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

New Substances Notification No. 18602: 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene, 2-ethylhexyl 2-propenoate, 2-methylpropyl 2-methyl-2-propenoate and 3-(substitutedsilyl)propyl 2-methyl-2-propenoate, 2,2'-(1,2-diazenediyl)bis[2-methylbutanenitrile]-initiated

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 the 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

The polymer, 2-propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with ethenylbenzene, 2-ethylhexyl 2-propenoate, 2-methylpropyl 2-methyl-2-propenoate and 3-(substitutedsilyl)propyl 2-methyl-2-propenoate, 2,2'-(1,2-diazenediyl)bis[2-methylbutanenitrile]-initiated (Confidential Accession No. 19117-1), can be classified as a poly(alkyl). The substance does not meet the Reduced Regulatory Requirements criteria according to the *New Substances Notification Regulations* because it contains functional groups of concern.

Notified and Potential Activities

The substance is proposed to be imported into Canada in quantities greater than 10 000 kg/yr for use in industrial coatings. Other potential uses are also expected to be industrial in nature.

Environmental Fate and Behaviour

Based on its physical and chemical properties, if released to the environment, the substance will tend to partition to soil and sediment. The substance is expected to be persistent in soil and sediment because the polymer backbone is expected to be resistant to hydrolysis. The substance is not expected to bioaccumulate based on its high molecular weight, which will limit its ability to cross biological membranes.

Ecological Assessment

Based on the available hazard information, it has low acute toxicity in algae (median effective loading >100 mg/L). A predicted no-effect concentration was not calculated given the low potential for ecological risk.

The notified activities in Canada were assessed to estimate the environmental exposure potential of the substance throughout its life cycle. Environmental exposure from the notified activities are not expected, therefore, a predicted environmental concentration was not estimated.

Based on its low potential for environmental exposure, and its low ecotoxicity and bioavailability, the substance is unlikely to cause ecological harm in Canada.

Human Health Assessment

Based on the available hazard information, the substance has a low potential for acute toxicity by the oral route of exposure (median lethal dose >2000 mg/kg body weight). The structure of the substance contains functional groups which have been associated with toxicity via inhalation. However, the substance is expected to have a low vapour pressure due to its high molecular weight, indicating that the substance will not partition to air and therefore will not be available via inhalation.

When the notified substance is used in industrial coatings, direct exposure of the general population is not expected due to the industrial nature of this use. Consumers may come into contact with end-use products containing the substance, however direct exposure is not expected because the substance will be chemically reacted into a stable matrix once cured and will be unavailable for uptake. Therefore, direct exposure of the general population to the notified substance is not anticipated. Other potential uses are also expected to be industrial in nature, and there is no evidence of any potential application in which the uncured substance would be available in consumer products. Therefore, the potential for direct exposure of the general population from potential uses is expected to be negligible, similar to that of the notified use. Indirect exposure of the general population from environmental media such as drinking water is expected to be negligible for both notified and potential uses.

Based on the low potential for exposure and the low toxicity, 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 the substance is used as notified or for other identified potential uses, it 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.