Pilipinas Kao Inc.

Enriching lives,
in harmony with nature.

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

KALCOL 2475

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 2475

Chemical Name: Fatty alcohol C12 – C16

CAS Number: 68855-56-1

2. Uses and Applications

KALCOL 2475 is a long chain aliphatic alcohol which is used for the synthetic intermediate in an industrial setting. The substance is not sold to consumers and use is limited to workers in an industrial setting. Workers handling this substance should have the appropriate skills and training.

3. Physical/chemical properties

KALCOL 2475 has no identified physicochemical hazards.

Property	Value
Physical state	Solid (Liquid in the summertime)
Colour	White

Odour	Slight, Characteristic (alcohol)
pH	Not applicable
Density	0.82g/ml at 40°C
Viscosity	No information available
Melting point	22°C (flow point)
Boiling point	No information available
Flash point	140°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	Insoluble
Octanol-water partition coefficient (log $K_{ow)}$	No information available

4. Health information

Consumer: Consumer exposure is very unlikely as KALCOL 2475 is manufactured and handled in industrial settings in closed systems (used as chemical intermediate). Consumers will not come into contact with harmful levels of KALCOL 2475 as use in consumer end-products is not foreseen.

Worker: KALCOL 2475 is irritating to eyes. The overall toxicity of KALCOL 2475 is considered to be low.

Effect assessment	**Result (REACH assessment)**
Acute toxicity Oral / inhalation / dermal	Virtually not toxic after oral, inhalation or dermal exposure. Not identified to have specific target organ toxicity after single exposure.
Irritation / corrosion Skin / eye / respiratory tract	Causes serious eye irritation.
Sensitisation	No sensitizer.
Toxicity after repeated exposure Oral / inhalation / dermal	Virtually not toxic after oral, inhalation or dermal exposure. Not identified to have specific target organ toxicity after repeated

Effect assessment	Result (REACH assessment)
	exposure.
Genotoxicity / Mutagenicity	Not mutagenic.
Carcinogenicity	Not considered carcinogenic based on data derived from studies on repeated exposure.
Toxicity for reproduction	Based on available data no developmental or reproductive toxicity is anticipated.

5. Environmental information

Based on the available data, KALCOL 2475 causes toxicity to aquatic organisms 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.

REACH environmental exposure assessment sets limits to safe release of the substance during all steps of manufacture and industrial use, and defines appropriate risk management measures. Furthermore, KALCOL 2475 does not bioaccumulate, is rapidly biodegradable and will not persist in the environment.

Effect assessment	Result (REACH assessment)
Aquatic toxicity	Toxic to aquatic organisms under test conditions.
Biodegradation	Readily biodegradable
Bioaccumulation potential	Not bioaccumulative
PBT / vPvB (Persistent, Bioaccumulative and Toxic / Very Persistent and Very Bioaccumulative)	Not considered to be PBT or vPvB.

6. Exposure potential

<u>Human health</u>

The exposure of consumer exposure to KALCOL 2475 is very unlikely as the 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 2475 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 2475 and related substances. Indirect exposure of humans via the environment is dominated by regional background.

Although fatty alcohol C12-C16 is broadly used for the consumer products in EU, the amount of exposure to the consumers of this fatty alcohol is to be a safe level. Since the direct amount of exposure is expected more than those of indirect exposure via environment, this background exposure is less relevant.

Environment

Losses to air of KALCOL 2475 in aqueous-based products are expected to be minimal. Releases to waste water may be assumed to be up to 100%, since 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 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.

KALCOL 2475 classification and labelling:

Eye irritation hazard - Category 2. H319: Causes serious eye irritation.

Hazardous to the aquatic environment –

Acute Category 1. H400: Very toxic to aquatic life.

Chronic Category 1, H410: Very toxic to aquatic life with long lasting effects

9. Conclusion

KALCOL 2475 is used under controlled conditions at industrial sites. The manufacturing and use of KALCOL 2475 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	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

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