October 27, 2010

The Honourable Leona Aglukkaq, P.C., M.P.
Minister of Health
Health Canada
0916A Brooke Claxton Building, 16th Floor
Tunney's Pasture
Ottawa, Ontario K1A 0K9

The Honourable Jim Prentice, P.C., M.P.
Minister of the Environment
Environment Canada
Les Terrasses de la Chaudière, North Tower, 28th Floor
10 Wellington Street
Gatineau, Quebec K1A 0H3 ***Transmission by email***

Dear Minister Aglukkaq and Minister Prentice:

Re: Response to Draft Screening Assessment for *Cyclododecane, 1,2,5,6,9,10-hexabromo-(hexabromocyclododecane) (HBCD)(CAS No. 3194-55-6)*

The Canadian Environmental Law Association (CELA) and Chemicals Sensitivities Manitoba (CSM) are submitting the following commentary and recommendations for your careful consideration in response to the *Canada Gazette***,** Part I, Vol. 144, No. 35 (August 28, 2010) – Publication after screening assessment of a substance — Cyclododecane, 1,2,5,6,9,10-hexabromo- (hexabromocyclododecane), CAS No. 3194-55-6.

CELA (www.cela.ca) is a non-profit, public interest organization established in 1970 to use existing laws to protect the environment and to advocate for environmental law reform. It is also a legal aid clinic that provides legal services to citizens or citizens' groups who are unable to afford legal assistance. CELA also undertakes substantive environmental policy and legislation reform activities in the area of access to justice, pollution and health, energy policy, water sustainability and land use issues. Under its pollution and health program, CELA has been actively involved in matters that promote the prevention and elimination of toxic chemicals addressed in the *Canadian Environmental Protection Act* and related statutes, including the categorization process and implementation of the CMP. CELA has also been actively engaged in the international negotiation and implementation activities to promote the global elimination of persistent organic pollutants under the Stockholm Convention on Persistent Organic Pollutants.

Chemical Sensitivities Manitoba (CSM), a volunteer organization, was founded in 1997 by four individuals who saw the need to address the affects of toxic chemicals on human health and the possible link between the onset of chemical sensitivities and chemical exposure and, in particular, chronic low-level exposure. CSM raises awareness of the presence of toxic chemicals in the home and the environment and strongly advocates for the safe substitution of toxic substances.

The draft screening assessment results for HCBD is welcome and timely. HBCD was identified in 2001 in the Pilot Project for the categorization effort of the Domestic Substances List required under CEPA. The Pilot Project identified 123 substances that were anticipated to meet the categorization criteria.[1] Assessment results of Pilot Project chemicals were anticipated for completion by 2003. Despite delays, the relevancy of completing the screening assessment on HBCD has not diminished. In fact, there is a greater urgency for Canada to complete and finalize the assessment on HBCD.

HBCD has also been part of on-going global evaluations for elimination of toxic substances by the Persistent Organic Pollutants (POPs) Review Committee established under the Stockholm Convention on POPs. This committee discussed the HBCD risk profile at its latest meeting in Geneva, Switzerland, October 11-15, 2010 and the meeting concluded with 12 decisions, including:

> *POPRC adopted the risk profile for hexabromocyclododecane (HBCD), establishing an intersessional working group to prepare a draft risk management evaluation on HBCD.*[2]

In addition, a decision was made in December of 2009 under the Convention on Long-Range Transboundary Air Pollution (LRTAP) to review risk management options for HBCD.

The finding of toxicity in the Canadian assessment of HBCD should provide significant support to the global effort for the elimination of HBCD under the Stockholm Convention and LRTAP. Canada is thus well positioned to support the further activities for the development of risk management activities on HBCD, expected at the next Conference of the Parties (COP) meeting under the Stockholm Convention on POPs and the LRTAP process.

