

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

New Substances Notification 21082: 1-Propene, 1-chloro-2,3,3-trifluoro-, (1Z)- (Chemical Abstracts Service Registry Number 1263679-68-0)

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 chemical is 1-propene, 1-chloro-2,3,3-trifluoro-, (1Z)- (Chemical Abstracts Service Registry Number¹ 1263679-68-0).

Notified and potential uses

The substance is proposed to be imported into Canada in quantities greater than 10 000 kg/yr for the notified use as a solvent in various industrial applications. Potential uses may include other industrial applications.

Environmental fate and behaviour

Based on its physical and chemical properties, if the substance is released to the environment, it will tend to partition to air. The substance is expected to be persistent in this compartment based on its long atmospheric half-life (1-10 days). The substance is not expected to bioaccumulate based on its low predicted bioaccumulation and bioconcentration factors (< 250 L/kg).

Environmental risk assessment

Based on the available hazard information, the substance has low acute toxicity to algae (no adverse effects observed in saturated solutions), low to moderate acute toxicity to fish (median

¹ The Chemical Abstracts Service Registry Number is the property of the American Chemical Society and any use or redistribution, except as required in supporting regulatory requirements and/or for reports to the Government of Canada when the information and the reports are required by law or administrative policy, is not permitted without the prior, written permission of the American Chemical Society.

lethal concentration (LC₅₀) > 1 mg/L), and moderate acute toxicity to aquatic invertebrates (median effective concentration 1-100 mg/L). A predicted no-effect concentration was not calculated given the low potential for exposure to the aquatic environment.

The notified substance is highly volatile halogenated organic chemical and, as such, its abiotic effects were also assessed. The photochemical ozone creation potential, the ozone depletion potential, and the global warming potential of the substance are all considered to be low.

The notified and other potential activities in Canada were assessed to estimate the environmental exposure potential of the substance throughout its life cycle. Environmental exposure from the notified activities is expected to be mainly from use as a solvent by release of the substance to air at low rates. For potential activities such as manufacturing or use in other industrial applications, environmental exposure is expected to be quantitatively similar to that of the notified use. A predicted environmental concentration was not calculated due to the low potential for environmental exposure.

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

Human health risk assessment

Based on the available hazard information, the substance has a low acute toxicity by the inhalation route (LC₅₀ > 2500 ppm/4hr) and by the oral route (median lethal dose > 2000 mg/kg-body weight). It is expected to have low subchronic oral toxicity (28-day no-observed-effect level > 300 mg/kg-bw/day) and low subchronic toxicity following repeated inhalation doses in mammalian test animals (14-day no-observed-adverse-effect-concentration (NOAEC) > 3 mg/L/6hr/day; 90-day NOAEC > 3 mg/L/6hr/day). The substance has a low reproductive/developmental toxicity following repeated inhalation doses in mammalian test animals (NOAEC > 3 mg/L/6hr/day). It is not skin sensitizer (Stimulation Index < 3 in a local lymph node assay). It is not expected to be a cardiac sensitizer (0% response in dogs). It is not mutagenic or clastogenic *in vitro* and is not expected to be genotoxic *in vivo*. Therefore, the substance is unlikely to cause genetic damage.

When the notified substance is used as a solvent in industrial applications, direct exposure of the general population is not expected due to the industrial nature of the use. Indirect exposure of the general population from environmental media is not expected given the specialized industrial use of the substance, which results in little or no release to the environment. Potential uses of the substance include other industrial applications, where direct and indirect exposure of the general population is expected to be at levels that do not pose a concern, similar to that of the notified use.

Based on the low toxicity and 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.

The assumptions made in the assessment are considered to be adequately protective for the general population as well as for subpopulations who may be more susceptible or highly exposed.

Assessment conclusion

When the substance is used as notified or for other identified potential activities, it is not expected to be harmful to human health or the environment according to the criteria under section 64 of the Act.

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 the workplace.