



Re-evaluation Decision

RVD2025-03

3-Methyl-2-cyclohexen-1-one and Its Associated End-use Products

Final decision

(publié aussi en français)

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Re-evaluation decision for 3-methyl-2-cyclohexen-1-one and associated end-use products

Under the authority of the *Pest Control Products Act*, all registered pesticides must be re-evaluated by Health Canada's Pest Management Regulatory Agency (PMRA) to ensure that they meet current health and environmental standards and have value. The re-evaluation considers data and information from pesticide manufacturers, published scientific reports and other regulatory agencies, as well as comments received during public consultations. Health Canada applies internationally accepted risk assessment methods as well as current risk management approaches and policies.

This document presents the final re-evaluation decision¹ for the re-evaluation of 3-methyl-2-cyclohexen-1-one (also referred to as methylcyclohexenone), including the response to comments received, and the required label updates. All products containing 3-methyl-2-cyclohexen-1-one regulated under the *Pest Control Products Act* in Canada are subject to this re-evaluation decision.

Methylcyclohexenone is an anti-aggregation pheromone (semiochemical) registered as an insect repellent to deter Douglas-fir beetle, *Dendroctonus pseudotsugae*, and spruce beetle, *Dendroctonus rufipennis*, from attacking Douglas-fir trees and spruce trees, respectively. Methylcyclohexenone is a naturally occurring pheromone produced by beetles (*Dendroctonus sp.*), and released after they successfully attack a host tree.

Currently registered products containing methylcyclohexenone can be found in the Pesticide Product Information Database and in Appendix I. The Proposed Re-evaluation Decision PRVD2024-05, *3-Methyl-2-cyclohexen-1-one and its Associated End-use Products*² containing the evaluation of methylcyclohexenone and proposed decision, underwent a 90 day consultation period ending on 23 December 2024. PRVD2024-05 proposed continued registration of methylcyclohexenone products in Canada, with updates to label directions and precautions to reflect the current labelling standards and to improve clarity (Appendix IV).

Health Canada received comments during the public consultation. Commenters are listed in Appendix II. The comments are summarized in Appendix III along with the responses by Health Canada. The comments did not result in changes to the proposed re-evaluation decision as described in PRVD2024-05. A reference list of information used as the basis for the proposed re-evaluation decision is included in PRVD2024-05.

Re-evaluation decision for methylcyclohexenone

Health Canada has completed the re-evaluation of methylcyclohexenone. Under the authority of the *Pest Control Products Act*, Health Canada has completed all required evaluations and consultations and has determined that the registration of products containing

¹ "Decision statement" as required by subsection 28(5) of the *Pest Control Products Act*.

² "Consultation statement" as required by subsection 28(2) of the *Pest Control Products Act*.

methylcyclohexenone is required to be amended, in accordance with paragraph 21(2)(a) of the *Pest Control Products Act*. An evaluation of available scientific information respecting the health and environmental risks and value of methylcyclohexenone found that all uses of methylcyclohexenone products meet current standards for protection of human health and the environment and have acceptable value when used according to the amended conditions of registration which includes updates to standard label statements to reflect the current labelling standards and for clarity. Label amendments, as summarized below and listed in Appendix IV, are required.

Risk mitigation measures

Registered pesticide product labels include specific directions for use. Directions include risk mitigation measures to protect human health and the environment and must be followed by law. The required amendments, including any revised/updated label statements, as a result of the re-evaluation of methylcyclohexenone, are summarized below. Refer to Appendix IV for details.

Label improvements to meet current standards:

Human health

- Update personal protective equipment to current standards.

Environment

- Update environmental precautions for aquatic environment and disposal.

Implementation of the re-evaluation decision

Regulatory Directive DIR2018-01, *Policy on Cancellations and Amendments Following Re-evaluation and Special Review* provides information and general timelines regarding the implementation of post-market decisions, (for example, up to 24-month timeline for label amendments). The post-market decision considers potential health and environmental risks regarding the use of the pest control product, and its value, when establishing the implementation timelines.

Amendment timeframe

The implementation timeline of 24 months for the required amendments (label updates) for pest control products containing methylcyclohexenone is considered acceptable. These required amendments must be implemented within 24 months after the publication date of this decision document.

Refer to Appendix I for details on specific products impacted by this decision.

Next steps

To comply with this decision, the required amendments (mitigation measures and label updates) must be implemented on all product labels no later than 24 months after the publication date of this decision document. Accordingly, both registrants and retailers will have up to 24 months from the date of this decision document to transition to selling the product with the newly amended labels. Similarly, users will also have the same 24-month period from the date of this decision document to transition to using the newly amended labels, which will be available on the Public Registry.

Refer to Appendix I for details on specific products impacted by this decision.

Other information

Any person may file a notice of objection³ regarding this decision on methylcyclohexenone and its associated end-use products within 60 days from the date of publication of this Re-evaluation Decision. For more information regarding the basis for objecting (which must be based on scientific grounds), please refer to the Pesticides and Pest Management Section of the Canada.ca website (Public Engagement Portal - Public Engagement Forms - Notice of Objection) or contact PMRA's Pest Management Information Service.

