

Notice requiring Pollution Prevention (P2) Plans for Dichloromethane

Commonly Asked Question

What is DCM?

Dichloromethane (DCM), also known as methylene chloride, is a versatile solvent used in a wide range of industrial processes, as well as being the active chemical in paint stripping and cleaning formulations. DCM is clear, is colourless, and has a mildly sweet odour. It can cause irritation if it gets on your skin. Breathing in the vapours can cause sluggishness, irritability, light-headedness, nausea, and headaches, depending on the amount breathed in.

What are the effects of DCM on the environment and on human health?

DCM was assessed as toxic under the 1988 *Canadian Environmental Protection Act (CEPA)*, based on its potential to cause harm to the environment and to human health. The assessment report published in 1993 stated that although DCM was entering into the environment in significant quantities, it generally did not occur in concentrations that would be expected to cause adverse effects on terrestrial wildlife; however, there are limited data suggesting that concentrations of DCM in water may be sufficient to cause adverse effects on some aquatic organisms. Also, DCM has been classified as being "probably carcinogenic to humans," and it may enter the environment in quantities or under conditions that may constitute a danger in Canada to human life or health.

What are the uses of DCM in Canada?

DCM is not produced in Canada, but it is imported. The total quantity of DCM used in Canada is estimated to have declined from 7.4 kilotonnes in 1995 to 7.1 kilotonnes in 1998, a 5% decline over three years. This includes the use of pure DCM, recycled DCM, and DCM contained in formulations. The decline in DCM use has occurred mainly in pharmaceuticals (tablet coatings), cleaning applications, adhesives formulations, and aircraft paint stripping. Major industrial applications of DCM include use in paint removers, as a solvent for degreasing, as a blowing agent in foam production, and for photoresistant stripping operations.

What is Government doing to reduce DCM releases under CEPA 1999?

A section 71 notice under the *Canadian Environmental Protection Act, 1999 (CEPA 1999)* was published in the *Canada Gazette* on August 12, 2000, and sent to stakeholders, requesting that they submit information on their import, use, and emissions of DCM for the years 1998 and 1999. On August 31, 2002, a proposed section 56 notice requiring subject facilities to prepare and implement pollution prevention (P2) plans was published. Environment Canada published a final

Pollution Prevention



Canada

notice on November 29, 2003. The objective is that P2 planning will reduce DCM releases by 85% from 1995 base year levels by January 1, 2007. Based on the results of P2 planning by industry, Environment Canada will consider the need for additional measures as necessary to protect the environment and the health of Canadians.

For the commercial paint stripping sector, a section 54 Code of Practice for the Safe Handling, Use and Storage of Dichloromethane-based Paint Strippers in Commercial Furniture Refinishing and Other Stripping Applications was published in the *Canada Gazette Part 1* on August 16, 2003. For consumer paint stripping applications, Health Canada published a brochure entitled "It's Your Health — The Safe Use of Paint Strippers."

Who has to prepare and implement a P2 plan for the DCM notice?

The notice targets persons who have used 1000 kilograms or more of DCM per year during one year or more since January 1, 1995, and are involved in one or more of the following activities: **aircraft paint stripping activities, including the stripping of aircraft components; flexible polyurethane foam blowing activities; pharmaceuticals and chemical intermediates manufacturing and tablet coating activities; industrial cleaning activities; and adhesives formulation activities.** Persons involved in these activities who have eliminated the use of DCM or have met the applicable percentage reduction outlined in the risk management objectives specified in the notice do not have to prepare and implement a P2 plan.

What is a "factor to consider"?

Factors to consider are specified in the notice to provide direction for the P2 planning process. When preparing your P2 plan, you must consider the factors listed in the notice and report back on how your plan has accounted for these factors. The notice, in Section 3, states factors you are to consider while developing and deciding which actions to take in your P2 plan, such as:

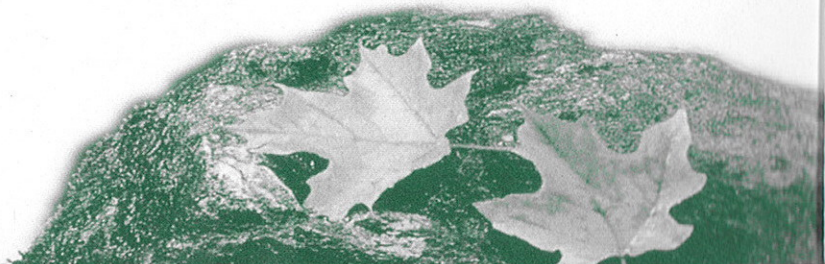
- Environment Canada's risk management objectives with respect to DCM (see next question),
- the fact that DCM has been declared toxic under CEPA, has been classified as being "probably carcinogenic to humans" according to the *Priority Substances List Assessment Report — Dichloromethane*, and occurs at concentrations that may be harmful to the environment and may constitute a danger in Canada to human life or health,
- in developing the plan, priority is to be given to P2 activities.

