

## Chemical Safety Data Sheet MSDS / SDS

## POE (2) TALLOW AMINE

Revision Date:2025-07-05 Revision Number:1

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

## Product identifier

Product name : POE (2) TALLOW AMINE  
CBnumber : CB2506339  
CAS : 61791-44-4  
EINECS Number : 263-177-5  
Synonyms : Bis (2-hydroxyethyl) tallow alkylamine,EthomeenT/12

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

## SECTION 2: Hazards identification

## Classification 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

## Label elements

## 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.

##### **Other hazards**

no data available

---

## SECTION 3: Composition/information on ingredients

### **Substance**

|              |                                                        |
|--------------|--------------------------------------------------------|
| Product name | : POE (2) TALLOW AMINE                                 |
| Synonyms     | : Bis (2-hydroxyethyl) tallow alkylamine, EthomeenT/12 |
| CAS          | : 61791-44-4                                           |
| EC number    | : 263-177-5                                            |
| MF           | : C <sub>4</sub> H <sub>11</sub> NO <sub>2</sub>       |
| MW           | : 105.136                                              |

---

## SECTION 4: First aid measures

## **Description of 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.

## **Most important symptoms and effects, both acute and delayed**

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

## **Indication of any immediate medical attention and special treatment needed**

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: Firefighting measures**

### **Extinguishing media**

Wear self contained breathing apparatus for fire fighting if necessary.

### **Specific Hazards Arising from the Chemical**

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

### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

---

## **SECTION 6: Accidental release measures**

### **Personal 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.

### **Environmental 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.

### Methods 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

### Precautions 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.

### Conditions 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

### Control parameters

#### Occupational Exposure limit values

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

#### Biological limit values

no data available

### Exposure controls

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

### Individual protection measures

#### Eye/face protection

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

#### Skin protection

Wear fire/flammable 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

## Information on basic physicochemical properties

|                                                          |                                                                                                                                            |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                                           | Diethanolamine is an oily colorless liquid or solid white crystals. Slight rotten fish or ammonia odor.<br>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

### Reactivity

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.

### Chemical stability

no data available

### Possibility of hazardous reactions

Combustible, 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, CO<sub>2</sub>, copper alloys, aluminum, zinc, galvanized iron and copper. (NTP, 1992)

## Conditions to avoid

no data available

## Incompatible materials

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

## Hazardous decomposition products

Special hazards arising from the substance or mixture: Carbon oxides, nitrogen oxides (NO<sub>x</sub>). 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

### Toxicity

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 CaCO<sub>3</sub>, alkalinity 33.0-81.0 mg/L CaCO<sub>3</sub>, 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

### Persistence 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 Conc'n 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

### Bioaccumulative 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).

### Mobility 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).

### Other adverse effects

no data available

---

## SECTION 13: Disposal considerations

### Disposal 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

### UN Number

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### UN Proper Shipping Name

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Transport hazard class(es)

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Packing group, if applicable

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

---

## SECTION 15: Regulatory information

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

#### 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.

**PICCS**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

---

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.

