

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

New Substances Notification 20771: Acetamide, *N*-[2-(2-hydroxyethoxy)ethyl]- (Chemical Abstracts Service Registry Number 118974-46-2)

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 acetamide, *N*-[2-(2-hydroxyethoxy)ethyl]- (Chemical Abstracts Service Registry Number¹ 118974-46-2).

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 moisturizing agent in consumer products. No other uses are anticipated in Canada.

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 water. The substance is not expected to be persistent in this compartment based on very high biodegradation (> 85% over 28 days). The substance is not expected to bioaccumulate based on a very low octanol/water partition coefficient ($\log K_{ow} \leq 0$) and low predicted bioconcentration factor ($BCF < 250 \text{ L/kg}$).

Environmental risk assessment

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Based on the available hazard information, the substance is expected to have low to moderate acute toxicity to fish (median lethal concentration [LC₅₀] > 1 mg/L), aquatic invertebrates (median effective concentration [EC₅₀] > 1 mg/L), and algae (EC₅₀ > 1 mg/L), and low chronic toxicity to aquatic invertebrates (EC₅₀ > 10 mg/L). A predicted no-effect concentration was not calculated given the low potential for hazard to the environment.

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 is expected to be mainly from processing and use by consumers from release of the substance to water at low rates. A predicted environmental concentration was not calculated due to the low potential for ecotoxicity. No potential activities that could significantly increase environmental risks compared to those notified were identified.

Based on the low potential for ecotoxicity and 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 is expected to have a low acute toxicity by the oral route (median lethal dose [LD₅₀] > 2000 mg/kg body weight) and has a low acute toxicity by the dermal route (LD₅₀ > 1000 mg/kg body weight with no adverse effects at the highest dose tested) and low subchronic and reproductive/developmental toxicity following repeated oral doses in mammalian test animals (minimum 28-day no-observed-adverse-effect level > 300 mg/kg-bw/day). It is not a dermal sensitizer *in vitro*. It is not mutagenic or clastogenic *in vitro*. Therefore, the substance is unlikely to cause genetic damage.

When the notified substance is used as a moisturizing agent in consumer products, direct exposure of the general population is expected to be mainly by contact with the skin; however, based on the available hazard information, absorption through the skin is expected to be limited. Indirect exposure of the general population from environmental media such as drinking water is expected to be at low levels given the low potential for environmental release. No potential uses that could significantly increase human health risks compared to the notified uses were identified.

Based on 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.

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, 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.