In the case where you do not think it is reasonable or practicable to consider one or more of the factors specified in the notice, you may apply for a waiver of the factor(s) before the end of the period specified in the notice for plan preparation.

What are the risk management objectives?

The risk management objectives are the desired environmental aims, goals, or outcomes to reduce the risk to the environment and human health. Environment Canada has stated its risk management objectives for DCM in Subsection 3(1) of the notice.

Environment Canada's overall risk management objective is to reduce aggregate DCM releases from the targeted persons by 85% from 1995 base year levels by **January 1, 2007.**



In order to achieve this objective, each targeted person will consider the following risk management objectives:

- Aircraft paint stripping activities, including the stripping of aircraft components: reduce annual releases by 50% by **December 1, 2004**, and by 80% by **January 1, 2007**.
- Flexible polyurethane foam blowing activities: reduce annual releases by 50% by **December 1, 2004**, and by 100% by **January 1, 2007**.
- Pharmaceutical and chemical intermediates manufacturing and tablet coating activities: reduce annual releases by 90% or install preventative or control technology with 90% capture efficiency by **December 1, 2004**.
- Industrial cleaning activities, except those described immediately below: reduce annual releases by 50% by **December 1, 2004**, and by 80% by **January 1, 2007**.
- Industrial cleaning activities to clean the mixing chamber of low-pressure reaction injection molding machines: **elimination** of this use by **January 1, 2007**.
- Adhesives formulation activities: reduce annual releases by 70% by **December 1, 2004**.

When is the deadline to implement my plan?

A P2 plan is considered implemented when all actions to be taken towards achieving the risk management objective through the P2 planning exercise have been taken and performance data have been collected and reported as required to determine whether or not the risk management objective has been achieved. For example, if you are involved in aircraft paint stripping, the target to achieve the risk management objective is January 1, 2007, and the implementation deadline is May 31, 2008. This allows for one full calendar year (2007), after taking actions to meet the risk management objective, in which to monitor results. Reporting those results in 2008 will determine if the risk management objective was met by January 1, 2007.

Implementation deadlines are stated in Section 5 of the notice.

I know I have to prepare a P2 plan, but what information do I actually have to send to Environment Canada?

Persons subject to the notice must submit the following information:

- Declaration of Preparation (Schedule 1: Declaration That a Pollution Prevention Plan Has Been Prepared and Is Being Implemented — Dichloromethane),
- Declaration of Implementation (Schedule 5: Declaration That a Pollution Prevention Plan Has Been Implemented — Dichloromethane), and
- Interim Progress Report (Schedule 4: Interim Progress Report — Dichloromethane) for facilities involved in aircraft paint stripping, including the stripping of aircraft components; flexible polyurethane foam blowing; and industrial cleaning activities.

Where can I find P2 options for DCM?

The Canadian Pollution Prevention Information Clearinghouse (CPPIC) is a database providing Canadians with some information to help them practise P2. Search over 1400 P2 references, ranging from fact sheets to case studies. In the database, you can do a keyword search to find P2 options for the use of DCM.

Do you want to know more about P2 Planning?

Here are some good sources of information about P2 and P2 planning:

- Environment Canada Pollution Prevention Planning Handbook and model plan:
www.ec.gc.ca/nopp/docs/p2p/hbook/en/index.cfm
- Pollution Prevention Planning Tutorial:
www.ec.gc.ca/NOPP/P2TUT/en/index_e.html
- Canadian Pollution Prevention Information Clearinghouse:
www.ec.gc.ca/cppic
- Pollution Prevention Success Stories:
www.ec.gc.ca/pp
- Pollution Prevention Fact Sheets:
www.ec.gc.ca/nopp/docs/fact/en/index.cfm

Here are some good sources of information about the P2 planning requirements in Part 4 of CEPA 1999:

- Frequently Asked Questions:
www.ec.gc.ca/nopp/docs/p2p/faq/en/index.cfm
- Guidelines for the Implementation of the Pollution Prevention Planning Provisions of Part 4 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999):
www.ec.gc.ca/nopp/docs/p2p/gbook/en/index.cfm

For further information on DCM

For further information, please visit the web site
www.ec.gc.ca/sop/display.cfm?sopID_n=15

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