Kao Corporation S.A.

Member of KAO CHEMICALS EUROPE

Enriching lives,
in harmony with nature.

SAFETY DATA SHEET

DANOX DB-1

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : DANOX DB-1

Product code : 264539 /23.05 /F SES

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Detergent.

1.3 Details of the supplier of the safety data sheet

Supplier : Kao Corporation, S.A.
Puig dels Tudons, 10 - 08210 BARBERÀ DEL VALLÈS (Barcelona) - SPAIN
Telf. +34 937399 300. Fax +34 937399 333

E-mail: : **psr@kao.es**

1.4 Emergency telephone number - FOR EMERGENCY USE ONLY

For ALL TRANSPORT ACCIDENTS related with USA, call CHEMTREC at 800-424-9300 or 703-527-3887 for international collect calls.

For ALL TRANSPORT ACCIDENTS related with Mexico, call SETIQ at 800-681-9531 or (55) 5575-0838 or (55) 5575-0842

Other countries Emergency telephone number (24h) : **+34 93 739 9445** Multi-language

For any questions or queries not related to emergencies, call the telephone number indicated in the supplier's information.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification

Acute Tox. 4, H302
Skin Corr. 1B, H314
Eye Dam. 1, H318
STOT RE 2, H373
Aquatic Acute 1, H400
Aquatic Chronic 2, H411

See Section 16 for the full text H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves: > 8 hours (breakthrough time): butyl rubber. Wear protective clothing: Recommended: lab coat , overall. Wear eye or face protection: Recommended: splash goggles , safety glasses with side-shields. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Flush contaminated skin with of 3% acetic acid or agent containing Diphoterin (e.g. Previn ®). Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Ethoxylated fatty alcohol.
Ethoxylated Alkyl Amine
Amines, C12-14-alkyldimethyl, N-oxides
Amines, N-tallow alkyltrimethylenedi-, ethoxylated
Fatty acids, C12-14
2-aminoethanol

Supplemental label elements : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	CAS no.	%	Classification	Type
Ethoxylated fatty alcohol.	68439-45-2	25 - 35	Acute Tox. 4, H302 Eye Dam. 1, H318	[1]
Ethoxylated Alkyl Amine	61791-14-8	10 - 20	Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Chronic 3, H412	[1]
Amines, C12-14-alkyldimethyl, N-oxides	61788-90-7	5 - 10	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411	[1]
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	61790-85-0	5 - 10	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 1, H372	[1]

Fatty acids, C12-14 2-aminoethanol	68002-90-4 141-43-5	2.5 - 5 1 - 2.5	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1) Eye Dam. 1, H318 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 **See Section 16 for the full text of the H statements declared above.**	[1] [1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Use protective gloves. Remove contaminated clothing and shoes.

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush with agent containing Diphoterin (e.g. Previn ®), occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. The exposed person may need to be kept under medical surveillance for 48 hours.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with of 3% acetic acid or agent containing Diphoterin (e.g. Previn ®). Use protective gloves. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. The exposed person may need to be kept under medical surveillance for 48 hours.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Europe	
2-aminoethanol	**EU OEL (Europe, 10/2019). Absorbed through skin. Notes: list of indicative occupational exposure limit values** STEL: 7,6 mg/m³ 15 minutes. STEL: 3 ppm 15 minutes. TWA: 2,5 mg/m³ 8 hours. TWA: 1 ppm 8 hours.
United States	
Canada	
2-aminoethanol	**CA Alberta Provincial (Canada, 6/2018). Skin sensitizer.** 15 min OEL: 15 mg/m³ 15 minutes. 15 min OEL: 6 ppm 15 minutes. 8 hrs OEL: 7,5 mg/m³ 8 hours. 8 hrs OEL: 3 ppm 8 hours. **CA British Columbia Provincial (Canada, 1/2020).** STEL: 6 ppm 15 minutes. TWA: 3 ppm 8 hours. **CA Ontario Provincial (Canada, 6/2019).** STEL: 6 ppm 15 minutes. TWA: 3 ppm 8 hours. **CA Quebec Provincial (Canada, 7/2019).** STEV: 15 mg/m³ 15 minutes. STEV: 6 ppm 15 minutes.

