

Summary of Public Comments received on the Challenge substance Benzyl chloride (CAS 100-44-7) Draft Screening Assessment Report and the Risk Management Scope Document for Batch 6

Comments on the draft screening assessment report and risk management scope document for Benzyl chloride to be addressed as part of the Chemicals Management Plan Challenge were provided by International Institute of Concern for Public Health (IICPH), Inuit Tapiriit Kanatami, Canadian Electricity Association (CEA), Dow Chemical Canada Inc., and Chemical Sensitivities Manitoba and Canadian Environmental Law Association.

A summary of comments and responses is included below, organized by topic:

- Risk Assessment
- Risk Management

TOPIC	COMMENT	RESPONSE
Risk Assessment	The Government of Canada should disclose the nature of the peer-review process and should consider a more extensive peer-review process.	The Government recognises the importance of transparency in outlining the peer-review/consultation process. The nature and extent of the peer review process for the screening assessments is outlined in the Introduction of the assessments and is considered appropriate for the nature of the products and the program objectives under which they are reviewed.
	There are gaps in the database on health effects and human exposure for benzyl chloride. However based on what is known about this substance, it should be designated as “toxic” under CEPA 1999.	The uncertainties in the database on health effects are acknowledged in the screening assessment.
	The absence of its residue or releases of benzyl chloride from its use as an intermediate is not substantiated and the waste from such process is not addressed.	Benzyl chloride is not an intentional ingredient in consumer products. Due to its use as a chemical intermediate in a closed system and its readily reactive nature, residues or releases are expected to be negligible. Under the National Pollutant Release Inventory, industrial facilities reported a release of only 1 kg in 2006.
	How can it be stated that exposure to food, environmental media and products containing residual amounts of benzyl chloride will be “low” with the very limited information on its presence?	Benzyl chloride was not identified in any other food contact application except for use in the production of a specific type of coating for fruit bins; as well, not all bins are coated with this product. Thus, exposure from food were considered negligible. Similarly, levels in drinking water or soil were considered to be

		negligible as the substance hydrolyzes rapidly. Given the limited information on the presence of residual benzyl chloride in products, conservative assumptions were used in characterizing exposure.
	The Government of Canada should expand the scope of the assessments to consider the impacts of exposure on vulnerable sub-populations including workers.	The Challenge screening assessments are based on consideration of the available data. Exposure estimates to chemicals from environmental media (e.g., food, ambient air, soil, consumer products) are derived for various age groups of the general population. If information is available which indicates that a specific sub-population could be susceptible, this information is taken into consideration when characterizing risk. Occupational exposures are not characterized in the screening assessments, as the focus of the assessments is on general population exposures. Hazard information obtained from occupational settings, in particular data from relevant epidemiological studies, is considered in the screening assessments. The information developed through the CMP process may be used to inform decisions concerning additional actions to minimize exposure to workers. CMP is working to communicate results to appropriate occupational health and safety jurisdictions.
	Canadian coal/oil fired generation facilities do not produce benzyl chloride emissions in amounts exceeding the Chemical Management Plan (CMP) threshold and should not be subjected to CMP guidelines. Also, the US EPA AP 42 emission factor used to calculate the release of benzyl chloride is not appropriate for calculating release at individual facilities.	There are no emission thresholds under the CMP notice. Companies are required to respond if manufacture or import quantity is above 100 kg. An AP-42 emission factor used to estimate release from one site with a detectable level of benzyl chloride was deemed not conclusive. New information from studies conducted by the Emissions Research and Measurement Section of Environment Canada at industrial facilities of coal-fired power plants, iron and steel facilities, solid and hazardous waste incinerators, etc. found that benzyl chloride was not released in any significant quantities.

