



Government  
of Canada

Gouvernement  
du Canada

## RISK MANAGEMENT SCOPE

for

Chlorinated Naphthalenes

Chemical Abstracts Service Registry Number (CAS RN):  
70776-03-3

Environment Canada  
Health Canada

July 18, 2009

**Canada**

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## 1. ISSUE

### 1.1 Draft Screening Assessment Report Conclusion

The Ministers have conducted a screening assessment under section 74 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999) (Canada, 1999) to determine whether the following substances meet the definition of “toxic” as set out in section 64 of CEPA 1999: Naphthalene, chloro derivatives, Chemical Abstracts Service Registry Number (CAS RN)<sup>1</sup> 70776-03-3. These substances will be referred to throughout this document as chlorinated naphthalenes.

A notice summarizing the scientific considerations of the draft screening assessment report was published for chlorinated naphthalenes by Environment Canada and Health Canada in the *Canada Gazette*, Part I, on July 18, 2009, under subsection 77(1) of CEPA 1999. The draft screening assessment report proposes that chlorinated naphthalenes containing 2 to 8 chlorine atoms are 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. Chlorinated naphthalenes containing 2 to 8 chlorine atoms will be referred to throughout this document as polychlorinated naphthalenes.

The draft screening assessment report also proposes that polychlorinated naphthalenes meet the criteria for persistence and meet the criteria for bioaccumulation, as defined by the *Persistence and Bioaccumulation Regulations* made under CEPA 1999. The presence of polychlorinated naphthalenes in the environment results primarily from human activity.

For further information on the proposed draft screening assessment report conclusion for chlorinated naphthalenes, refer to the draft screening assessment report, available from [www.ec.gc.ca/ceparegistry/subs\\_list/draftassess.cfm](http://www.ec.gc.ca/ceparegistry/subs_list/draftassess.cfm). Please note that the conclusions described in this document and in the draft screening assessment report are preliminary and are subject to change.

### 1.2 Current Uses and Releases of Concern to the Environment

Historically, chlorinated naphthalenes were likely never manufactured in Canada. They were imported from U.S. manufacturers in the past with reported Canadian uses in organic chemicals, abrasive, polymer, component of formulation for plastic and synthetic resin. The production of chlorinated naphthalenes in the U.S. ceased completely by 1980, and chlorinated naphthalenes are not currently in commercial use in Canada, the U.S. and many other OECD countries.

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According to responses to a voluntary industry survey carried out by Environment Canada in 2003, there was no manufacturing of chlorinated naphthalenes in Canada during the years 2000-2002, inclusive. Only one company reported importing chlorinated naphthalenes during 2000-2002. These imports have since been discontinued.

Within Canada, chlorinated naphthalenes have been detected in arctic and urban air, water from Lake Ontario, fish and birds from the Great Lakes and environs, Pacific coast killer whales, seals and whales from the Canadian Arctic and Vancouver Island marmots.

The presence of chlorinated naphthalenes in the environment is thought to mainly result from human activity. A possible non-anthropogenic source of chlorinated naphthalenes is the formation through the natural combustion of wood (e.g., during forest fires). Although chlorinated naphthalenes have been reported to be released to the atmosphere from domestic combustion of wood, no studies documenting release from natural combustion have been identified.

Releases of chlorinated naphthalenes to the environment are predominantly due to incidental production. These are typically associated with processes involving chlorine, especially in the presence of heat, such as waste incineration, burning of coal and wood, cement and magnesium production, refining of metals such as aluminum, and drinking water chlorination. It is also thought that chlorinated naphthalenes may be produced as a by-product in the chlor-alkali process and pulp and paper production. The amount of chlorinated naphthalenes released into the environment from these sources has not been well characterized. Chlorinated naphthalenes are also contaminants found in commercial PCB formulations. PCB regulations have prohibited the manufacture, export and import of PCB since 1980 and set specific deadlines for ending their uses and storage which address the potential releases of chlorinated naphthalenes from PCB formulations.

## **2. OVERVIEW OF EXISTING RISK MANAGEMENT**

### **2.1 Existing Canadian Risk Management**

Currently, there are no known risk management measures related to chlorinated naphthalenes in Canada.