Specific Comments on the Draft Screening Level Risk Assessment for HBCD

1) Finding of toxicity under the *Canadian Environmental Protection Act 1999* (CEPA 1999)

Based on the results of the draft screening level risk assessment for HBCB, the government concluded that HBCD met the criteria outlined in section 64 of CEPA 1999. We support the government decision to consider HBCD as CEPA "toxic." A designation of CEPA toxic will trigger the requirements for developing risk management measures for HBCD.

Given the current global attention to HBCD under the Stockholm Convention on POPs, it would be a significant boost for global action on HBCD if Canada were able to finalize and propose the listing of HBCD to the Toxic Substances List (Schedule 1) prior to the next Conference of the Parties under the Stockholm Convention on POPs, scheduled for May 2011 in Geneva.

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[1] Chemicals Management Plan web portal. Screening Assessment Pilot Project. Accessed http://www.chemicalsubstanceschimiques.gc.ca/about-apropos/assess-eval/projet-pilot-project/index-eng.php

[2] IISD Reporting Services. Sixth Meeting of the Persistent Organic Pollutants Review Committee (POPRC6) to the Stockholm Convention on Persistent Organic Pollutants (POPs), 11-15 October 2010, Geneva, Switzerland: Highlights for Friday, 15 October 2010. Accessed at http://www.iisd.ca/chemical/pops/poprc6/

Recommendation: We urge the government to conclude that HBCD be designated as CEPA-toxic based on the conclusions of the draft screening level risk assessment on HBCD and list HBCD on the Toxic Substances List (Schedule 1).

Recommendation: We encourage the government to take the necessary steps to finalize the screening level risk assessment on HBCD prior to the next Conference of the Parties under the Stockholm Convention on POPs, scheduled in May 2011, in support of global action on HBCD.

2) Persistence and Bioaccumulation

Persistence

The draft screening level risk assessment finds that HBCD is persistent in air, water, soil and sediment. We support the conclusion on persistence based on the use of experimental and modelled data. In particular, we are pleased to see that these data appear to be in agreement with each other and resulted in similar conclusions on the persistence of HBCD. Generally, the modelled data validated the findings made through the consideration of experimental data.

The critical studies considered in the determination of persistence of HBCD were also considered in the review of HBCD under the Stockholm Convention on POPs, with particular focus on the Davis study conducted in 2005 and 2006.[3] The assessment document also presents information on the various biodegradation products of HCBD as a result of sequential debromination including tetrabromocyclododecane, dibromocyclododecadiene and 1,5,9-cyclododecatriene (CDT), the latter being the final debromination substance. Although there are limited data on this latter substance, there is evidence to indicate that it is readily bioaccumulative and has the potential to be persistent in the environment. Also, there is evidence to indicate that HBCD has the potential for biomagnification.[4]

The properties of the HBCD debromination substances are critical to the development of the appropriate management tools for HBCD. This situation is analogous to the evidence from other brominated flame retardants such as pentabrominated diphenyl ether (PBDE), octabrominated diphenyl ether (OBDE) and decabrominated diphenyl ether, all of which demonstrate debromination from higher molecular weight to more toxic lower molecular weight components. These lower molecular weight substances remain a significant concern for the environment and human health.

We note that there were very limited data available on the breakdown products with the exception of the final debromination product: 1,5,9-cyclododecatriene (CDT). However, additional efforts by the government should be directed towards the determination of toxicity of

[3] Environment Canada and Health Canada. *Draft Screening Assessment Cyclododecane, 1,2,5,6,9,10-hexabromo-(hexabromocyclododecane), CAS No. 3194-55-6.* August 2010.
[4] Ibid, pg. 12.

all the breakdown products from HBCD given the fact that data considered in the assessment confirms that 1,5,9-cyclododecatriene (CDT) is not readily biodegradable.[5]

Recommendation: We support the conclusion that HBCD is persistent in soil, air, water and sediment and meets the criteria for persistence under the Persistence and Bioaccumulation Regulations under CEPA 1999 and should thus be targeted for Virtual Elimination.

Recommendation: Further consideration should be given to determine the toxicity of the various degradation products of HBCD and in particular, the final breakdown product - 1, 5, 9-cyclododecatriene (CDT).

