Kao Corporation

Enriching lives,
in harmony with nature.

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

KALCOL 4250

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: KALCOL 4250

Chemical Name: Fatty alcohol C12 - C16

CAS Number: 68855-56-1

2. Uses and Applications

KALCOL 4250 is a long chain aliphatic alcohol which is used as an additive for metalworking fluids in an industrial setting. The substance is not directly used for consumer end products, and is only used in industrial applications.

3. Physical/chemical properties

KALCOL 4250 has no identified physicochemical hazards.

Property	Value
Physical state	Solid (Liquid in the summertime) (over 20 °C (68 ℉))
Colour	White
Odour	Slightly characteristic odour

pH	Not applicable
Density	0.81 g/mL (60 °C) (140 ℉)
Viscosity	18.8 mPa·s (30 °C) (88 ℉) 9 mPa·s (60 °C) (140 ℉)
Melting point	26 - 29 °C (78.8 - 84.2 ℉)
Boiling point	263 - 320 °C (505.4 - 608 ℉)
Flash point	150 °C (302 ℉) (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	Insoluble
Octanol-water partition coefficient (log K_{ow})	No information available

4. Health information

Consumer: KALCOL 4250 is only used in industrial applications. Consumers will not come into contact with KALCOL 4250.
Worker: Undiluted substance causes serious eye irritation. The repeated exposure of KALCOL 4250 does not cause any toxic effects

Effect assessment	**Result (REACH assessment)**
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 / corrosion Skin / eye	Undiluted substance causes serious eye irritation
Sensitisation	Based on the available data, unlikely to cause allergic skin reaction
Toxicity after repeated exposure Oral / dermal	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 information

Based on the available information, KALCOL 4250 is expected to cause strong toxicity to aquatic organisms and very strong toxicity to aquatic life with long lasting effects under test conditions. However, the amount of substance released into the aquatic environment is low and fatty alcohol C12 - C16 is also found to occur naturally in the environment. Furthermore, biodegradation by micro-organisms in municipal waste-water treatment plants, and in the wider environment, is demonstrated to be extremely rapid and efficient.

KALCOL 4250 is unlikely to cause bioaccumulation by the food chain, because KALCOL 4250 is not PBT/ vPvB.

Effect assessment	Result (REACH assessment)
Aquatic toxicity	Based on the available data, likely to cause strong toxicity to aquatic organism and very strong toxicity to aquatic life with long lasting effects under test conditions.
Biodegradation	Readily biodegradable
PBT/ vPvB conclusion*	Not considered to be PBT or vPvB.

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

6. Exposure potential

Human health

KALCOL 4250 is only used in industrial applications. Consumers will not come into contact with KALCOL 4250. This substance is manufactured and handled in industrial settings in closed systems. However, workers who may come into contact with the undiluted substance should follow the safety measures recommended in the Safety Data Sheet, as the undiluted substance causes irritation. It is expected that facilities using formulations containing KALCOL 4250 would have standard engineering controls and procedures in place, to ensure safe handling and use of a wide variety of chemicals, whether process aids or reagents. In addition, standard personal protective equipment must be worn to prevent direct skin and eye contact with chemicals handled during routine operations, such as goggles or safety glasses, gloves, safety boots and helmets. There is evidence that a number of types of chemical-resistant gloves offer good protection against KALCOL 4250 and related substances. Indirect exposure of humans via the environment is dominated by regional background, however due to the widespread use of fatty alcohol C12 - C16 in consumer products in EU this background exposure is less relevant.

Environment

Losses to air of KALCOL 4250 in aqueous-based products are expected to be minimal. Releases to waste water may be assumed to be up to 100%, since in some of the industrial processes, the substance is discharged to waste water. However, details of treatment of aqueous waste vary at different sites and processes and in general aqueous waste streams would be subjected to secondary biological treatment either on- or off-site. Solid waste disposal is typically disposed via landfill or incineration.

7. Risk management recommendations

For detailed risk management recommendations, please refer to the Safety Data Sheet.

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 such as chemical goggles. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If the substance gets to your eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or eye irritation persists, get medical advice/attention.

All effluent releases that may include the substance must be directed to a 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.

Labeling according to UN GHS

UN GHS is the basis for country specific GHS labeling.

KALCOL 4250 may be assigned to following GHS classification.

Classification and Labeling Information

Eye Dam. 2A

Aquatic Acute 1

Aquatic Chronic 1

Hazard Statements:

H319: Causes serious eye irritation

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long lasting effects

Signal Word

Warning

9. Conclusion

KALCOL 4250 is used under controlled conditions at industrial sites. The manufacturing and use of KALCOL 4250 does not pose a risk to humans or the environment if instructions in the Safety Data Sheet are followed.

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

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

12. Date of issue

December 22, 2017