-hexabromo-, was one of the substances on the *Domestic Substances List* (DSL) selected for a pilot project for screening assessments. During the categorization of the DSL, the substance was identified as a high priority for screening assessment as it met the criteria for persistence, bioaccumulation and inherent toxicity to aquatic life. It is recognized that the CAS Registry contains more than one number for HBCD (e.g. CAS RN 25637-99-4 refers to HBCD where the bromine substituents are not numbered). In this assessment, all available relevant data and studies that are of reliable quality were considered equally, and thus the assessment findings and scope apply to HBCD in general and are irrespective of the CAS RN.

The primary application of HBCD is as a flame retardant in polystyrene foams that are used as thermal insulation materials in the construction industry. A second application is the flame retarding of textiles for usage in residential and commercial upholstered furniture, transportation seating, wall coverings and draperies. Minor uses include addition to latex binders, adhesives, and paints and to high-impact polystyrene and styrene-acrylonitrile resins for electrical and electronic equipment.

As for the years and continents for which data is available since 2000, increases in the demand for HBCD have been reported. Global demand for HBCD was estimated at 16 700 tonnes in 2001, representing 8.2% of total demand for brominated flame retardants that year. Results from the *Notice with Respect to Certain Substances on the Domestic Substances List (DSL)*, published under section 71 and conducted for the year 2000, indicated that HBCD was not manufactured in Canada at that time. Amounts imported into the country in that year were in the range of 100 000 to 1 000 000 kg.

Environment

Monitoring studies document the presence of HBCD in many environmental media, with highest concentrations reported near urban/industrial sources. Analyses of sediment core samples show a clear trend of increasing concentrations of HBCD since the 1970s, confirming stability in deep sediments for periods of more than 30 years. As well, there is evidence of increasing HBCD levels in North American and European biota, both within species and along food chains.

Measured and modelled data indicate that HBCD will undergo primary degradation under some conditions; however, ultimate degradation in the environment is a slow process. Laboratory studies conducted using water, sediment, soil and sludge confirm the presence of primary degradation products, including 1,5,9-cyclododecatriene, a substance that, based on laboratory testing, is not readily biodegradable, is potentially toxic to aquatic life (with measured and predicted median lethal concentrations below 1 mg/L) and is potentially bioaccumulative in aquatic organisms.

Considered together, the lines of evidence from degradation studies and sediment monitoring data establish that HBCD can remain stable in the environment for relatively long periods. The substance therefore meets the criteria for persistence in water, soil, and sediment as outlined in the *Persistence and Bioaccumulation Regulations* under CEPA 1999 (i.e. half-life in water and soil of 182 days or more, and half-life in sediment of 365 days or more). Additionally, HBCD meets the criteria for persistence in air set out in the same regulations (i.e. half-life of 2 days or more, or being subject to atmospheric transport from the source to a remote area), based on a predicted atmospheric half-life of 2.13 days and evidence of occurrence in regions considered remote from potential sources, including the Arctic.

The weight of experimental and predicted data indicate that HBCD meets the criteria for bioaccumulation as specified in the *Persistence and Bioaccumulation Regulations* under CEPA 1999 (i.e. bioaccumulation factors or bioconcentration factors of 5 000 or more) and is likely to have significant bioaccumulation potential in the environment. Bioconcentration factors of 18 100 (rainbow trout) and 12 866 (steady state, fathead minnow) were obtained in laboratory studies. Field studies show evidence that bioaccumulation and biomagnification are occurring within food webs.

The substance HBCD has demonstrated toxicity in both aquatic and terrestrial species, with significant adverse effects on survival, reproduction and development reported in algae, daphnids

and annelid worms. Recent studies indicate potential impacts on the normal functioning of liver enzymes and thyroid hormones in fish.

Combustion of HBCD under certain uncontrolled conditions may lead to production of polybrominated dibenzo-*p*-dioxins (PBDDs) and dibenzofurans (PBDFs). Trace levels of these compounds and their precursors have been measured during combustion of flame-retarded polystyrene materials containing HBCD. These transformation products are brominated analogues of the Toxic Substances Management Policy Track 1 polychlorinated dibenzofurans and dibenzo-*p*-dioxins.

The widespread presence of HBCD in the environment warrants concern in light of strong evidence that the substance is environmentally persistent and bioaccumulative. In addition, the analysis of risk quotients determined that current HBCD concentrations in the Canadian environment have the potential to cause adverse effects in populations of pelagic and benthic organisms but are currently unlikely to result in direct adverse effects to soil organisms and wildlife.

Based on the information in this screening assessment, HBCD is entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity.

Human health

Exposures of the general population of Canada to HBCD may occur through oral and inhalation routes. Known sources of human exposure to HBCD include environmental media (ambient air, water, soil), household dust, indoor air, human milk, and HBCD-treated consumer products. HBCD may potentially be released from the matrix of a product over time through abrasion and usage, as it is not covalently bound.

