

Benzophenone - information sheet

Methanone, diphenyl-,
(Benzophenone)

[CAS Registry Number](#) 119-61-9

On this page

- Overview
- About this substance
- Exposure of Canadians and the environment
- Key health and ecological effects (hazard)
- Risk assessment outcomes
 - Proposed screening assessment conclusions
- Preventive actions and reducing risk
- Important to know

Overview

- The Government of Canada conducted a science-based evaluation of benzophenone, called a [screening assessment](#), to address the potential for harm to Canadians and the environment.
- Under the [Canadian Environmental Protection Act, 1999](#) (CEPA 1999), the risk posed by a substance is determined by considering both its hazardous properties (its potential to cause adverse human health or ecological effects) and the amount of exposure there is to people and to the environment. A substance may have hazardous properties; however, the risk to human health or to the environment may be low depending upon the level of exposure.
 - More information on assessing risk can be found in the [Overview of Risk Assessment](#) and related fact sheets, particularly on [Types of Risk Assessment Documents](#) and the [Risk Assessment Toolbox](#).
- The ecological hazard and exposure potentials of benzophenone were classified using the [Ecological Risk Classification of Organic Substances Approach](#).
- As a result of this screening assessment, benzophenone is proposed to be harmful to human health but not to the environment, at current levels of exposure.

About this substance

- This screening assessment focuses on the substance methanone, diphenyl-, also known as benzophenone. This substance was assessed as part of the [third phase of the Chemicals Management Plan](#) (CMP).
- The Government [gathers information](#) on substances, including details on their commercial status in Canada, to support risk assessment and risk management of substances under the CMP.
- Benzophenone is a man-made chemical that may also occur naturally in the environment (for example, in some fruits and plants).
- In Canada, benzophenone is used in a range of products available to consumers, including cosmetics, paints and coatings, adhesives and sealants and pest control products. It is used in inks, toners and colourants, including inks used in some food packaging. It may also be used as a flavouring agent in foods.

Exposure of Canadians and the environment

- The general population of Canada may be exposed to benzophenone from indoor air, dust, and from food, including from the transfer of benzophenone into liquid contents from baby bottles.
- Canadians may also be exposed to benzophenone from the use of nail polishes, and interior paints and coatings.
- Benzophenone was identified as having low ecological exposure potential.

Key health and ecological effects (hazard)

- To identify effects for human health, international reports of data on benzophenone were reviewed. These include reviews by the [International Agency for Research on Cancer](#) (IARC) and the [European Food Safety Authority](#) (EFSA).
- IARC classified benzophenone as “possibly carcinogenic to humans”. Specifically, laboratory studies identified benzophenone as a potential carcinogen (cancer-causing agent).
- Laboratory studies also showed that exposure to benzophenone resulted in effects on the kidney.
- These were considered to be the important or “critical” effects used for characterizing the risk to human health in this assessment.
- Benzophenone was identified as having a low ecological hazard potential.

Risk assessment outcomes

- Based upon a comparison of levels to which Canadians can be exposed to benzophenone and levels associated with health effects, it was determined that benzophenone may pose a risk to human health. The

- exposures of concern were associated with the use of nail polish and interior paints and coatings.
- The Ecological Risk Classification of Organic Substances Approach characterized benzophenone as posing a low risk of harm to the environment.
 - The Government of Canada published the Draft Screening Assessment for Benzophenone on August 4, 2018. This publication has a 60-day public comment period ending on October 2, 2018.

Proposed screening assessment conclusions

- As a result of this assessment, the Government is proposing that benzophenone is harmful to human health at current levels of exposure.
- However, the Government is proposing that benzophenone is not entering the environment at levels that are harmful to the environment.

Preventive actions and reducing risk

- The Government of Canada published the Risk Management Scope for Benzophenone on August 4, 2018. This publication has a 60-day public comment period ending on October 2, 2018.
- If the proposed conclusion is confirmed in the final screening assessment, the Government will consider risk management actions to address human health concerns, including:
 - Possible addition of benzophenone to Health Canada's [Cosmetic Ingredient Hotlist](#). The Hotlist is used to communicate that certain substances may not be compliant with the Food and Drugs Act or the Cosmetic Regulations. Under Canadian legislation, cosmetics that contain substances that are harmful to the user cannot be sold.
 - The application of the [Significant New Activity](#) provisions that would require any proposed new manufacture, import or use of benzophenone in certain cosmetic products be subject to further assessment and would determine if the new activity requires further risk management.
 - A measure to reduce potential exposure of Canadians to benzophenone from the use of paint and/or coating products, such as reducing its concentration in paint and/or coating products that are available to a consumer in Canada.
- The Government is seeking further information to inform risk management decision-making. Details can be found in the risk management scope, including where to send information during the public comment period, ending October 2, 2018.

- The Government intends to add benzophenone to Schedule 1 of CEPA 1999, also called the [List of Toxic Substances](#).
- Further information and updates on risk management actions can be found in the CMP [Risk Management Actions](#) table and the [Two Year Rolling Risk Management Activities and Consultations Schedule](#).

Important to know

- Benzophenone can be found in certain products available to consumers. Canadians should follow any safety warnings and directions on product labels and [dispose of products](#) responsibly.
- Canadians who may be exposed to benzophenone in the workplace should consult with their employer and an occupational health and safety (OHS) representative about safe handling practices, applicable laws, and requirements under OHS legislation and the [Workplace Hazardous Materials Information System \(WHMIS\)](#).