

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

New Substances Notification No. 18389: Benzenesulfonic acid, mono-sec-alkyl derivatives, magnesium salts

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

Benzenesulfonic acid, mono-sec-alkyl derivatives, magnesium salts (Confidential Accession No: 18954-0) is a chemical that can be classified as an anionic surfactant.

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 additive for lubricants. 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 based on its low potential for biodegradation (10-30%). Despite its high octanol-water partition coefficient values ($\log K_{ow}$ 6-8), the substance has low water solubility (0.01 to 10 mg/L) resulting in low bioavailability in aquatic organisms which mitigates biological uptake and bioaccumulation.

Ecological Assessment

Based on the available hazard information on the substance and surrogate data on structurally related chemicals, it has low acute toxicity in fish, aquatic invertebrates and algae (median lethal concentration and median effective concentration >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 releases to water from

transportation, blending, use, and cleaning of containers is expected to be low. No other potential activities were identified for the notified substance in Canada.

Based on the low potential for toxicity and low potential for 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, it has a low potential for acute toxicity by the oral route of exposure (median lethal dose (LD₅₀) >2000 mg/kg body weight), a moderate potential for acute toxicity by the dermal route of exposure (LD₅₀ 300-2000 mg/kg body weight), and a moderate potential for subchronic toxicity following repeat oral doses in mammalian test animals (28-day no-observed-adverse-effect level 30-300 mg/kg-bw/d). It is a non-sensitizer and not mutagenic *in vitro* or *in vivo*. Therefore, the substance is unlikely to cause genetic damage.

When the notified substance is used as an additive for lubricants, it is intended for industrial or commercial use only and 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; based on its low water solubility and high adsorption coefficient, the substance is expected to sink to sediment and biodegrade over time if released to water and to adsorb strongly to soil if released to soils, resulting in limited migration. No potential uses other than a lubricant additive were identified; however, the substance could potentially be used in lubricants for consumer use. Direct exposure of the general population from potential consumer use of the substance is expected to be low due to the infrequent, short duration contact with the skin at low levels, and the low solubility of the substance which would mitigate dermal absorption.

Based on the low potential for exposure of the general population, 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.