Bioaccumulation

The draft assessment report on HBCD presented substantial experimental data to support a conclusion that HBCD meets the bioaccumulation criteria outlined in the Persistence and Bioaccumulation Regulations. The finding of bioaccumulation derived from modelled data using QSARs was consistent with the findings of the POPs Review Committee.

The monitoring and biomonitoring data presented in the draft assessment demonstrate the prevalence of HBCD in the environment and in humans, confirming evidence that HCBD accumulates in all media and living organisms.

The evidence on bioaccumulation along with the persistence data should give strong support towards the development of regulatory measures for the elimination of HBCD and related educational measures as discussed further below.

Recommendation: We support the conclusion that HBCD meets the criteria for bioaccumulation as outlined in the Persistence and Bioaccumulation Regulations.

3) Long-range Transport Potential

The data on long-range potential of HBCD does not appear to be consistent. The use of modelled data to determine long range potential suggests that the substance has low potential to reach remote areas. However, subsequent studies suggest that the long-range transport potential for this chemical may rely on atmospheric pollutants to which HBCD sorbs, possibly because of its low volatility. The presence of HBCD has been detected in the air, sediment and biota of the Arctic region suggesting that it could result from either local sources or long-range atmospheric transport or a combination of both. Given the evidence presented in the assessment report there is sufficient reason to be concerned about the potential of long-range atmospheric transport of HBCD.

Continued monitoring efforts for the presence of HBCD in remote regions of Canada are essential to better understand the extent of HBCD contamination and its mode of transport.

[5] Ibid, pg. 9.

Recommendation: We support the conclusion of the draft screening level risk assessment that HBCD has long-range transport potential.

Recommendation: We recommended increased monitoring for the presence of HBCD in remote northern regions of Canada, with the intent to better understand the implications of long-range transport for this chemical.

4) Human Health Impacts

Although HBCD was identified and selected for the Categorization Pilot Project based on its ecological impacts, particularly its potential for persistence and bioaccumulation, understanding the potential for human health impacts of HBCD is warranted and valuable for the assessment process. This information should demonstrate the scope of knowledge on the impacts to human health from exposure to HBCD and identify data gaps.

The draft screening level risk assessment on HBCD presents substantial biomonitoring data (e.g. blood, breast milk), monitoring data for wildlife species, dust and various food items relevant for Canada. These data confirm the presence of HBCD throughout the environment and in humans underscoring the need for more research into potential human health impacts and ongoing monitoring of vulnerable ecosystems, particularly in the north and many regions of the Great Lakes and other coastal ecosystems where local communities depend on fish and wildlife as daily food sources.

Furthermore, the draft assessment presented various exposure scenarios for HBCD which demonstrated the extent to which humans can intake HBCD. Based on the exposure scenarios and monitoring data presented, there are some key observations related to HBCD exposure to consider:

- In general, dietary exposure to HBCD correlates to seafood consumption;
- In Canada, breast-fed infants (0-6 months) are the most highly exposed age group;
- Many consumer products contain HBCD which may migrate from the product as a result of abrasion and usage;
- There are significant differences in the use of release rates of HBCD when estimating oral exposures to HBCD (using exposure algorithms) as applied in the Canadian and European assessments (84 mg/m^2 of fabric surface area for Canada; 2000 mg/m^2 in European Union). Very limited information is provided in the assessment report to discuss and verify this approach. Infants aged 0-6 months were predicted to have higher level of exposure than toddlers aged 6 months-4 years;
- The route of exposure for HBCD is primarily through mouthing (mainly babies and toddlers) of articles containing the flame retardant, while exposure scenarios estimated through inhalation or dermal exposure were considered negligible.

