

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

New Substances Notification No. 18069: Poly[oxy(alkyl-alkanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-hydroxyethyl methacrylate-blocked

### **Regulatory Decisions**

Under the provisions for Substances and Activities New to Canada in Part 5 of the *Canadian Environmental Protection Act, 1999* (CEPA), 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.

### **Substance Identity**

Poly[oxy(alkyl-alkanediyl)],  $\alpha$ -hydro- $\omega$ -hydroxy-, polymer with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-hydroxyethyl methacrylate-blocked (Confidential Accession No. 18881-8) is a polymer that can be classified as a poly(cycloalkylurethane,[ether]), terminated on both ends by acrylate groups. The substance does not meet the Reduced Regulatory Requirement criteria according to the New Substances Notification Regulations because of the presence of pendant acrylate groups.

### **Notified and Potential Activities**

The substance is proposed to be imported into Canada in quantities greater than 10 000 kg/yr for use as a coating resin. No other activities are anticipated in Canada.

### **Environmental Fate and Behaviour**

Based on its physical and chemical properties, if released to the environment, the substance is not expected to become widely distributed in the aquatic environment but rather partition to sediment and soil. The substance is expected to be persistent in these compartments because it is anticipated to resist abiotic and biotic degradation. The substance is not expected to bioaccumulate based on its large molecular weight making it unable to cross biological membranes.

### **Ecological Assessment**

Based on the available hazard information on the substance, the substance has low acute toxicity in aquatic invertebrates (no adverse effects observed in saturated solution). Due to the low water extractability of the substance, it is expected to have a low potential for toxicity in aquatic

organisms. A predicted no-effect concentration was not calculated for this substance given its low potential for ecological hazard.

No significant environmental releases are expected from the notified use of the substance, and given the low potential hazard associated with the substance; calculation of a predicted environmental concentration was not required.

Based on the low potential for ecological hazard and negligible releases from the notified and potential uses (coating resin using a different curing method), the substance is unlikely to cause ecological harm in Canada.

### **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 (median lethal dose > 2 000 mg/kg body weight). The notified substance contains some structural features that may be associated with irritation and sensitization. However when these components are contained within a polymer that is large (such as this substance), they are not considered to pose a hazard under any conditions.

When used as a coating resin in industrial applications, direct exposure of the general population is not expected. Indirect exposure of the general population from environmental media such as drinking water is also not expected. Direct and indirect exposures for potential uses are not expected to differ significantly from those of the notified use.

Based on the low likelihood of exposure in conjunction with the low hazard, the substance is not likely to pose a significant health risk to the general population, and is therefore unlikely to be harmful to human health.

### **Assessment Conclusion**

When used as notified or for other identified potential uses, the substance is not suspected to be harmful to human health or the environment according to the criteria under section 64 of CEPA.

A conclusion under CEPA, 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 the *Hazardous Products Regulations* for products intended for workplace use.