

GLOBAL PRODUCT STRATEGY SAFETY SUMMARY

KALCOL 2470

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 2470

Chemical Name: Fatty alcohol C12 – C16

CAS Number: 68855-56-1

2. Uses and Applications

KALCOL 2470 is a long chain aliphatic alcohol which is used as a synthetic intermediate in an industrial setting. The substance is not directly used for consumer end products, and is only used for a chemical synthesis in an industrial setting.

3. Physical/chemical properties

KALCOL 2470 has no identified physicochemical hazards.

| Property | Value |
|----------------|----------------------------------|
| Physical state | Solid (Liquid in the summertime) |
| Colour | White |
| Odour | Slight, Characteristic (alcohol) |

| | |
|--|------------------------------------|
| pH | Not applicable |
| Density | 0.8268 g/ml at 30 °C |
| Viscosity | 17 mPa·s at 30 °C |
| Melting point | 21 - 24 °C (flow point) |
| Boiling point | 270 °C |
| 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: KALCOL 2470 is only used in industrial applications. Consumers will not come into contact with KALCOL 2470.

Worker: KALCOL 2470 is irritating to eyes. The overall toxicity of KALCOL 2470 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 exposure. |
| Genotoxicity / Mutagenicity | Not mutagenic. |

| Effect assessment | Result (REACH assessment) |
|---------------------------|--|
| 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 information, KALCOL 2470 is expected to cause 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 2470 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

Human health

KALCOL 2470 is only used in industrial applications. Consumers will not come into contact with KALCOL 2470. 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 2470 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 2470 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 2470 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 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 2470 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 2470 is used under controlled conditions at industrial sites. The manufacturing and use of KALCOL 2470 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:

| | |
|------------------|---|
| Name | Kao Corporation, Global Chemical Business |
| Telephone number | +81-3-5630-7700 |
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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

September 11 2013