

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

EMULGEN 105

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: EMULGEN 105

Chemical Name: Polyoxyethylene (4) lauryl ether

CAS Number: 9002-92-0

2. Uses and Applications

EMULGEN 105 is a non-ionic surfactant. It is used as consumer products contained in dish soap, and others.

For the industrial use, EMULGEN 105 is mainly used as emulsifier, and others.

3. Physical/Chemical Properties

EMULGEN 105 has no identified physicochemical hazards.

Property	Value
Physical state	Liquid
Colour	Colourless to light yellow
Odour	Slightly characteristic odour
pH	4.0 – 6.0 (5% solution)

Density	0.946 g/mL (30.0 °C) (86 °F) 0.939 g/mL (40.0 °C) (104 °F)
Melting point	5.0 °C (41 °F)
Boiling point	No information available
Flash point	182.0 °C (359.6 °F) (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	Emulsifiable
Octanol-water partition coefficient (log K _{ow})	No information available
Viscosity	38.0 mPa·s (30.0 °C) (86 °F) 20.0 mPa·s (40.0 °C) (104 °F) 15.0 mPa·s (50.0 °C) (122 °F)

4. Human Health Safety Assessment

Consumer: The exposure to EMULGEN 105 is at safe levels.

Worker: The repeated exposure of EMULGEN 105 does not cause any toxic effects

Effect Assessment	Result
Acute Toxicity oral/ dermal	No acute toxicity after oral/ dermal exposure in practical use The substance does not cause damage to any organs following single exposure
Irritation skin/ eye	Unlikely to cause skin irritation Undiluted substance causes serious eye irritation
Sensitization	Based on the available data, unlikely to cause allergic skin reaction
Toxicity after repeated exposure	Unlikely to cause any toxic effects through prolonged or repeated oral exposure in practical use
Mutagenicity	Based on the available data, unlikely to cause genetic defects
Carcinogenicity	Based on the available data, unlikely to cause cancer
Toxicity for reproduction	Based on the available data, unlikely to be damaging to fertility or the unborn child

5. Environmental Safety Assessment

The test results with fish, aquatic invertebrates and algae suggest that EMULGEN 105 could cause a strong toxicity for aquatic organisms. It also could cause harmfulness to aquatic organisms with long lasting effects. However, EMULGEN 105 is unlikely to persist in the

environment because of showing the readily biodegradation. EULGEN 105 does not bioaccumulate in the food chain.

Effect Assessment	Result
Aquatic Toxicity	Based on the available data, likely to cause strong toxicity for aquatic organism and harmful to aquatic life with long lasting effects
Biodegradation	Readily biodegradable
PBT/ vPvB conclusion*	Not persistent in the environment, not bioaccumulating in organisms and not toxic nor very persistent and very bioaccumulating

*PBT=Persistent, Bioaccumulative and Toxic
vPvB=Very Persistent and Very Bioaccumulative

6. Exposure

Consumer

The consumer can come into contact with the substance in use of the dish soap, but the concentration of EMULGEN 105 in use is below the level which would give rise harmful effects of concern. When it's used as the recommended use, consumer should always read product information before use and follow the label/ use instructions.

Worker

The exposure can occur either in EMULGEN 105 manufacturing facilities or in the various industrial facilities when EMULGEN 105 is used. Those workers in industrial operations during maintenance, sampling, testing, or other procedures could be exposed with EMULGEN 105. Only qualified and trained workers handle the undiluted substance. The manufacturing facilities offer thorough training program for employees and appropriate work processes, as well as safety equipment (goggles and gloves) in place to present an unnecessary exposure. Safety showers and eye-wash stations are accessible nearby. Workers are required to be trained in accordance with the safety measures in the Safety Data Sheet.

Environment

Since this substance is used extensively, it is discharged to waste water treatment plants from industrial sites such as manufacturing, preparation, handling, storage and use of the substance as well as from consumer households. However, the substance is readily biodegradable, so that it is removed efficiently in waste water treatment plants. The substance is biologically degraded in the surface water and is rapidly removed even if it is remained slightly in the waste water. Hence, the chronic exposure to aquatic organisms of the substance is unlikely to occur. Furthermore, the substance dose not accumulate in the food chain, so that there is no concern of human exposure through environmental pathway.

7. Risk management recommendations

When you use the substance, make sure to be measured the adequate ventilation. Always use appropriate chemical-resistant gloves to protect your hands and skin and always wear eye protection equipment. Do not eat, drink or smoke where the substance is handled, processed or stored. Wash hands and skin after contact with the substance. When the substance attaches to skin (or hair), take off the contaminated clothes. Wash with a large amount of water and soap. When it causes your skin irritation, consult doctor (medical diagnosis/therapy). If the substance gets into your eyes, rinse your eyes thoroughly for several minutes. If you wear contact lens, and you can take it off easily, take it off and continue to rinse your eyes. When eye irritation persists, consult doctor (medical diagnosis/therapy).

Waste water containing the substance must be passed the waste water treatment plants in order to remove the substance. No specific measures are needed, because it is not expected to be released into the air.

8. Regulatory Information / Classification and Labelling

Under GHS classification chemical substances are classified in hazards for physical properties, human health and environment. The hazard information for industrial products are transmitted via specific labels and Safety Data Sheet. GHS offers the standardization for hazard communication. The subjects who could be assumed to be exposed to the substance, workers, consumers, transport workers, and emergency responders, can better understand the hazards of the chemicals in use through the transmission.

Labeling according to UN GHS

UN GHS is the basis for country specific GHS labeling.

EMULGEN 105 may be assigned to following GHS classification.



Classification and Labeling Information

Eye Dam. 2

Aquatic Acute 1

Aquatic Chronic 3

Hazard Statements:

H319: Causes serious eye irritation

H400: Very toxic to aquatic life

H412: Harmful to aquatic life with long lasting effects

Signal Word

Warning

The laws of manufacturing, sale, transport, use and disposal are different among countries or areas. Details are referred to Safety Data Sheet provided by the supplier.

9. Conclusion

Though EMULGEN 105 is suggested to cause strong toxicity to aquatic organisms, there is no concern to the environmental organisms due to the rapid biodegradation of EMULGEN 105. In the PBT/vPvB assessments for EMULGEN 105, the substance is not applicable to PBT/vPvB. Contact with the undiluted EMULGEN 105 may cause serious irritation to the eyes. When handling the substance, workers should follow the standard safety measures and refer to the Safety Data Sheet. Consumers will usually not come into contact with the substance bulk and the substance is used diluted products, therefore, it is considered that EMULGEN 105 gives rise no hazardous effects to human health.

10. Contact information within company

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

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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

Hazard	Hazardous property for human health or environments
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
Acute Toxicity	Adverse effects that result from a single exposure
Sensitization	Inducibility of allergy
Mutagenicity	Effects to induce gene mutations
Toxicity after repeated exposure	Adverse effects that result from repeated exposure
Toxicity for reproduction	Adverse effects for teratogenicity, embryotoxicity, and reproductivity
Carcinogenicity	Action influence to cause a cancer
Biodegradation	Biological degradation of a substance in environments
Bioaccumulation	Accumulation of substances in environments

12. Date of issue

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