	TWAEV: 7,5 mg/m³ 8 hours. TWAEV: 3 ppm 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 6 ppm 15 minutes. TWA: 3 ppm 8 hours.
Mexico	
2-aminoethanol	**NOM-010-STPS-2014 (Mexico, 4/2016).** STEL: 6 ppm 15 minutes. TWA: 3 ppm 8 hours.
Brazil	
2-aminoethanol	**ACGIH TLV (United States, 3/2020).** STEL: 15 mg/m³ 15 minutes. STEL: 6 ppm 15 minutes. TWA: 7,5 mg/m³ 8 hours. TWA: 3 ppm 8 hours.
Australia	
propylene glycol	**Safe Work Australia (Australia, 12/2019).** TWA: 10 mg/m³ 8 hours. Form: Particulate TWA: 474 mg/m³ 8 hours. Form: Vapor and particulates TWA: 150 ppm 8 hours. Form: Vapor and particulates
2-aminoethanol	**Safe Work Australia (Australia, 12/2019).** STEL: 15 mg/m³ 15 minutes. STEL: 6 ppm 15 minutes. TWA: 7,5 mg/m³ 8 hours. TWA: 3 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: splash goggles , safety glasses with side-shields

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat , overall

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Appropriate breathing apparatus may be required.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Remark : The penetration-time of the recommended gloves depends not only on the material. Also other factors may have influence on the penetration-time, as their thickness or the specific use or conditions (temperature). In any case, certificate materials (for example following EN 374) should be selected. Please ask your supplier, if the gloves are suitable for the intended use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Liquid.
Color	:	Amber. Orange.
Odor	:	Characteristic.
Odor threshold	:	Not available.
pH	:	8 to 10 (Conc. (% w/w): 5)
Melting point	:	<-10 ºC
Initial boiling point and boiling range	:	Not available.
Flash point	:	Closed cup: >200°C [MINIFLASH FLP]
Evaporation rate (butyl acetate = 1)	:	Not available.
Flammability (solid, gas)	:	Not available.
Upper/lower flammability or explosive limits	:	Not available.
Vapor density	:	Not available.
Density	:	1,004 g/cm³ [20°C]
Solubility(ies)	:	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	:	Not available.
Decomposition temperature	:	Not available.

Viscosity (Dynamic) : <300 cP (20 ºC)

Explosive properties : Not available.

Oxidizing properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose
Amines, C12-14-alkyldimethyl, N-oxides	LD50 Dermal	Rat	>2000 mg/kg
	LD50 Oral	Rat	1064 mg/kg
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	LD50 Oral	Rat	500 mg/kg
Fatty acids, C12-14	LD50 Dermal	Rabbit	>2000 mg/kg
	LD50 Oral	Rat	>5000 mg/kg
2-aminoethanol	LC50 Inhalation Vapor	Rat	>13 mg/l
	LD50 Dermal	Rabbit	2504 mg/kg
	LD50 Oral	Rat	1515 mg/kg

Conclusion/Summary : Not available.

Acute toxicity estimates

Route	ATE value
Oral	1450,06 mg/kg
Dermal	44877,36 mg/kg
Inhalation (vapors)	225,24 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score
Amines, C12-14-alkyldimethyl, N-oxides	Skin - Irritant	Rabbit	-
	Eyes - Severe irritant	Rabbit	-
Fatty acids, C12-14	Skin - Edema	Rabbit	0

Conclusion/Summary

Skin : Not available.

Eyes : Not available.

Respiratory : Not available.

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
Amines, C12-14-alkyldimethyl, N-oxides Amines, N-tallow alkyltrimethylenedi-, ethoxylated	skin skin	Guinea pig Guinea pig	Not sensitizing Not sensitizing

Conclusion/Summary

Skin : Not available.

Respiratory : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Amines, C12-14-alkyldimethyl, N-oxides	OECD 471 Bacterial Reverse Mutation Test OECD 475 Mammalian Bone Marrow Chromosomal Aberration Test	Experiment: In vitro Subject: Bacteria Experiment: In vivo Subject: Mammalian-Animal	Negative Negative
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
Fatty acids, C12-14	OECD 471 Bacterial Reverse Mutation Test OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Bacteria Experiment: In vitro Subject: Mammalian-Animal	Negative Negative

Conclusion/Summary : Not available.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	Negative - Oral - TC Negative - Dermal - TC	Rat Mouse	- -	- -

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	- -	- -	- -	Rat Rat	Oral: 25 mg/kg NOAEL Oral: 100 mg/kg NOEL	- -

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2-aminoethanol	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	Category 1	-	-

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : Harmful if swallowed.

Skin contact : Causes severe burns.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Potential chronic health effects

Product/ingredient name	Result	Species	Dose
Amines, C12-14-alkyldimethyl, N-oxides	Sub-chronic NOAEL Oral	Rat - Male, Female	88 mg/kg
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	Sub-chronic NOAEL Oral	Rat	0,4 mg/kg

Conclusion/Summary : Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Absorption : Not available.

Distribution : Not available.

Metabolism : Not available.

