

# Choline Chloride SDS/MSDS (Safety Data Sheet)

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

\* Product Name: Choline Chloride

\* Catalog Number: S4171

\* CAS Number: 67-48-1

\* IUPAC Name: Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1)

Relevant identified uses and uses advised against

\* Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.

\* Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

\* Company: Selleck Chemicals

\* TollFree: +1 877 796-6397

\* Tel: +1 832 582-8158

\* Fax: +1 832 582-8590

Emergency telephone number

\* Emergency phone #: +1 832 582-8158

## 2. HAZARDS IDENTIFICATION

### 2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Skin irritation: Category 2. H315

Serious eye irritation: Category 2. H319

Specific target organ toxicity (single exposure): Category 3. H335

### 2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word

Warning

Hazard statement(s)

H315: Causes skin irritation

H319: Causes serious eye irritation

H335: May cause respiratory irritation

Precautionary statement(s)

None.

Prevention

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P264: Wash hands thoroughly after handling.

P264+P265: Wash hands thoroughly after handling. Do not touch eyes.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Response</b> | <p>P302+P352: IF ON SKIN: wash with plenty of water.</p> <p>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351: IF IN EYES: Rinse cautiously with water for several minutes.</p> <p>P319: Get medical help if you feel unwell.</p> <p>P321: Specific treatment (see information on this label and safety datasheet)).</p> <p>P332+P317: If skin irritation occurs: Get medical help.</p> <p>P337+P317: If eye irritation persists: Get medical help.</p> <p>P338: Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P362+P364: Take off contaminated clothing and wash it before reuse.</p> |
| <b>Storage</b>  | <p>P403+P233: Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405: Store locked up.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Disposal</b> | <p>P501: P501 Dispose of contents/ container to an approved waste disposal plant.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 2.3 Other hazards

None.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Product name: Choline Chloride

CAS Number: 67-48-1

PubChem CID: 6209

Molecular formula: C<sub>5</sub>H<sub>14</sub>ClNO

Molecular weight: 139.62 g/mol

IUPAC name: 2-hydroxyethyl(trimethyl)azanium chloride

### 3.2 Mixtures

Not applicable (pure substance).

## 4. FIRST-AID MEASURES

### 4.1 Description of first aid measures

Inhalation: Fresh air, rest.

Skin contact: Rinse and then wash skin with water and soap.

Eye contact: Rinse with plenty of water for several minutes (remove contact lenses if easily possible).

Ingestion: INGESTION: DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport

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

See Section 11 (Toxicological Information).

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

Treat symptomatically. Contact a poison control center or physician for severe exposure.

## **5. FIRE-FIGHTING MEASURES**

### **5.1 Extinguishing media**

Suitable: Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam.

Unsuitable: None known.

### **5.2 Specific hazards arising from the substance or mixture**

To fight fires involving this chemical, you should be equipped with an air line or self-contained breathing apparatus.

Extinguish with a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)

Use water spray, powder.

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

### **6.2 Environmental precautions**

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

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

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

SRP: At the time of review, criteria for land treatment or burial (sanitary landfill) disposal practices are subject to significant revision. Prior to implementing land disposal of waste residue (including waste sludge), consult with environmental regulatory agencies for guidance on acceptable disposal practices.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)

Separated from strong oxidants.

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

Separated from strong oxidants.

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Exposure controls**

#### **8.1.1 Occupational exposure limits (OEL)**

OSHA PEL: Not established.

ACGIH TLV: Not established.

NIOSH REL: Not established.

No occupational exposure limit values are established for this substance.

Use the lowest feasible exposure level (ALARA principle).

#### **8.1.2 Appropriate engineering controls**

Use only in a chemical fume hood or with local exhaust ventilation.

Ensure adequate ventilation to keep airborne concentrations below exposure limits.

### **8.2 Individual protection measures**

#### **8.2.1 Eye/face protection**

Wear chemical safety goggles.

#### **8.2.2 Skin protection**

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

#### **8.2.3 Respiratory protection**

Use NIOSH-approved dust/mist respirator (N95 or higher) if ventilation is inadequate.

