

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

EMULGEN 103

This document is a high-level summary that provides usage of chemical substances and safety information to the general public. 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 manufacturers' instructions and warnings for their consumer products containing this substance.

1. Substance Identity

Brand Name: EMULGEN 103
Chemical Name: Polyoxyethylene (3) lauryl ether
CAS Number: 9002-92-0

2. Uses and Applications

EMULGEN 103 is a non-ionic surfactant. It is used as an emulsifier for cosmetic products and others because of its strong emulsifying properties.

For industrial use, EMULGEN 103 is mainly employed in paints, textile products, and other applications.

3. Physical/Chemical Properties

EMULGEN 103 has no identified physicochemical hazards.

Property	Value
Physical state	Liquid
Color	Colorless to pale yellow
Odor	Slight characteristic odor
pH	6.2 (5% solution)
Density	0.922 g/mL (30 °C / 86 °F) 0.915 g/mL (40 °C / 104 °F) 0.908 g/mL (60 °C / 140 °F)

Freezing point	< 20 °C / 68 °F
Boiling point	> 40 °C / 104 °F
Flash point	172 °C / 342 °F (Cleveland open cup method)
Flammability	No information available
Explosive properties	No information available
Self – ignition temperature	> 100 °C / 212 °F
Vapour pressure	No information available
Water solubility	Emulsifiable
Octanol-water partition coefficient (log K _{ow})	No information available
Viscosity	21 mPa·s (30 °C / 86 °F) 15 mPa·s (40 °C / 104 °F) 11 mPa·s (50 °C / 122 °F)

4. Human Health Safety Assessment

Consumer: There is no exposure to hazardous concentration levels of EMULGEN 103.

Worker: Based on available data, repeated exposure associated with handling operations with EMULGEN 103 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	Based on the available data, 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 103 could cause high toxicity to aquatic organisms. It also could cause harmfulness to aquatic organisms with long lasting effects. However, EMULGEN 103 is considered a low risk to the environment because it is readily biodegradable and does not persist in the environment. EMULGEN 103 does not bioaccumulate in the food chain.

Effect Assessment	Result
Aquatic Toxicity	Based on the available data, likely to cause high toxicity to aquatic organisms 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.

6. Exposure

Consumer

Consumers can come into contact with EMULGEN 103 through the use of cosmetic products, but the concentration in these products is below levels likely to cause adverse effects of concern. When products are used as recommended, consumers should always read the product information and follow the label or instructions.

Worker

The exposure can occur either in EMULGEN 103 manufacturing facilities or in the various industrial facilities when EMULGEN 103 is used. Those workers in industrial operations during maintenance, sampling, testing, or other procedures could be exposed to EMULGEN 103. Only qualified and trained workers handle the undiluted substance. The manufacturing facilities offer a thorough training program for employees and appropriate work processes, as well as safety equipment (goggles and gloves) in place to prevent 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 EMULGEN 103 is used extensively, it is discharged to wastewater treatment facilities 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 wastewater treatment facilities. The substance is biologically degraded in the surface water and is rapidly removed even if trace amounts of the substance remain in wastewater. Hence, the chronic exposure to aquatic organisms of the substance is unlikely to occur. Furthermore, the substance does not accumulate in the food chain, so that there is no concern of human exposure through environmental pathway.

7. Risk management recommendations

Adequate ventilation should be provided when EMULGEN 103 is used in manufacturing facilities or in the various industrial facilities. Always use appropriate chemical-resistant gloves to protect your hands and skin and always wear eye protection equipment. Wash hands and skin after contact with the substance. Do not eat, drink or smoke where the substance is handled, processed or stored. If this substance gets on your clothing, take off the contaminated clothes. When the substance attaches to skin (or hair), wash with a large amount

of water and soap. If it causes skin irritation, seek medical advice/attention. If the substance gets into your eyes, rinse your eyes thoroughly for several minutes. If you wear contact lenses, and you can take them off easily, take them off and continue to rinse your eyes. If eye irritation persists, get medical advice/attention.

Waste water containing the substance must be passed through wastewater treatment facilities 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 Labeling

Under GHS classification chemical substances are classified in hazards for physical properties, human health and environment. The hazard information for industrial products is 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 103 may be assigned to the 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 the Safety Data Sheet provided by the supplier.

9. Conclusion

EMULGEN 103 could cause high toxicity to aquatic organisms and harmfulness to aquatic organisms with long lasting effects. However, EMULGEN 103 is considered a low risk to the

environment because it is readily biodegradable and does not persist in the environment. EMULGEN 103 is not applicable to PBT/vPvB. Contact with the undiluted substance causes serious eye irritation. 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 in bulk, and because it is used in diluted form in consumer products, EMULGEN 103 is considered to have low concern for adverse effects on human health.

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 a chemical risk assessment support portal provided by the Japan Chemical Industry Associations, found at <https://www.jcia-bigdr.jp/jcia-bigdr/en/top>.

11. Glossary

Acute Toxicity	Adverse effects that result from a single exposure
Sensitization	Inducibility of allergy
Genotoxicity	Effects to induce gene mutations
Carcinogenicity	Action influence to cause a cancer
Toxicity for Reproduction	Adverse effects for teratogenicity, embryotoxicity, and reproductivity
Biodegradation	Biological degradation of a substance in environments
PBT (Persistent, Bioaccumulative and Toxic)	Substances that are environmentally persistent, bioaccumulative, and toxic
vPvB (Very Persistent and Very Bioaccumulative)	Substances with high persistence in the environment and high accumulation in ecology
GHS	Globally Harmonized System of Classification and Labelling of Chemicals

12. Date of issue

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