Material Safety Data Sheet

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SECTION 1: Identification

1.1GHS Product identifier

Product name POE (2) TALLOW AMINE

1.2Other means of identification

Product number -
Other names -

1.3Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.
Uses advised against no data available

1.4Supplier's details

Company Kaimosi BioChem Tech Co., Ltd
Fax +86 571 8756 2572
Telephone +86 571 8719 1913

1.5Emergency phone number

Emergency phone number +86 571 8719 9097
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Skin corrosion, Sub-category 1C
Serious eye damage, Category 1
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

2.2GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)	H302 Harmful if swallowed H314 Causes severe skin burns and eye damage H318 Causes serious eye damage H400 Very toxic to aquatic life H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	
Prevention	P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P273 Avoid release to the environment.
Response	P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 Get emergency medical help immediately. P321 Specific treatment (see ... on this label). P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P317 Get medical help. P391 Collect spillage.
Storage	P405 Store locked up.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
POE (2) TALLOW AMINE	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.	61791-44-4	263-177-5	100%

SECTION 4: First-aid measures

4.1Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention . Rest.

4.2Most important symptoms/effects, acute and delayed

Irritation of eyes and skin. Breathing vapors may cause coughing, a smothering sensation, nausea, headache. (USCG, 1999)

4.3Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Organic bases/Amines and related compounds/

SECTION 5: Fire-fighting measures

5.1Suitable extinguishing media

Wear self contained breathing apparatus for fire fighting if necessary.

5.2Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating vapors are generated when heated. (USCG, 1999)

5.3Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

6.2Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

6.3Methods and materials for containment and cleaning up

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

SECTION 7: Handling and storage

7.1Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and acids. Dry.Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Air sensitive.

SECTION 8: Exposure controls/personal protection

8.1Control parameters

Occupational Exposure limit values

Component	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.
CAS No.	61791-44-4
	Recommended Exposure Limit: 10 Hour Time-Weighted Average: 3 ppm (15 mg/cu m).

Biological limit values

no data available

8.2Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Diethanolamine is an oily colorless liquid or solid white crystals. Slight rotten fish or ammonia odor. Denser than water. (USCG, 1999)
Colour	A faintly colored, viscous liquid or deliquescent prisms
Odour	Mild, ammonia-like odor
Melting point/freezing point	28°C
Boiling point or initial boiling point and boiling range	239.4°C at 760 mmHg
Flammability	Class IIIB Combustible Liquid: Fl.P. at or above 200°F.Combustible Solid
Lower and upper explosion limit/flammability limit	Lower flammable limit: 1.6% by volume (calculated); Upper flammable limit: 9.8% by volume (estimated)
Flash point	279° F (NTP, 1992)
Auto-ignition temperature	1224° F (USCG, 1999)
Decomposition temperature	no data available
pH	Strong base. pH of 0.1 N aqueous solution: 11.0
Kinematic viscosity	351.9 cP at 30 deg C; 53.85 cP at 60 deg C
Solubility	greater than or equal to 100 mg/mL at 57° F (NTP, 1992)
Partition coefficient n-octanol/water	log Kow= - 1.43
Vapour pressure	5 mm Hg at 280° F ; <0.01 mm Hg at 68° F (NTP, 1992)
Density and/or relative density	0.996
Relative vapour density	3.65 (NTP, 1992) (Relative to Air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1Reactivity

Decomposes on burning. This produces toxic fumes. The solution in water is a medium strong base. Reacts violently with strong oxidants and strong acids. Attacks copper, zinc, aluminium and their alloys.

10.2Chemical stability

no data available

10.3Possibility of hazardous reactions

Combustile, when exposed to heat or flame; can react with oxidizing materials.The vapour is heavier than air.DIETHANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound is hygroscopic. It may be sensitive to exposure to air and light. This compound can react with oxidizing materials, acids, CO2, copper alloys, aluminum, zinc, galvanized iron and copper. (NTP, 1992)

10.4Conditions to avoid

no data available

10.5Incompatible materials

DEA (Diethanolamine) degrades in the presense of carbon dioxide to yield HEOD [3-(2-hydroxy-ethyl)oxazolidone], THEED [N,N,N,'-(2-hydroxyethyl)ethyleen-diamine] and BHEP [N,N'-bis(2-hydroxyethyl)piperazine.

10.6Hazardous decomposition products

Special hazards arising from the substance or mixture: Carbon oxides, nitrogen oxides (NOx). Nature of decomposition products not known.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 710 mg/kg
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Evaluation: Cancer in humans: There is inadequate evidence in humans for the carcinogenicity of diethanolamine. Cancer in experimental animals: There is sufficient evidence in experimental animals for the carcinogenicity of diethanolamine. Overall evaluation: Diethanolamine is possibly carcinogen to humans (Group 2B).

Reproductive toxicity

No information is available on the reproductive or developmental effects of diethanolamine in humans. Animal studies have reported testicular degeneration and reduced sperm motility and count from oral exposure to diethanolamine. (10)

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

12.1Toxicity

- Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill) weight 5 g, length 7 (5-11) cm; Conditions: freshwater, static, 20 deg C, pH 6.9-7.5, hardness 84.0-163 mg/L CaCO3, alkalinity 33.0-81.0 mg/L CaCO3, dissolved oxygen >5 mg/L; Concentration: 2100000 ug/L for 24 hr /formulation
- Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna (Water Flea) age < or =24 hr; Conditions: freshwater, static, 20-22 deg C, pH 7.6-7.7; Concentration: 180000 ug/L for 24 hr /formulation
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2Persistence and degradability

AEROBIC: Biodegradation of diethanolamine has been reported in many die-away tests(1-3). N-Nitrosodiethanolamine has been identified as a metabolite of diethanolamine in natural water samples and sewage(2).Media Initial Concn Incubation Time (days) % Biodegradation Reference River Water 21 mg/L 4 5 1 River Water 210 ug/L 4 55 1 River Water 21 ng/L 4 32 1 Lake Water 1.1 ppm 14 31 2 Acidic Lake Water 1.1 ppm 14 1.2 2 Sewage 1.1 ppm 14 53 2 River Water 50 ppm 10 90 3

12.3Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for diethanolamine(SRC), using a log Kow of -1.43(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4Mobility in soil

The Koc of diethanolamine has been reported as 3.97(1) and an experimental log Koc of 0.60(2). According to a classification scheme(3), these Koc values suggest that diethanolamine is expected to have very high mobility in soil. The pKa of diethanolamine is 8.96(4), indicating that this compound will exist partially in cation form in the environment and cations generally adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5). Diethanolamine has been shown to adsorb to humic acid which may be contained in soils and sediments(6). The adsorption of diethanolamine on humic acid changed very slightly from pH 4-8, (40-45% adsorption)(6).

12.5Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1UN Number

ADR/RID: no data available IMDG: no data available IATA: no data available

14.2UN Proper Shipping Name

ADR/RID: no data available IMDG: no data available IATA: no data available

14.3Transport hazard class(es)

ADR/RID: no data available IMDG: no data available IATA: no data available

14.4Packing group, if applicable

ADR/RID: no data available IMDG: no data available IATA: no data available

14.5Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

14.6Special precautions for user

no data available

14.7Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
POE (2) TALLOW AMINE	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.	61791-44-4	263-177-5
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

HMIS Rating

Health hazard: 0
Chronic Health Hazard:
Flammability: 0
Physical Hazard 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information

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