

## SAFETY DATA SHEET

Creation Date 15-Sep-2014

Revision Date 24-Dec-2021

Revision Number 5

### 1. Identification

|                             |  |
|-----------------------------|--|
| <b>Product Name</b>         | Betaine hydrochloride                              |
| <b>Cat No. :</b>            | AC164550000; AC164550010; AC164550025; AC164552500 |
| <b>CAS No</b>               | 590-46-5   |
| <b>Synonyms</b>             | 1-Carboxy-N,N,N-trimethylmethanaminium chloride    |
| <b>Recommended Use</b>      | Laboratory chemicals.                              |
| <b>Uses advised against</b> | Food, drug, pesticide or biocidal product use.     |

#### Details of the supplier of the safety data sheet

##### **Company**

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

##### **Emergency Telephone Number**

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

##### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |            |
|-----------------------------------|------------|
| Serious Eye Damage/Eye Irritation | Category 2 |
|-----------------------------------|------------|

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

Causes serious eye irritation



#### Precautionary Statements

##### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Wear eye/face protection

##### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

##### Hazards not otherwise classified (HNOC)

None identified

### 3. Composition/Information on Ingredients

| Component   | CAS No   | Weight % |
|---|----------|----------|
| Methanaminium, 1-carboxy-N,N,N-trimethyl-, chloride | 590-46-5 | >95      |

### 4. First-aid measures

|  |  |
|--|--|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.  |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.                                       |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. |
| <b>Ingestion</b>                           | Clean mouth with water. Get medical attention.   |
| <b>Most important symptoms and effects</b> | No information available.  |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

### 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

**Autoignition Temperature** No information available  
**Explosion Limits**

**Upper** No data available  
**Lower** No data available

**Sensitivity to Mechanical Impact** No information available  
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride gas.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

Health  
2

Flammability  
1

Instability  
0

Physical hazards  
N/A

**6. Accidental release measures**

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions** See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

**7. Handling and storage**

**Handling** Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Strong oxidizing agents.

**8. Exposure controls / personal protection**

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limit established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

**Physical State**

Solid

**Appearance**

White

**Odor**

Odorless

**Odor Threshold**

No information available

|  |                          |
|--|--------------------------|
| pH                                     | 1 (@ 20 ) 50 g/l aq.sol  |
| Melting Point/Range                    | 241 °C / 465.8 °F        |
| Boiling Point/Range                    | No information available |
| Flash Point                            | No information available |
| Evaporation Rate                       | Not applicable           |
| Flammability (solid,gas)               | No information available |
| Flammability or explosive limits       |                          |
| Upper                                  | No data available        |
| Lower                                  | No data available        |
| Vapor Pressure                         | No information available |
| Vapor Density                          | Not applicable           |
| Specific Gravity                       | No information available |
| Solubility                             | Soluble in water         |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | No information available |
| Decomposition Temperature              | No information available |
| Viscosity                              | Not applicable           |
| Molecular Formula                      | C5 H11 N O2 . H Cl       |
| Molecular Weight                       | 153.61                   |

## 10. Stability and reactivity

|   |   |
|---|---|
| <b>Reactive Hazard</b>                  | None known, based on information available  |
| <b>Stability</b>                        | Stable under normal conditions.   |
| <b>Conditions to Avoid</b>              | Excess heat. Incompatible products.   |
| <b>Incompatible Materials</b>           | Strong oxidizing agents   |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen chloride gas |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

|   |   |
|---|---|
| <b>Product Information</b>                  | No acute toxicity information is available for this product |
| <b>Component Information</b>                |   |
| <b>Toxicologically Synergistic Products</b> | No information available                                    |

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                      |                          |
|----------------------|--------------------------|
| <b>Irritation</b>    | Severe eye irritant      |
| <b>Sensitization</b> | No information available |

|                        |  |
|------------------------|--|
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
|------------------------|--|

| Component   | CAS No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|---|----------|------------|------------|------------|------------|------------|
| Methanaminium, 1-carboxy-N,N,N-trimethyl-, chloride | 590-46-5 | Not listed |

|                          |                          |
|--------------------------|--------------------------|
| <b>Mutagenic Effects</b> | No information available |
|--------------------------|--------------------------|

|                             |                           |
|-----------------------------|---------------------------|
| <b>Reproductive Effects</b> | No information available. |
|-----------------------------|---------------------------|

|   |  |
|---|--|
| <b>Developmental Effects</b>                      | No information available.  |
| <b>Teratogenicity</b>                             | No information available.  |
| <b>STOT - single exposure</b>                     | None known   |
| <b>STOT - repeated exposure</b>                   | None known   |
| <b>Aspiration hazard</b>                          | No information available   |
| <b>Symptoms / effects, both acute and delayed</b> | No information available   |
| <b>Endocrine Disruptor Information</b>            | No information available   |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information. |

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component   | log Pow |
|---|---------|
| Methanaminium, 1-carboxy-N,N,N-trimethyl-, chloride | -4.93   |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

|                 |               |
|-----------------|---------------|
| <u>DOT</u>      | Not regulated |
| <u>TDG</u>      | Not regulated |
| <u>IATA</u>     | Not regulated |
| <u>IMDG/IMO</u> | Not regulated |

## 15. Regulatory information

### United States of America Inventory

| Component   | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---|----------|------|---|-----------------------------|
| Methanaminium, 1-carboxy-N,N,N-trimethyl-, chloride | 590-46-5 | X    | ACTIVE  | -                           |

### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component   | CAS No   | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|---|----------|-----|------|-----------|-------|------|------|------|-------|------|
| Methanaminium,<br>1-carboxy-N,N,N-trimethyl-,<br>chloride | 590-46-5 | X   | -    | 209-683-1 | X     | X    | X    | X    | -     | -    |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**U.S. Federal Regulations**

**SARA 313** Not applicable

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH****Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component   | CAS No   | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|----------|----------------|------------------------------|---------------------------|--|
| Methanaminium,<br>1-carboxy-N,N,N-trimethyl-,<br>chloride | 590-46-5 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------|--------|---|--|----------------------------|------------------------------------|
|           |        |   |  |                            |                                    |

|   |          |                |                |                |                |
|---|----------|----------------|----------------|----------------|----------------|
| Methanaminium,<br>1-carboxy-N,N,N-trimethyl-,<br>chloride | 590-46-5 | Not applicable | Not applicable | Not applicable | Not applicable |
|---|----------|----------------|----------------|----------------|----------------|

## 16. Other information

|                  |   |
|------------------|---|
| Prepared By      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com  |
| Creation Date    | 15-Sep-2014   |
| Revision Date    | 24-Dec-2021   |
| Print Date       | 24-Dec-2021   |
| Revision Summary | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**