The relevant confidential test data on which the decision is based (as referenced in PRVD2024-05) are available for public inspection, upon application, in PMRA's Reading Room. For more information, please contact the PMRA's Pest Management Information Service.

³ As per subsection 35(1) of the *Pest Control Products Act*.

Appendix I Registered products containing methylcyclohexenone in Canada

Table 1 Products containing methylcyclohexenone requiring (label) amendments¹

Registration number	Marketing class ²	Registrant	Product name	Formulation type	Active ingredient (%)
28638	T	Natural Resources Canada	MCH Technical	Liquid	98
28637	C	Isca Technologies Inc.	MCH Bubble Cap	Slow-Release Generator	97
29910	C	Chemtica Internacional S.A.	Beetle Block-MCH	Slow-Release Generator	97.5
32922	C	Synergy Semiochemical Corporation	Synergy Shield MCH	Slow-Release Generator	97

¹ As of 1 April 2025, excluding discontinued products or products with a submission for discontinuation.

² T = Technical Grade Active Ingredient, C = Commercial

Appendix II List of commenters to PRVD2024-05

List of commenters' affiliations for comments submitted in response to PRVD2024-05

Category	Commenter
Public ¹	General public

¹ One comment received two times from the same individual.

Appendix III Comments and responses

Health Canada received one written comment during the public consultation of the methylcyclohexenone proposed re-evaluation decision. Commenter affiliation is listed in Appendix II. The summarized comment and Health Canada's response is provided below.

1.0 Comment related to the health assessment

1.1 Comment

A general comment was received from the public related to the health assessment of methylcyclohexenone; specifically on the requirement of animal testing.

Health Canada response

Health Canada requires information on the potential toxic effects of pesticides to determine the potential hazards and risk to human health and the environment from pesticide exposure. Toxicity information typically includes, in part, animal testing data generated by pesticide manufacturers. These studies are conducted according to international testing protocols, which include requirements to ensure protection of the welfare of laboratory animals. While animal toxicity testing currently plays a critical role in assessing human health and environmental risks from exposure to pesticides, Health Canada supports the reduction of unnecessary animal testing where scientifically justified. To this end, Health Canada does consider requests from pesticide manufacturers to waive requirements for animal studies or to consider validated non-animal alternatives in hazard assessment when feasible and supported scientifically. Health Canada issued guidance for industry on the waiving of mammalian acute toxicity studies in 2013. Health Canada is also an active participant in various international activities aimed at reducing animal testing while ensuring the protection of human health and the environment. Continued analysis of international trends and approaches is important to ensure continued alignment and harmonization. While non-animal alternatives exist for certain types of tests (for example, in vitro tests for irritation), animal testing continues to provide a more accurate assessment of a variety of other potential effects, and more importantly, at what dose level effects may occur, so that this information can then be used to protect human health and the environment.

Appendix IV Label amendments for products containing methylcyclohexenone

Information on approved labels of currently registered products should not be removed unless it contradicts the label statements provided below.

For all products:

1. On the principal display, remove “Guarantee” and replace with “Active Ingredient”.

For the technical grade active ingredient:

2. Under DISPOSAL, update the following statement:

“Canadian manufacturers should dispose unwanted active ingredient and containers in accordance with municipal or provincial regulations. For additional details and clean up of spills, contact the manufacturer or the provincial regulatory agency.”

With:

“Canadian manufacturers should dispose of unwanted active ingredients and containers in accordance with municipal and provincial/territorial regulations. For additional details and cleanup of spills, contact the manufacturer and the provincial/territorial regulatory agency.”

3. Under PRECAUTIONS, remove the following statement:

“Do not contaminate irrigation water supplies or aquatic habitats by cleaning equipment or disposal of wastes.”

For commercial class products:

4. Under PRECAUTIONS, update the personal protective equipment (PPE) with the following statement:

“Wear a long-sleeved shirt, long pants, chemical-resistant gloves, protective eyewear (goggles or face shield), socks and shoes when handling the product.”

5. Update the following statement, and move to DIRECTIONS FOR USE:

“Do not contaminate irrigation water supplies or aquatic habitats by cleaning equipment or disposal of wastes.”

With:

“DO NOT contaminate drinking water supplies or aquatic habitats by disposal of unused or used dispensers.”

6. Replace “ENVIRONMENTAL HAZARDS” with “ENVIRONMENTAL PRECAUTIONS”.

7. Under DIRECTIONS FOR USE, update the following statement:

“DO NOT apply this product directly to freshwater habitats such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands, estuaries or marine habitats.”

With:

“As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.”

For PCP Reg Nos. 28637 and 29910:

8. Under ENVIRONMENTAL PRECAUTIONS, remove the following statement:

“This product is toxic to (wild) birds.”