

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

New Substances Notification No. 18087: Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, chlorides, compounds with attapulgite

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

Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, chlorides, compounds with attapulgite (Chemical Abstracts Service Registry No. 68953-57-1) is a chemical that can be classified as an organoclay.

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 oil field applications. Potential uses may include offshore oil drilling, coatings and cosmetics.

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 (mineral component) is expected to be persistent in water, sediment and soil as it is not readily biodegradable due to the cationic moiety, low solubility and low bioavailability; the organic component of the substance is expected to degrade based on the results of a biodegradation study. The substance is not expected to bioaccumulate based on its particulate nature, indicating limited bioavailability, uptake, and magnification in aquatic systems.

Ecological Assessment

Based on the available hazard information on the substance, the substance has moderate acute toxicity in aquatic organisms (median effective concentration 1-100 mg/L). A predicted no effect concentration was not calculated for this substance given it is a surface modified organic mineral and its low potential for ecological hazard.

No significant releases are expected from the notified uses of the substance and, given the low potential hazard associated with the substance; calculation of a predicted environmental concentration for notified or potential uses was not required.

Based on the low potential for ecological hazard and notified uses, the substance is unlikely to cause ecological harm in Canada.

Human Health Assessment

Based on the available hazard information on the substance, individual components of 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 >2 000 mg/kg body weight). The notified substance is not likely to exhibit systemic toxicity and is not likely to be a skin or eye irritant or a sensitizer. It is not mutagenic *in vitro*. Therefore, the substance is unlikely to cause genetic damage.

When used in oil field applications, 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. Potential use as a cosmetic ingredient would directly expose the general population through skin contact.

Based on the low hazard of the notified substance, the substance is not likely to pose a significant health risk to the general population for the notified or potential uses, and is therefore unlikely to be harmful to human health.

Assessment Conclusion

When used as notified or for other identified potential uses, 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.