Elimination : Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure	Test
Ethoxylated fatty alcohol.	Acute LC50 >1 mg/l	Fish	96 hours	OECD 203
Ethoxylated Alkyl Amine	Acute EC50 10 to 100 mg/l	Daphnia	48 hours	-
	Acute LC50 10 to 100 mg/l	Fish	96 hours	-
Amines, C12-14-alkyldimethyl, N-oxides	Acute EC50 0,146 mg/l	Algae	72 hours	OECD 201 Alga, Growth Inhibition Test
	Acute EC50 3,1 mg/l	Daphnia	48 hours	OECD 203 Fish, Acute Toxicity Test
	Acute LC50 2,67 mg/l	Fish	96 hours	APHA Standard Method (1971)
	Chronic NOEC 0,067 mg/l	Algae	28 days	OECD 201 Alga, Growth Inhibition Test
	Chronic NOEC 0,7 mg/l	Daphnia	21 days	OECD 211 *Daphnia Magna* Reproduction Test

	Chronic NOEC 0,42 mg/l	Fish	302 days	EPA OPPTS 850.1500 (Fish Life Cycle Toxicity)
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	Acute EC50 0,16 mg/l	Algae	72 hours	OECD 201 Alga, Growth Inhibition Test
	Acute EC50 0,31 mg/l	Daphnia	48 hours	OECD 202 *Daphnia* sp. Acute Immobilization Test and Reproduction Test
Fatty acids, C12-14	Acute LC50 >100 mg/l	Fish	96 hours	-
2-aminoethanol	Acute EC50 2,5 mg/l	Algae	72 hours	-
	Acute EC50 65 mg/l Fresh water	Daphnia	48 hours	-
	Acute LC50 349 mg/l	Fish	96 hours	-

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result
Amines, C12-14-alkyldimethyl, N-oxides	OECD 314C Anaerobic Biodegradation test	73 % - 57 days
	OECD 301B Ready Biodegradability - CO_2 Evolution Test	>60 % - 28 days
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	OECD 301B Ready Biodegradability - CO_2 Evolution Test	>60 % - Readily - 28 days
Fatty acids, C12-14	OECD 301D Ready Biodegradability - Closed Bottle Test	>60 % - 30 days

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ethoxylated fatty alcohol.	-	-	Readily
Ethoxylated Alkyl Amine	-	-	Readily
Amines, C12-14-alkyldimethyl, N-oxides	-	-	Readily
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	-	-	Readily
Fatty acids, C12-14	-	-	Readily
2-aminoethanol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Amines, C12-14-alkyldimethyl, N-oxides	2,7	-	low
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	2,8	11	low
Fatty acids, C12-14	3,3	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Other information :

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	DOT Classification	IMDG	IATA
14.1 UN number	UN1760	UN1760	UN1760	UN1760
14.2 UN proper shipping name	CORROSIVE LIQUID, N.O.S. (Amines, N-tallow alkyltrimethylenedi-, ethoxylated, 2-aminoethanol)	Corrosive liquids, n.o.s. (Amines, N-tallow alkyltrimethylenedi-, ethoxylated, 2-aminoethanol)	CORROSIVE LIQUID, N.O.S. (Amines, N-tallow alkyltrimethylenedi-, ethoxylated, 2-aminoethanol). Marine pollutant (Amines, C12-14-alkyldimethyl, N-oxides, Amines, N-tallow alkyltrimethylenedi-, ethoxylated)	Corrosive liquid, n.o.s. (Amines, N-tallow alkyltrimethylenedi-, ethoxylated, 2-aminoethanol)
14.3 Transport hazard class(es)	8 	8 	8 	8 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Hazard identification number** 80 **Limited quantity** 1 L **Special provisions** 274 **Tunnel code** (E) **Remarks** Packaging suitable for liquids. **ADR/RID Classification Code** **C9**	**Limited quantity** Yes. **Packaging instruction** Exceptions: 154. Non-bulk: 202. Bulk: 242. **Quantity limitation** Passenger aircraft/rail: 1 L. Cargo aircraft: 30 L. **Special provisions** B2, IB2, T11, TP2, TP27	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-A, S-B **Special provisions** 274 **IMDG Code Segregation group** SGG18 - Alkalis **Remarks** See flow chart supplement IMDG Code	The environmentally hazardous substance mark may appear if required by other transportation regulations. **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0,5 L. Packaging instructions: Y840. **Special provisions** A3, A803

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

National Inventory List :

This refers to country inventory status or Kao notifications to specific country inventories. Some countries may have additional importation requirements.

Australia : All components are listed or exempted.

Canada : At least one component is not listed in DSL but all such components are listed in NDSL.

China : All components are listed or exempted.

New Zealand : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

United States : All components are active or exempted.

United States - Listed and or Active means TSCA active

SECTION 16: Other information

Abbreviations and acronyms : ATE = Acute Toxicity Estimate

Classification

Acute Tox. 4, H302
Skin Corr. 1B, H314
Eye Dam. 1, H318
STOT RE 2, H373
Aquatic Acute 1, H400
Aquatic Chronic 2, H411

Classification	Justification
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements :

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications :

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

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Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.