

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

EMAL 0S

This document is a high-level summary intended to provide the general public with an overview of product safety for this substance. It is not intended to replace the Safety Data Sheet, which is available from suppliers and should be referred to for full details of recommended safety procedures for each type of use. It is not intended to replace or supersede manufacturer's instructions and warnings for their consumer products containing this substance.

1. Substance Identity

Brand Name: EMAL 0S

Chemical Name: Sodium lauryl sulfate

CAS Number: 151-21-3

2. Uses and Applications

EMAL 0S is a primary anionic surfactant of vegetable origin which is used as a foaming detergent. It is commonly found in washing and cleaning products, air fresheners, cosmetic products, polishes, construction chemicals, fuels, fertilizers, textile articles, coatings and inks, water treatment, pest control and plant protection products. Furthermore, it is used in lubricants and greases and as solvent or adhesive in a wide variety of applications.

It is an anionic surfactant with a very good foaming power (dense foam), even at very diluted concentration and with excellent detergency properties, especially on particulate soils. It is compatible and therefore, mixable with other anionic, non-ionic and amphoteric surfactants.

3. Physical/chemical properties

EMAL 0S has no identified physicochemical hazards.

Property	Value
Physical state	Crystalline powder
Colour	White to light yellow
Odour	Slightly characteristic odour
pH	7 (1% solution)
Density	No information available
Melting point	No information available
Boiling point	No information available
Flash point	145 °C (Cleveland open cup method)
Flammability	No information available
Explosive properties	No information available
Self – ignition temperature	No information available
Vapour pressure	No information available
Water solubility	Soluble
Octanol-water partition coefficient (log K _{ow})	No information available

4. Health information

It is considered to be harmful in contact with skin or swallowed the EMAL OS. Contact with the undiluted EMAL OS may irritate the skin and damage the eyes.

Effect assessment	Result (REACH assessment)
Acute toxicity Oral / dermal	Harmful if swallowed. It is considered to be acutely toxic in contact with skin.
Irritation / corrosion Skin / eye	Causes skin irritation. Causes serious eye damage.
Sensitization	Based on the available data, not considered to cause allergic skin reaction.
Toxicity after repeated exposure	Based on the available data, not considered to cause damage to organs through prolonged or repeated oral exposure.

Effect assessment	Result (REACH assessment)
Mutagenicity	Based on the available data, not considered to cause genetic defects.
Carcinogenicity	Based on the available data, not considered to cause cancer.
Toxicity for reproduction	Based on the available data, not considered to be damaging to fertility or the unborn child.

5. Environmental information

Considerable testing with fish, aquatic invertebrates and algae demonstrated that EMAL 0S is acutely toxic to aquatic life. Adverse effects on microorganisms in waste water treatment plants are not expected. The chemical does not accumulate in the food chain, is readily biodegradable and as such will not persist in the environment.

Effect assessment	Result (REACH assessment)
Aquatic toxicity	Acutely toxic to aquatic life.
Biodegradation	Readily biodegradable
PBT / vPvB (Persistent, Bioaccumulative and Toxic / Very Persistent and Very Bioaccumulative)	Not considered to be either PBT nor vPvB.

6. Exposure potential

Consumer

Consumer will come in contact with the substance in preparations like e.g. washing and cleaning products, air fresheners, cosmetic products, polishes, fertilizers, textile articles, coatings and inks. The concentration of the substance in these applications is below the level which would give rise to concern. When used as recommended all uses do not pose a risk for consumer. Nevertheless, consumer should always read product information before use and follow the label/ use instructions.

Worker

Exposure can occur either in EMAL OS manufacturing facility or in the various industrial facilities that use EMAL OS. Those working with EMAL OS in industrial operations could be exposed during maintenance, sampling, testing, or other procedures. Only qualified and trained workers handle the neat substance. Each manufacturing facility offers a thorough training program for employees and appropriate work processes, as well as safety equipment (goggles and gloves) in place to limit unnecessary exposure. Safety showers and eye-wash stations are accessible nearby. Workers have been trained to follow the safety measures in the Safety Data Sheet (SDS).

Environment

Due to its diverse application releases of EMAL OS to waste water treatment plants may occur at production and industrial handling sites (preparation, handling, storage of substance) as well as from consumer households, for example through washing and cleaning products. However, as demonstrated in the hazard assessment, EMAL OS is considered to be readily biodegradable and is therefore removed from waste water during waste water treatment processes. Remaining insignificant amounts reaching surface waters are rapidly removed by biological degradation processes. Hence, exposure of aquatic organisms for a prolonged time period is unlikely. Further, the substance is not expected to accumulate in the food chain. Nevertheless, an exposure assessment for all identified uses was conducted which resulted in a negligible risk for the environment. Consequently, all identified uses of the substance are considered to be safe for the environment.

7. Risk management recommendations

When using chemicals make sure that there is adequate ventilation. Always use appropriate chemical resistant gloves to protect your hands and skin and always wear eye protection. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If skin irritation occurs, seek medical advice/attention. If the substance gets into your eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical advice.

All effluent releases that may contain the substance must be directed to a (municipal) waste water treatment plant that removes the substance from the final releases to the receiving water. Releases to air are not expected and therefore no specific recommendations are required.

8. Regulatory information / Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the Safety Data Sheet. GHS

attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

EMAL 0S classification and labelling:

Acute Toxicity (Oral): Category 4	- H302: Harmful if swallowed
Skin Corrosion / Irritation: Category 2	- H315: Causes skin irritation
Serious Eye Damage / Eye Irritation: Category 1	- H318: Causes serious eye damage
Aquatic Hazard (Acute): Category 2	- H401: Toxic to aquatic life



Signal Word

Danger

9. Conclusion

In spite of the classification as being acutely hazardous to aquatic organisms, it is expected that a risk for the environment is negligible due to the rapid degradation of EMAL 0S.

As a result of the PBT/vPvB assessment it is found that the substance is not considered to be a PBT/vPvB.

It is considered to be harmful in contact with skin or swallowed the EMAL 0S. Contact with the undiluted EMAL 0S may cause irritation to the skin and damage the eyes. When handling the neat substance, workers should follow standard safety measures and refer to current Safety Data Sheet.

Based on its toxicity concerning human health a risk to the general public is not anticipated as consumer will usually not come into contact with the neat substance and substance concentrations in consumer products are below a level which would give rise to any concern.

10. Contact information within company

For further information on this substance or product safety summaries in general, please contact:

Name Kao Corporation, Global Chemical Business
Telephone number +81-3-5630-7700
Fax number +81-3-5630-7889
E-mail address chemical@kao.co.jp

Additional information can be found at the International Council of Chemical Associations portal, found at <http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>.

11. Glossary

Acute toxicity	Harmful effects after single exposure
Biodegradation	Loss or transformation of a chemical by microorganisms
Bioaccumulation	Accumulation of substances in the aquatic organisms
Carcinogenicity	Effects causing cancer
Chronic toxicity	Harmful effects after repeated exposures
GHS	Global Harmonized System
Hazard	Danger or causing damage to human health or environment
Mutagenicity	Effect that changes genes
Reprotoxicity	Combining teratogenicity, embryotoxicity and harmful effects on fertility
Sensitising	Allergenic

12. Date of issue

April 21 2014