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

New Substances Notification No. 18155: 1,3-Benzenedicarboxylic acid, polymer with butyl 2-methyl-2-propenoate, hexanedioic acid, alkanediol, α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)], 2-hydroxyethyl 2-methyl-2-propenoate, 1,1`-methylenebis[4-isocyanatobenzene], methyl 2-methyl-2-propenoate, 2-methyl-2-propenoic acid and 2-oxepanone

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

1,3-Benzenedicarboxylic acid, polymer with butyl 2-methyl-2-propenoate, hexanedioic acid, alkanediol, α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)], 2-hydroxyethyl 2-methyl-2-propenoate, 1,1`-methylenebis[4-isocyanatobenzene], methyl 2-methyl-2-propenoate, 2-methyl-2-propenoic acid and 2-oxepanone (Confidential Accession No. 18864-0) is a polymer that can be classified as a poly(alkyl) polymer. The substance does not meet the Reduced Regulatory Requirements criteria according to the New Substances Notification Regulations because of presence of terminal isocyanate groups.

Notified and Potential Activities

The substance is proposed to be manufactured in and/or imported into Canada in quantities greater than 10 000 kg/yr for use as an adhesive. Potential uses are expected to be similar to those notified.

Environmental Fate and Behaviour

Based on its physical and chemical properties, if released to the environment, the substance will tend to partition to sediment and soil. The substance is expected to be persistent in these compartments because the isocyanate terminal groups hydrolyze to form amines which can form insoluble polyureas resistant to abiotic and biotic degradation. The substance is not expected to bioaccumulate based on its high molecular weight, which will preclude passage across biological membranes.

Ecological Assessment

Based on the available hazard information from surrogate data on structurally related chemicals, the substance is expected to have low acute toxicity in aquatic organisms (median lethal concentration >100 mg/L). The predicted no-effect concentration was not calculated due to 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 activity is expected to be negligible. Therefore, the predicted environmental concentration for notified activities was not calculated as no exposure is expected.

Based on the low likelihood of exposure and low toxicity to aquatic organisms, the substance is unlikely to cause ecological harm in Canada.

Human Health Assessment

Based on the available hazard information on surrogate data on structurally related chemicals, the substance is expected to have a low potential for acute toxicity by the oral route of exposure (median lethal dose >2000 mg/kg). The notified substance is unlikely to be an eye or skin sensitizer or exhibit carcinogenicity via inhalation associated with terminal aromatic isocyanates due to its high molecular weight and low percentage of components of low molecular weight below 1000 Daltons.

When used as an adhesive, direct exposure of the general population is expected to be mainly by contact with the skin at very low levels. Indirect exposure of the general population from environmental media such as drinking water is expected to be low.

Based on the unlikelihood of direct or indirect exposure in conjunction with the low oral acute toxicity in mammalian test animals, 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, 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.