

According to the UN GHS revision 8

Creation Date: April 22, 2026

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## 1. IDENTIFICATION

### 1.1 GHS Product identifier

Product name: Betaine  
Catalog Number: T3243  
CAS Number: 107-43-7

### 1.2 Other means of identification

Other names: -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

### 1.4 Supplier's details

Company: Targetmol Chemicals Inc.  
Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA  
Tel/Fax: (781) 999-4286

### 1.5 Emergency phone number

Emergency phone number: 781-999-4286  
Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

## 2. HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s): unknown  
Signal word: No signal word  
Hazard statement(s): none  
Precautionary statement(s):  
Prevention: none  
Response: none  
Storage: none  
Disposal: none

### 2.3 Other hazards which do not result in classification

no data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Betaine	-	107-43-7	203-490-6

#### 4. FIRST-AID MEASURES

##### 4.1 Description of necessary first-aid measures

###### General advice

Deliquescent scales or prisms

###### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a d°Ctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

###### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a d°Ctor.

###### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a d°Ctor.

###### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a d°Ctor or Poison Control Center immediately.

##### 4.2 Most important symptoms/effects, acute and delayed

Basic treatment: Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if needed. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. Anticipate seizures and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Cover skin burns with dry sterile dressings after decontamination. Poisons A and B

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

no data available

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

##### 5.2 Specific hazards arising from the chemical

no data available

##### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1 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.

##### 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

##### 6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

### 7.1 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.

### 7.2 Conditions for safe storage, including any incompatibilities

Store below 40 deg C (104 deg F), preferably between 15 and 30 deg C (59 and 86 deg F), unless otherwise specified by the manufacturer . Protect from moisture .

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure limit values

no data available

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

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

### 8.3 Individual 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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Lyophilized powder
Color	White
Odour	no data available
Melting point/freezing point	292.85°C.
Boiling point or initial boiling point and boiling range	102°C
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	12°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available

<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Methanol: 0.1 g/mL, Sonication is recommended. DMSO: 5 mg/mL (42.68 mM), Sonication is recommended. H2O: 50 mg/mL (426.8 mM), Sonication is recommended. ( < 1 mg/ml refers to the product slightly soluble or insoluble)
<b>N-octanol-water partition coefficient</b>	Pow = <= 0.001. Temperature: 20 °C.; log Pow = <= -3.1. Temperature: 20 °C.
<b>Vapour pressure</b>	Ca. 0.05 Pa. Temperature: <= 25 °C. Remarks: Ln(P) = -2.946.; Ca. 0.26 Pa. Temperature: <= 50 °C. Remarks: Ln(P) = -1.340.; Ca. 2.47 Pa. Temperature: 100 °C. Remarks: Ln(P) 0.906.
<b>Density and/or relative density</b>	0.7 - 0.77. Temperature: 22 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

no data available

#### 10.2 Chemical stability

no data available

#### 10.3 Possibility of hazardous reactions

no data available

#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

no data available

#### 10.6 Hazardous decomposition products

no data available

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Oral: LD50 - rat (male) - >= 11 204 mg/kg bw. Remarks: Slope (degrees) 88. 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

no data available

#### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish: no data available  
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna -  $\leq 4\,335$  mg/L - 48 h.  
Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) -  $\leq 1\,199$  mg/L - 72 h.  
Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

AEROBIC: No data on the aerobic biodegradation of betaine was l<sup>c</sup>Cated however, amphoteric surfactants based on the betaine structure have been shown to be mineralized to a significant extent. For example, C12-C14 alkyl betaine surfactants were shown to be readily biodegradable in 28-day closed bottle screening tests reaching >60% of the theoretical oxygen demand over this period(1,2).

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

The K<sup>o</sup>C of betaine is estimated as 3(SRC), using a water solubility of 611,000 mg/L at 19.3 deg C(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated K<sup>o</sup>C value suggests that betaine is expected to have very high mobility in soil. The estimated pKa of betaine, an inner salt, is 2.38(4).

### 12.5 Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 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.

## 14. TRANSPORT INFORMATION

### 14.1 UN Number

no data available

### 14.2 UN Proper Shipping Name

no data available

### 14.3 Transport hazard class(es)

no data available

### 14.4 Packing group, if applicable

no data available

### 14.5 Environmental hazards

no data available

**14.6 Special precautions for user**

no data available

**14.7 Transport in bulk according to IMO instruments**

no data available

**15. REGULATORY INFORMATION****15.1 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 (NZIPC)	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.

**16. OTHER INFORMATION****Information on revision****Creation Date** April 22, 2026**Revision Date** April 22, 2026**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.homeHSDB> - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.html> 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?pageID=0&request\\_l\\_Cale=enCAMEO](http://www.echemportal.org/echemportal/index?pageID=0&request_l_Cale=enCAMEO) Chemicals, website: <http://cameochemicals.noaa.gov/search/simpleChemIDplus>, 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/>

**Other Information**

no data available

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