

## MATERIAL SAFETY DATA SHEET

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Version 1.4

## Section 1 - Product and Company Information

|                           |                         |
|---------------------------|-------------------------|
| Product Name              | BETAINE, 98%            |
| Product Number            | 219061                  |
| Brand                     | ALDRICH                 |
| Company                   | Sigma-Aldrich           |
| Street Address            | 3050 Spruce Street      |
| City, State, Zip, Country | SAINT LOUIS MO 63103 US |
| Technical Phone:          | 314 771 5765            |
| Emergency Phone:          | 414 273 3850 Ext. 5996  |
| Fax:                      | 800 325 5052            |

## Section 2 - Composition/Information on Ingredient

|                   |                                                                                                                                                                                                                                                                           |          |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Substance Name    | CAS #                                                                                                                                                                                                                                                                     | SARA 313 |
| BETAINE ANHYDROUS | 107-43-7                                                                                                                                                                                                                                                                  | No       |
| Formula           | C5H11NO2                                                                                                                                                                                                                                                                  |          |
| Synonyms          | Abromine * (Carboxymethyl)trimethylammonium hydroxide, inner salt * alpha-Earleine * Glycine betaine * Glycocoll betaine * Glycylbetaine * Glykokollbetain (German) * Jortaine * Loramine AMB 13 * Lycine * Oxynurine * Rubrine C * Trimethylglycine * Trimethylglycocoll |          |
| RTECS Number:     | DS5900000                                                                                                                                                                                                                                                                 |          |

## Section 3 - Hazards Identification

## HMIS RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

## NFPA RATING

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

## DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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### Section 5 - Fire Fighting Measures

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#### FLASH POINT

N/A

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

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#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

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#### HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed.

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### Section 8 - Exposure Controls / PPE

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Wear dust mask.  
Hand: Protective gloves.  
Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

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### Section 9 - Physical/Chemical Properties

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Appearance                      Physical State: Solid  
                                         Color: White  
                                         Form: Powder

| Property              | Value                        | At Temperature or Pressure |
|-----------------------|------------------------------|----------------------------|
| Molecular Weight      | 117.15 AMU                   |                            |
| pH                    | N/A                          |                            |
| BP/BP Range           | N/A                          |                            |
| MP/MP Range           | 301 °C                       |                            |
| Freezing Point        | N/A                          |                            |
| Vapor Pressure        | N/A                          |                            |
| Vapor Density         | N/A                          |                            |
| Saturated Vapor Conc. | N/A                          |                            |
| Bulk Density          | N/A                          |                            |
| Odor Threshold        | N/A                          |                            |
| Volatile%             | N/A                          |                            |
| VOC Content           | N/A                          |                            |
| Water Content         | < 1 %                        |                            |
| Solvent Content       | N/A                          |                            |
| Evaporation Rate      | N/A                          |                            |
| Viscosity             | N/A                          |                            |
| Surface Tension       | N/A                          |                            |
| Partition Coefficient | N/A                          |                            |
| Decomposition Temp.   | N/A                          |                            |
| Flash Point           | N/A                          |                            |
| Explosion Limits      | N/A                          |                            |
| Flammability          | N/A                          |                            |
| Autoignition Temp     | N/A                          |                            |
| Refractive Index      | N/A                          |                            |
| Optical Rotation      | N/A                          |                            |
| Miscellaneous Data    | N/A                          |                            |
| Solubility            | Solvent: 0.1 g/ml MeOH Clear |                            |

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and

toxicological properties have not been thoroughly investigated.

#### TOXICITY DATA

Subcutaneous

Mouse

10800 MG/KG

LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold.  
Behavioral:Fluid intake. Lungs, Thorax, or Respiration:Cyanosis.

Intravenous

Mouse

830 MG/KG

LD50

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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##### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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#### Section 14 - Transport Information

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DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

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#### Section 15 - Regulatory Information

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##### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

##### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

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#### Section 16 - Other Information

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##### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

##### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage

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