

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

New Substances Notification No. 18728: 2-Propenoic acid, 2-methyl-, alkyl ester, polymer with alkyl 2-propenoate, ethenylbenzene and heteromonocycle methyl 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 notified polymer is 2-propenoic acid, 2-methyl-, alkyl ester, polymer with alkyl 2-propenoate, ethenylbenzene and heteromonocycle methyl 2-methyl-2-propenoate, 2,2'-(1,2-diazenediyl) bis[2-methylbutanenitrile]-initiated (Confidential Accession No. 19230-8). The substance does not meet the Reduced Regulatory Requirements criteria according to the *New Substances Notification Regulations (Chemicals and Polymers)* because it contains functional groups of concern.

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 in automotive paint. 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 will tend to partition to soil and sediment. The substance is expected to be persistent in soil and sediment because its functional groups that are susceptible to degradation are embedded in the polymer matrix of the substance and therefore unavailable for degradation. The substance is not expected to bioaccumulate based on its low to moderate octanol-water partition coefficient ($\log K_{ow} < 5$) and its high molecular weight which will limit its ability to cross biological membranes.

Ecological Assessment

Based on the available hazard information on the substance and surrogate data on structurally related chemicals, the substance has low acute toxicity in algae (no adverse effects observed in

saturated solution) and low acute toxicity in fish (median lethal concentration >100 mg/L). A predicted no-effect concentration was not calculated given the low potential for ecological hazard.

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 not expected. The substance will be used in designated areas, will dry to a hard film once applied and will be unavailable for release. A predicted environmental concentration for notified activities was not estimated given the low potential for environmental exposure. No other activities were identified.

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

Human Health Assessment

Based on the available hazard information on the substance and surrogate data on structurally related chemicals, the substance has a low potential for acute toxicity by the oral route of exposure (median lethal dose >2000 mg/kg body weight) and a moderate potential for acute toxicity by the inhalation route of exposure. It is not expected to be a dermal sensitizer (0% response (Buehler scale)). It is expected to be weakly mutagenic and weakly clastogenic *in vitro* but not clastogenic *in vivo*. Therefore, the substance has a low potential for causing genetic damage.

When the notified substance is used in automotive coatings, 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 the product is cured and will be unavailable for uptake. Indirect exposure of the general population from environmental media such as drinking water is expected to be low given the low potential for environmental exposure. No other uses have been identified.

Based on the low potential for exposure, 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 *Hazardous Products Regulations* for products intended for the workplace.