Based on limited data from the European Union, HBCD is not expected to have genotoxic effects therefore no further consideration was given to this health effect. With emphasis on the two generation reproductive study on rats used by the European Union, the effects observed included

reduced thyroid follicles in exposed groups in both generations.[6] Another study considered in the assessment was a rat study in 2006 by Ericksson which demonstrated spontaneous behaviour changes at lowest dose level of 0.9 mg/kg-bw. No other study provided this type of finding. Therefore this end point was considered in risk characterization. With these and other findings in the draft assessment, it was determined that the margins of exposure for HBCD are "adequate to address the uncertainties in the exposure and health effects databases."[7]

In contrast, within the Stockholm Convention evaluation of HBCD, the draft risk profile [8] reviewed by the POPs Review Committee, several significant health impacts were noted, e.g., "HBCD may cause reproductive toxicity and long term toxicity whereas there is no concern for acute toxicity, irritation, sensitization, mutagenicity and carcinogenicity."[9] This draft report also notes that environmental background levels of HBCD have been increasing over the past decade and it is detected "in most human tissues, including serum and blood of pregnant women as well as in mothers' milk." Such evidence of rising levels of exposure are noted as being of growing concern in terms of the potential impact to babies and children, who may ingest more HBCD, than adults.

The Stockholm Convention HBCD risk profile report also highlights animal studies pointing to potential impacts of prental exposure to HBCD. These include:

- Rodent studies demonstrating potential effects on behaviour following prenatal exposure to HBCD.
- Additional animal data indicating developmental and neurotoxic potential of HBCD as a result of prenatal exposure.[10]

The potential human health impacts as noted in the Stockholm Convention draft risk profile for HBCD should be considered relevant to Canada's assessment process. Although the Canadian assessment included comments on carcinogencity, genotoxicity, mutagencity, reproductive and developmental toxicity, other health outcomes such as the potential for endocrine system toxicity or developmental neurotoxicity are just as important for inclusion in the Canadian risk assessment.

Despite these data gaps, the finding that HBCD is persistent, bioaccumulative, has long-range transport potential, is detected in all environmental media and food, is found and released in various consumer products, and animal evidence indicating potential impacts on the developing brain, the Canadian government should consider HBCD a potential concern for human health effects. It is therefore prudent that the Canadian government initiate additional appropriate measures to reduce and eventually eliminate HBCD exposures to vulnerable populations such as pregnant women, children and northern and coastal communities largely dependent on local fish and wildlife.

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[6] Ibid, pg. 36
[7] Ibid. pg 39.
[8] *Hexabromocyclododecane; Draft Risk Profil*e. April 2010.
[9] Ibid, pg. 22.
[10] Ibid. pg. 22.

Recommendation: We request that the government reviews more closely, the potential human health effects of HBCD and include this information in the final risk assessment.

Recommendation: We urge the government to take precautionary measures to reduce and eliminate the exposure of HBCD to vulnerable populations such as to pregnant women, babies, children and northern and coastal communities largely dependent on local fish and wildlife.

Scope of Proposed Risk Management of HBCD

As a toxic substance that should be eliminated, the management measures for HBCD need to be comprehensive in order to ensure progressive elimination of this chemical including as a legacy exposure source in the future, once current uses are discontinued. Given its use in durable products such as furniture and home insulation, management measures need to include a combination of regulatory measures and ongoing public education and awareness to ensure exposure is minimized.

The timeframe according to CEPA 1999 to manage toxic chemicals could take up to 4 years. We urge the government to ensure that management measures are developed and implemented as quickly as the law would permit. Canadian efforts in this regard would be consistent and supportive of the current process being undertaken through the Stockholm Convention on POPs which is considering HBCD as a POP candidate.

Hence, we make the following comments and recommendation in response to the risk management options for HBCD.[11]

1) Achieving virtual elimination through regulatory measures

Given that HBCD meets the criteria as set out in the Persistence and Bioaccumulation Regulations under CEPA 1999, it is appropriate to seek virtual elimination of this chemical. Virtual elimination has been identified as a foundational goal of CEPA 1999 which states 'the Government of Canada acknowledges the need to virtually eliminate the most persistent and bioaccumulative toxic substances …"[12]

The draft risk management scope document outlines that "in the case of virtual elimination, the risk management will be based on the objective of eliminating the release of any measurable quantity of HBCD to the environment." The government plans to achieve this objective through "regulations prohibiting the manufacture, use, sale, offer for sale, import and export of HBCD or products containing HBCD." We support these efforts including the government's proposal to achieve virtual elimination through a regulatory measure that aims for a prohibition of HBCD.