	The screening assessment report fails to address the potential for long-range transport and the ensuing impacts, especially given that benzyl chloride persists in air.	Benzyl chloride is only moderately persistent in air, and, given that it has a low potential to bioaccumulate and has only moderate acute toxicity to aquatic organisms, long-range transport is not a concern.
Risk Management	Additional risk management or monitoring is needed to address the potential presence of benzyl chloride in water, soil, food and beverages, natural health products, pesticides, consumer products, and cosmetics, in waste streams or emissions from coal combustion. This substance should be added to the Cosmetic Ingredient Hotlist and labelled on consumer products.	Concentrations in drinking water, soil, food and beverages are expected to be negligible, as benzyl chloride reacts rapidly with water and the only food contact application identified was for use in the production of one specific type of coating for some fruit bins. Exposure from incidental contact of fruits packaged in bins coated with primer containing residual benzyl chloride was considered negligible. Exposure due to the use of natural health products containing a trace of benzyl chloride as a contaminant of the preservative, benzalkonium chloride, is predicted to be extremely low and thus to present minimal risk. The Government has established strict limits for the concentration of benzalkonium chloride itself as a preservative and does not permit its use in orally administered natural health products. Trace amounts of benzyl chloride may be present as manufacturing impurities in some pesticides containing quaternary ammonium chloride active ingredients. Pesticides undergo a full environmental and health risk assessment before they can be registered for use in Canada. Non-Canadian literature sources indicate that benzyl chloride may be released into the atmosphere from coal and oil fired power plants; however, new information indicates that no significant quantities of benzyl chloride were released from these types of industrial facilities in Canada. Canadian measurement data of ambient (outdoor) and indoor air were low.

		Waste streams were not indicated in the assessment report as significant sources of human exposure. Exposures due to the use of other products containing residual quantities of benzyl chloride are also predicted to be low. Although there is uncertainty associated with the limited information on the presence or concentrations of the substance in personal care products available in Canada, the estimates of exposure from the use of personal care products containing benzyl chloride were based on conservative assumptions and likely overestimate actual exposures. Nonetheless, addition to the Cosmetic Ingredient Hotlist is being proposed. As the exposure to the general public from residual benzyl chloride in consumer products was found to be low, labelling is not being proposed at this time.
	Given benzyl chloride's broad spectrum of uses and likely presence in consumer products as a residual, the proposed risk management scope is inadequate.	Several product exposure scenarios were identified in the assessment (e.g., hair conditioner); however, exposure of the Canadian general population due to the use of products containing residual quantities of benzyl chloride are predicted to be low. Options for risk management being considered focus on a requirement for notification of the federal government regarding any potential changes in the use-pattern for benzyl chloride so that the potential for exposure to the Canadian population does not substantially increase. Additionally, the Government plans to add benzyl chloride to the Cosmetic Ingredient Hotlist.
	There should be an elimination strategy for highly toxic chemicals due to the high volume usage of these substances.	Prohibition is one of the risk management options considered for substances that meet any of the criteria set out in section 64 of the Act. However, there are situations where a harmful substance can be used and managed such that there is no or negligible exposures to Canadians. In these situations, regulations or other controls may be developed to limit exposures and/or prevent any increases in

		exposures as a result of new uses of the substance. These actions are taken based on the specific risks associated with the substance.
	There is an open amendment and consultation underway for the <i>Environmental Emergency Regulations</i> where a number of substances are under consideration for addition. Benzyl Chloride should be added to this process. Which List of Substances/Part of the <i>Environmental Emergency Regulation</i> will list Benzyl Chloride, at what volume threshold, at what concentration? This addition should be allowed to follow the established process.	The Government has assessed benzyl chloride in the event that it were to enter the environment as a result of an environmental emergency and has concluded that the substance meets one of the criteria set out in Section 200 of CEPA 1999. Therefore, the Government intends to propose adding benzyl chloride to the <i>Environmental Emergency Regulations</i> with a proposed threshold of 4500kg. The government will determine the concentration of the substance and the part of the list in which the substance will be at a later time. However, it is too late for this proposed addition to be considered in the current ongoing amendments. Rather, it will go in at a future amendment to the Regulations and will follow the regulatory processes in place including public consultations.
	Other chemicals or processes that may be considered as safe alternatives to this chemical should be identified and given careful consideration in developing the management regime.	Consideration of alternatives is done as part of the development of the proposed risk management approach document. The Government of Canada welcomes input from stakeholders on alternatives for benzyl chloride. Stakeholders and members of the public are requested to submit such information via the <u>Challenge questionnaire</u> or by email to DSL.surveyco@ec.gc.ca