The human health hazard risk characterization for HBCD was based primarily on the assessment of the European Union, with more recent data taken into consideration. The results of a limited database indicate that HBCD does not have genotoxic potential *in vitro* or *in vivo*, was not carcinogenic, and did not cause systemic toxicity in a chronic oral feeding study. The critical study for the characterization of risk to human health was a two-generation reproductive toxicity assay, with reported effects including decreased fertility and a weak hypothyroidism in pregnant dams and, at high doses, reversible hyperthyroidism in offspring from weaning to adulthood. Additionally, because of potential developmental effects, it was considered appropriate to consider a behavioural lowest-observed-adverse-effect level (LOAEL) for infants and children. The highest upper-bounding estimated intake of HBCD is expected to be in infants from ingestion of human milk and the mouthing of consumer products. A comparison of these exposure estimates with the critical effect levels identified in the two-generation reproductive toxicity assay and the behavioural LOAEL results in margins of exposure that are considered adequate to address uncertainties in the health effects and exposure databases. Based on the available information, HBCD is not entering the environment in a quantity or concentration or under conditions that constitute or may constitute a danger in Canada to human life or health.

Conclusion

Based on the information available for environment and human health considerations, it is concluded that HBCD meets one or more of the criteria set out in section 64 of CEPA 1999.

In addition, it is concluded that (1) hexabromocyclododecane meets the criteria for persistence and bioaccumulation potential as set out in the *Persistence and Bioaccumulation Regulations*; (2) its presence in the environment results primarily from human activity; and (3) it is not a naturally occurring radionuclide or a naturally occurring inorganic substance. Therefore, it meets the criteria set out in subsection 77(4) of CEPA 1999 and it is proposed that measures be taken that meet the objectives of implementing virtual elimination under subsection 65(3) of CEPA 1999.

The screening assessment report for this substance and the proposed risk management approach document are available on the Government of Canada's Chemical Substances Web site (www.chemicalsubstances.gc.ca).

Where relevant, research and monitoring will support verification of assumptions used during the screening assessment and, where appropriate, the performance of potential control measures

identified during the risk management phase.

[46-1-o]

DEPARTMENT OF FOREIGN AFFAIRS AND INTERNATIONAL TRADE

NOTICE OF INTENT TO CONDUCT A STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE CANADA-INDIA COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT

The Government of Canada has recently launched negotiations for a Comprehensive Economic Partnership Agreement (CEPA) with India. It is now conducting a Strategic Environmental Assessment (EA) to inform these negotiations. Comments are invited on any likely and significant environmental impacts which this prospective CEPA may have on Canada.

The Government of Canada is committed to sustainable development. Mutually supportive trade, investment and environmental policies can contribute to this objective. To this end, the Minister of International Trade has directed trade officials to improve their understanding of, and information based on, the relationship between trade and environmental issues at the earliest stages of decision making, and to do this through an open and inclusive process. Environmental assessments of trade negotiations are critical to this work.

This process is guided by the 2001 *Framework for Conducting Environmental Assessments of Trade Negotiations* and with direction from the 2010 *Cabinet Directive on the Environmental Assessment of Policy, Plan, and Program Proposals*.

For more information, please visit the following Web sites:

- Launch of Free Trade Negotiations with India at www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/india-inde.aspx; and
- Canada-India Joint Study Report at www.international.gc.ca/trade-agreements-accords-commerciaux/assets/pdfs/Canada-India_Joint_Study-Sept24-eng.pdf.

All interested parties are invited to submit their views on any likely and significant environmental impacts on Canada resulting from the prospective Canada-India CEPA by January 11, 2012.

Contributions can be sent by email, fax or mail to EAconsultationsEE@international.gc.ca (email), 613-944-0757 (fax), or Canada-India CEPA Environmental Assessment, Trade Policy and Negotiations Division I (TPE), Foreign Affairs and International Trade Canada, Lester B. Pearson Building, 125 Sussex Drive, Ottawa, Ontario K1A 0G2.

[46-1-o]

DEPARTMENT OF PUBLIC SAFETY AND EMERGENCY PREPAREDNESS

CRIMINAL CODE

Designation as fingerprint examiner

Pursuant to subsection 667(5) of the *Criminal Code*, I hereby designate the following persons of the Royal Canadian Mounted Police as fingerprint examiners:

Murray R. Baltus

Ken J. Kulak

Jennifer Lee Olfert

Terry Darren Harink

Paul Jameson Bouwman

Sigrid Heidi Tveita

Melanie A. Pratch

Donald Wilson Davidson

Marie-Ann Davidson

Ottawa, October 25, 2011

RICHARD WEX
Assistant Deputy Minister
Law Enforcement and Policing Branch

[46-1-o]

[Footnote *](#)

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