Virtual Elimination under section 65

[11] Environment Canada and Health Canada. *Risk Management for Cyclododecane, 1,2,5,6,9,10-hexabromo-(hexabromocyclododecane), CAS No. 3194-55-6. August 2010.*
[12] Canadian Environmental Protection Act 1999. Preamble.

Under section 65 of CEPA 1999, a regime for virtual elimination of persistent, bioaccumulative toxic chemicals is outlined. However, given the widespread and high volume usage of HBCD, and the uncertainty about the potential impacts to human health, we do not consider the regime as provided under section 65 to be appropriate or adequate for achieving virtual elimination of this chemical. The requirements under section 65 require the need to establish a limit of quantification (LoQ) for listing chemicals on the Virtual Elimination List (VE list). We have several concerns with the requirement to establish a LoQ including:

- The reliance on the most current and sensitive technology to establish a LoQ which can change with time;
- The substantial time required to establish a LoQ;
- The choice of end of pipe controls to fall below a LoQ, therefore detracting efforts for promoting elimination of the chemical at source; and
- Little or no consideration of safer alternatives to HBCD.

To date, the Canadian VE list lists two substances: Hexachlorobutadiene, and Perfluorooctane sulfonate (PFOS) and its salts.[13] Other persistent, bioaccumulative chemicals addressed under CEPA are currently being managed using various tools under CEPA 1999.

Based on the above comments, we urge the government to proceed with a regulatory measure for achieving virtual elimination of HBCD rather than the process required under section 65 of CEPA.

Regulatory measures to achieve virtual elimination

We are pleased to see the government's consideration of regulatory measures that will prohibit the manufacture, use, sale, offer for sale, import and **export** of HBCD or products containing HBCD. There is a level of certainty that the regulations will achieve the desired outcome – elimination of HBCD. Regulatory measures can help provide the necessary signals for the affected industries to consider and apply the use of safe alternatives for HBCD.

As regulatory measures are further considered and developed, it is worthwhile to note that the issue of exemptions may be requested for some applications of HBCD. We urge the government to decline such requests. If exceptional situations indicate that exemptions are unavoidable, e.g., where no safe substitutes are available, the government should ensure full public consultation, though we do not believe that justified exemptions would be required since sufficient time should be available for a transition phase before regulatory measures prohibiting HBCD are enacted.

We fully encourage the application of comprehensive regulatory measures proposed by the government, including the prohibition to export HBCD and consumer products containing the HBCD, as these measures indicate commitment towards the protection of Canadians and those of other countries from exposure to HBCD. This issue will be relevant for international efforts

[13] Government of Canada. CEPA Registry. Virtual Elimination List - Updated as of February 4, 2009. Accessed at http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=78DF111A-1&wsdoc=768FCB63-B797-7893-7D89-F291A9EF9572.

under the Stockholm Convention of POPs as well as the Convention on Long Range Transboundary Air Pollution. With the inclusion of export activities in the regulatory measures, Canada is well positioned to support the international work required on HBCD.

Recommendation: We support the intent of virtual elimination of HCBD because of its persistence, bioaccumulative and toxic properties.

Recommendation: We urge the government to proceed with comprehensive regulatory measures for achieving virtual elimination rather than the process required under section 65 of CEPA 1999.

Recommendation: We support the government's consideration of regulations prohibiting the manufacture, use, sale, offer for sale, import and export of HBCD or all products containing HBCD.

Recommendation: The government should discourage any requests for exemptions in the development of regulations aiming to achieve prohibitions.

