

Summary of Risk Assessment Conducted Pursuant to subsection 83(1) of the *Canadian Environmental Protection Act, 1999*

Significant New Activity No. 17639: Poly[oxy(methyl-1,2-ethanediyl)], α,α',α'' -1,2,3-propanetriyltris[ω -(oxiranylmethoxy)-, Chemical Abstracts Service Registry No. 37237-76-6

Regulatory Decisions

Under the provisions for Substances and Activities New to Canada in Part 5 of the *Canadian Environmental Protection Act, 1999* (CEPA 1999), and pursuant to section 83 of that Act, the Minister of the Environment and the Minister of Health have assessed information in respect of the substance, and have determined that it is not anticipated to enter the environment in a quantity or concentration or under conditions that have or may have an immediate or long term harmful effect on the environment or its biological diversity, constitute or may constitute a danger to the environment on which life depends, or constitute or may constitute a danger in Canada to human life or health.

However, a significant new activity (SNAc) notice was adopted based on uncertainties regarding potential human health impacts of the substance in relation to certain new activities. [SNAc Notice No. 17639](#) outlines information requirements for those activities and was published in the *Canada Gazette* Part I, Vol. 148, No. 32 – August 9, 2014. Notification is required prior to commencement of those activities identified as a potential risk to ensure the substance undergoes further assessment and risk management consideration.

Substance Identity

The substance is a polymer that can be classified as an aliphatic polyol polyglycidyl ether. The substance does not meet the [Reduced Regulatory Requirement criteria](#).

Notified Activities

The substance is proposed to be imported into Canada in quantities greater than 10 000 kg/yr for use in adhesives, coatings, sealants and composites.

Environmental Fate and Behaviour

Based on its physical and chemical properties, if released to the environment, the substance will tend to partition to the aquatic compartment. The substance is expected to be persistent in water based on its low hydrolysis half-life. The substance is not expected to be bioaccumulative based on its number average molecular weight and low oligomer content.

Ecological Assessment

Based on the available hazard information, the substance has low acute toxicity to daphnia ($EC_{50} > 100$ mg/L). A predicted no effect concentration was not calculated as the substance is expected to be of low inherent toxicity to aquatic organisms.

The notified and other potential activities in Canada were assessed to estimate the environmental exposure potential of the substance throughout its life cycle. Environmental exposure is expected to be low. A predicted environmental concentration was not calculated due to the substance's low inherent toxicity to aquatic organisms.

Based on a low hazard characterization and low exposure potential, the substance is unlikely to have an immediate or long-term harmful effect on the environment.

Human Health Assessment

Based on the available hazard information on the substance, the substance has a low potential for acute toxicity by the oral route of exposure ($LD_{50} > 2000$ mg/kg bw). The notified substance contains terminal epoxide groups until it undergoes curing. Some substances containing terminal epoxide groups have been associated with mutagenicity, genotoxicity, carcinogenicity, skin sensitization and reproductive toxicity.

When used in adhesives, coatings, sealants and composites which are applied in industrial applications, direct exposure of the general population is expected to be negligible. Indirect exposure of the general population from environmental media such as drinking water is expected to be low. However, if the substance is used in adhesives, coatings, sealants and grouts which are intended for application by consumers, an increased direct exposure potential via dermal contact may exist.

However, the potential use of the substance in consumer adhesives, coatings, sealants and grouts may significantly alter the exposure of the general public to the substance, primarily via the dermal route, upon contact with the uncured form during application activities. Given its potential for mutagenicity, genotoxicity, carcinogenicity, skin sensitization and reproductive toxicity, these potential uses may therefore result in the substance becoming harmful to human health. Consequently, more information is necessary to better characterize potential health risks.

Assessment Conclusion

When used as notified, the substance is not suspected to be harmful to human health or the environment according to the criteria under section 64 of CEPA 1999. However it is suspected that a significant new activity in relation to the substance may result in the substance meeting the criterion under paragraph 64(c).

Due to the potential risk to the general population related to mutagenicity, genotoxicity, carcinogenicity, skin sensitization and reproductive toxicity if the substance is used in adhesives, coatings, sealants and composites (including grouts) which are made available for consumer

application, a SNAc notice was issued to obtain information to ensure that the substance, in relation to these potential activities, undergoes further assessment. [SNAc Notice No. 17639](#) was published in the *Canada Gazette* Part I, Vol. 148, No. 32 on August 09, 2014.

A conclusion under CEPA 1999, on this substance, is not relevant to, nor does it preclude an assessment against the hazard criteria for Workplace Hazardous Materials Information System that are specified in the *Controlled Products Regulations* or *Hazardous Products Regulations* for products intended for the workplace.