### **2.2 Existing International Risk Management**

The European Commission on behalf of its member states submitted a proposal for adding polychlorinated naphthalenes to the United Nations Economic Commission for Europe (UNECE) Protocol on Persistent Organic Pollutants to eliminate their production and use and for voluntary reporting of emissions inventories. In December 2006, at the 24th session of the Executive Body, the Parties to the Persistent Organic Pollutants Protocol decided that polychlorinated

naphthalenes are to be considered as a Persistent Organic Pollutants as defined under the Protocol. Polychlorinated naphthalenes have been suggested for addition to Annex I of the Protocol, which would require the elimination of production and use (Weem, 2007). It is expected that a decision on the addition of polychlorinated naphthalenes to the Annex(s) of the Persistent Organic Pollutants Protocol will be taken at the 27th session of the Executive Body in December 2009.

Waste containing chlorinated naphthalenes is characterized as hazardous waste under Annex VIII of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and is therefore subject to the requirements of the Convention.

### 3. PROPOSED RISK MANAGEMENT

Following a screening assessment of a substance under section 74 of CEPA 1999, a substance may be found to meet the criteria under section 64 of CEPA 1999. The Ministers can propose to take no further action with respect to the substance, add the substance to the Priority Substances List (PSL) for further assessment, or recommend the addition of the substance to the List of Toxic Substances in Schedule 1 of CEPA 1999. Under certain circumstances, the Ministers must make a specific proposal either to recommend addition to the List of Toxic Substances or to recommend the implementation of virtual elimination (or both). In this case, the Minister proposed to recommend the addition of polychlorinated naphthalenes to the List of Toxic Substances in Schedule 1 of CEPA 1999. As a result, the Ministers will develop a regulation or instrument respecting preventive or control actions to protect the health of Canadians and the environment from the potential effects of exposure to this substance.

The final screening assessment report will provide a conclusion as to whether or not polychlorinated naphthalenes meet the virtual elimination criteria set out in subsection 77(4) of CEPA 1999. If the following criteria are met, virtual elimination will be implemented:

- Polychlorinated naphthalenes meet the criteria under section 64 of CEPA 1999; and
- Polychlorinated naphthalenes meet the criteria for “persistence” and “bioaccumulation” as defined by the *Persistence and Bioaccumulation Regulations* made under CEPA 1999; and
- The presence of polychlorinated naphthalenes in the environment results primarily from human activity; and
- Polychlorinated naphthalenes are not naturally occurring radionuclides or naturally occurring inorganic substances.

In this case, the risk management of polychlorinated naphthalenes will be based on the objective of preventing introduction into the Canadian market and achieving the lowest level of release into the environment from industrial sources that is technically and economically feasible. In order to achieve this objective, the risk management being considered is the prohibition through regulations of the manufacture, use, sale, offer for sale and import of polychlorinated naphthalenes or a product containing them. The Government of Canada will also investigate and better characterize the incidental production of polychlorinated naphthalenes and consider possible management options from the incidental sources. The Government of Canada will follow the process specified in CEPA 1999 for substances that meet the criteria for virtual elimination. In accordance with the Government of Canada’s Toxic Substances Management

Policy, socio-economic factors will be taken into account when determining interim targets, appropriate management approaches and timelines for implementation.

If the final screening assessment report does not conclude that polychlorinated naphthalenes meet the conditions set out in subsection 77(4) of CEPA 1999, polychlorinated naphthalenes will not be subject to the virtual elimination provisions under CEPA 1999.

In accordance with the Government of Canada's *Cabinet Directive on Streamlining Regulation*<sup>2</sup>, the proposed risk management regulation(s), instrument(s) or tool(s) will be selected using a thorough, consistent and efficient approach and take into consideration the information available at this time.

#### 4. NEXT STEPS

Industry and other interested stakeholders are invited to submit comments on the content of this risk management scope or other information that would help to inform decision making. Please submit comments prior to September 16, 2009, since the Government of Canada will be moving forward with the development of the risk management approach after this date. Pursuant to section 313 of CEPA 1999, any person who provides information to the Minister of the Environment under CEPA 1999 may submit with the information a request that it be treated as confidential. The proposed risk management approach will be released with the publication of the final screening assessment report. At that time, there will be opportunity for further consultation. Comments and information submissions on the risk management scope should be submitted to the address provided below:

Existing Substances Division  
Gatineau QC K1A 0H3  
Tel.: 1-888-228-0530 / 819-956-9313  
Fax: 1-800-410-4314 / 819-953-4936  
Email: [existing.substances.existantes@ec.gc.ca](mailto:existing.substances.existantes@ec.gc.ca)

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<sup>2</sup> Section 4.4 of the *Cabinet Directive on Streamlining Regulation* states that "Departments and agencies are to: identify the appropriate instrument or mix of instruments, including regulatory and non-regulatory measures, and justify their application before submitting a regulatory proposal."

## 5. REFERENCES

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