2) Address full life cycle of HBCD – use, manufacture, release, disposal and recycling

The draft risk management scope document for HBCD indicates that the government is also "developing a risk management strategy for the waste sector (i.e., landfills, incinerators and recycling facilities) that will include HBCD-containing products and other toxics at end-of-life. As part of the Chemicals Management Plan, HBCD releases are being monitored from the waste sector." [14]

Although we welcome the opportunity to discuss the waste stream of toxic chemicals in a more comprehensive manner under the CMP, as discussed further below with respect to HBCD, we note the exclusion of measures to manage exposure to toxic substances from the ongoing use and degradation of products containing these substances, including HBCD. Dealing with the disposal of products containing HBCD is not enough since HBCD is used in many different durable goods, including furniture and insulation that will not be disposed of for many years. Since the chemical is not covalently bounded, it can be continually released to air and especially house dust, as noted in the draft screening assessment. Such releases can be greatly increased during renovation activities and can be higher for low income individuals where furniture and housing can be in a state of decline or disrepair.

Given that such exposures will occur for years and even decades into the future, public awareness about these exposure sources and their remediation is very important and is a crucial aspect of any risk management strategy. Similar to the legacy created by many decades of lead-containing paint, ongoing public awareness is necessary about these indoor exposure sources and pathways, particularly for children and pregnant women. For toxic legacies like HBCD, risk management efforts should always include an educational component and, at a minimum, should

[14] Government of Canada. *Risk Management Scope for Cyclododecane, 1,2,5,6,9,10-hexabromo-(hexabromocyclododecane) (HBCD)(CAS No. 3194-55-6).* August 2010. Accessed at http://www.ec.gc.ca/ese-ees/5F5A32FB-3FD2-438F-A0A3-E973380199AF/HBCD_RM_eng.pdf. pg 9.

always be coordinated with any educational and awareness-raising activities undertaken by the federal government about toxic substances. For example, the Health Canada "It's Your Health" fact sheet about PBDEs was updated in August of 2009 and provides a more comprehensive picture of exposure sources, particularly household dust, than was in the previous version. While this update is laudable, this educational activity by the federal government is not incorporated nor even referenced in the final Risk Management Strategy for PBDEs and it should be. Similarly, educational outreach on knowledge of such common exposure sources for HBCDs and how to reduce or prevent them should be part of the risk management strategy for HBCD.

With respect to the waste sector, given the high volume usage of HBCD, its widespread and diverse uses, and its toxicity, we find the government's proposal lacking as it does not adequately identify all the key elements of a risk management strategy that are required for this sector.

The waste sector is extensive and each component should have a management strategy. While jurisdiction over waste lies mainly with the provinces and territories, the federal government risk management for HBCD should set guidance for HBCD waste management. We further note that such efforts for HBCD and other chemicals addressed under the CMP need to occur in conjunction with the provinces and territories.

To contribute to the development of the risk management strategy for the waste sector, an overall objective should be to prohibit releases of HBCD or other toxic chemical by-products resulting from disposal methods, including recycling processes where HBCD may be redirected to new end-products potentially creating new sources of exposure. Hence, the overall objective would be served by describing specific measures that capture materials directed to recycling that may contain HBCD and ensuring re-use does not occur.

Based on our own efforts to promote effective pollution prevention strategies on toxic chemicals in the past several decades, we urge a second overarching objective which is to ensure that incineration technologies not be used to dispose of HBCD-containing products or stockpiles. Incineration combustion processes result in by-products that can be more toxic than the original substances. The draft assessment for HBCD recognized the formation of brominated dioxins and furans during the combustion of HBCD which are among the most toxic substances known. Therefore, incineration processes would only continue to perpetuate the formation of toxic chemicals and significantly hinder efforts towards source elimination of toxic chemicals like HBCD. Incineration is also a significant contributor to the degradation of local air quality while products of incineration such as fly ash waste, can end up in sludge that may be eventually used as a soil fertilizer.