#### **8.2.4 Thermal hazards**

Not applicable.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

a) Appearance: Choline chloride appears as white crystals. Practically neutral aqueous solution. (NTP, 1992)

b) Odor: No data available

c) Odor threshold: No data available

d) pH: 4.7 (10% SOLN IN WATER)

e) Melting point/freezing point: 577 to 581 °F (Decomposes) (NTP, 1992)

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: No data available

l) Vapor density: No data available

m) Relative density: No data available

- n) Water solubility: Very soluble (NTP, 1992)
- o) Partition coefficient: n-octanol/water: Log P: No data available
- p) Auto-ignition temperature: No data available
- q) Decomposition temperature: No data available
- r) Viscosity: No data available
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

## 9.2 Other information

Topological Polar Surface Area (TPSA): 20.2 Å<sup>2</sup>  
Complexity: 46

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.  
Avoid strong oxidizing agents, strong acids, and strong bases.

### 10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases.

### 10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl).  
See also Section 5 (Fire-fighting measures) for combustion products.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity:

No acute toxicity data available.

#### Skin corrosion/irritation:

Causes skin irritation (H315).

#### Serious eye damage/eye irritation:

Causes serious eye irritation (H319).

#### Respiratory or skin sensitization:

No data available.

**Germ cell mutagenicity:**

No data available.

**Carcinogenicity:**

No data available.

**Reproductive toxicity:**

No data available.

**Specific target organ toxicity (single exposure):**

No data available.

**Specific target organ toxicity (repeated exposure):**

No data available.

**Aspiration hazard:**

No data available.

**11.2 Additional information**

No additional toxicological information available.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Mature human milk contains more phosphocholine and glycerophosphocholine than choline, phosphatidylcholine, of sphingomyelin. Human milk contains 1.5 to 2 mM choline moiety per liter. /Choline/

NIOSH (NOES Survey 1981-1983) has statistically estimated that 31,203 workers (8,214 of these are female) are potentially exposed to choline chloride in the US(1). Occupational exposure to choline chloride may occur through inhalation of dust and dermal contact with this compound at workplaces where choline chloride is produced or used(SRC).

... The fetal choline content can be estimated as approximately 5 mmol/kg (520 mg/kg) fetal weight. Human placental tissue has been estimated to average 1.26 + or - 0.24 mmol/kg ... in a small sample (n = 7) ... /Choline/

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available.

**12.6 Other adverse effects**

No other adverse ecological effects identified.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

## **14. TRANSPORT INFORMATION**

### **14.1 UN number**

Not regulated as dangerous goods (research quantities typically exempt).

### **14.2 UN proper shipping name**

Not subject to transport regulations (small quantities for research use).

### **14.3 Transport hazard class(es)**

Not classified as dangerous goods for transport (research quantities).

### **14.4 Packing group**

Not applicable (not regulated as dangerous goods in typical research quantities).

### **14.5 Environmental hazards**

Marine pollutant: No (not classified as environmentally hazardous per GHS).

### **14.6 Special precautions for user**

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

### **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

## **15. REGULATORY INFORMATION**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

#### **SARA 302 Components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards:**

Acute (short-term) health hazard

#### **Massachusetts Right To Know Components:**

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

#### **Pennsylvania Right To Know Components:**

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

**New Jersey Right To Know Components:**

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

**California Prop. 65 Components:**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory listings:**

- The Australian Inventory of Industrial Chemicals: Chemical: Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride
- EFSA Legal Basis: Directive (EC) No 46/2002
- Status Regulation (EC): 2004/129/EC
- FDA Requirements: Choline chloride used as a nutrient in food for human consumption is generally recognized as safe when used in accordance with good manufacturing practice.

Choline chloride used as a nutrient and/or dietary supplement in animal drugs, feeds, and related products is generally recognized as safe when

**15.2 Chemical safety assessment**

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

**16. OTHER INFORMATION**

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product.

Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.