The draft risk management scope report indicates the on-going monitoring efforts focused on the waste streams. While monitoring of the waste sector is justified, there is a need for manufacturers to clearly indicate where and how HBCD has been incorporated, given that it is not covalently bound and thus can create an ongoing source during use and disposal. It is important for clear information to be available as to the range of HBCD uses in articles as well as specifying when HBCD in present in consumer products; information that we believe should have been provided by affected industries during the Challenge phase. Such information is

necessary for educational efforts to allow the public to reduce exposure during product use and to assist with monitoring and waste management programs for these products after end-of-life.

The responsibility of the manufacturer using HBCD in consumer products should also be addressed. For example, given the broad range of products containing HBCD, manufacturers and retailers could implement take-back programs similar to those for electronics and drugs, in Canada.

Recommendation: The proposed Risk Management Strategy for HBCD should include a risk management strategy for waste, a key element that is consistently omitted within the Chemicals Management Plan, that is, to ensure the production of public educational materials that are integrated with the risk management strategy and that provide information about reducing ongoing risks from the pervasive occurrence and legacy of HBCD in common consumer products, particularly in durable goods that will be used for many years, even after HBCD is subject to regulatory bans as well as designated for virtual elimination.

Recommendation: We support the development of a management strategy for HBCD focused on the waste sector.

Recommendation: We recommend that an overarching objective for the waste sector risk management strategy should be the prohibition of the release of HBCD or other toxic chemical by-products resulting from disposal methods. It should be ensured that recycling processes capture HBCD-containing materials to prevent their use in new end-products,

Recommendation: We recommend that a second overarching objective for the waste sector risk management strategy is to ensure that incineration technologies (including those for industrial waste disposal or energy production) be disallowed for the disposal of HBCD-containing products or stockpiles, so as to avoid the production of highly toxic chemicals including dioxins and furans.

Recommendation: We request the immediate release of the results from the current waste stream monitoring efforts for review by the public but in a format that is comprehensible for public use.

Recommendation: We encourage monitoring of waste streams for HBCD and its by-products particularly in communities adjacent and downstream from these waste disposal locations.

Recommendation: We urge the government to conduct longitudinal monitoring programs on indoor sources of HBCD, particularly for dust.

Recommendation: We also recommend that continued monitoring be done on fish for the presence of HBCD and its breakdown products in areas like the Great Lakes, Lake Winnipeg, the far north and other bodies of water that are sources of food for the Canadian population.

3) Role of Safe Substitutes

Despite considerable international activity addressing the use and release of HBCD and the possible nomination of this chemical as a POP under the Stockholm Convention and consideration of risk management options through the LRTAP process, far less attention or discussion has been paid to address safer alternatives to this chemical. Within Canada and internationally, it is important to focus on inherently safer replacements so that prohibition of HBCD occurs in a timely fashion and is not replaced by other chemicals have not been assessed or by other less-studied but likely similarly toxic brominated flame retardants.

Recommendation: The government should enhance current efforts to identify and assess safer substitutes for HBCD.

Conclusion

The conclusion of the draft screening level risk assessment on HBCD is a significant finding for Canada. The finding that HBCD is persistent, bioaccumulative and toxic under CEPA 1999 places Canada in a valuable position to continue its support and contribution to the global efforts on HBCD, particularly as it has significant implications for Canada's northern regions and the potential impacts on children, the most vulnerable populations to toxic chemical exposures. We hope that the government will take every effort to expedite the process as permitted through current legislative obligations, to phase out HBCD in Canada.

If you wish to discuss any aspect of our submission, please do not hesitate to contact us. Thank you for your consideration.

Yours truly,
[Signatories]

Fe de Leon and Kathleen Cooper
Canadian Environmental Law Association
130 Spadina Avenue, Ste. 301
Toronto, ON M5V 2L4
Tel: 416-960-2284
Fax: 416-960-9392
Email: deleonf@cela.ca
CELA publication no.: 747
ISBN: 978-1-926602-72-1

Sandra Madray
Chemical Sensitivities Manitoba
71 Nicollet Avenue
Winnipeg, MB R2M 4X6
Tel: 204-256-9390
Email: madray@mts.net