



# Betaine Solution

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 10/12/2016

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Version: 1.0

### SECTION 1: IDENTIFICATION

#### Product Identifier

**Product Form:** Mixture

**Product Name:** Betaine Solution

#### Intended Use of the Product

No use is specified.

#### Name, Address, and Telephone of the Responsible Party

##### **Company**

Michigan Sugar Company  
122 Uptown Drive, Suite 300  
Bay City, MI 48708  
989-686-0161

[www.michigansugar.com](http://www.michigansugar.com)

#### Emergency Telephone Number

**Emergency Number** : 989-686-0161

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification of the Substance or Mixture

##### **GHS-US/CA Classification**

Not classified

#### Label Elements

##### **GHS-US/CA Labeling**

No labeling applicable

#### Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

#### Unknown Acute Toxicity (GHS-US/CA)

No data available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Water	(CAS No) 7732-18-5	42	Not classified
Methanaminium, 1-carboxy-N,N,N-trimethyl-, inner salt	(CAS No) 107-43-7	32	Comb. Dust
Carbohydrates and Sugars, carboxylic acids, sodium salts	(CAS No) 70955-51-0	26	Comb. Dust

Full text of H-phrases: see section 16

\*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

### SECTION 4: FIRST AID MEASURES

#### Description of First-aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Gently wash with plenty of soap and water. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if redness, pain, or irritation occurs.

**Ingestion:** Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell.

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### **Most Important Symptoms and Effects Both Acute and Delayed**

**General:** Not expected to present a significant hazard under anticipated conditions of normal use.

**Inhalation:** None expected under normal conditions of use.

**Skin Contact:** None expected under normal conditions of use.

**Eye Contact:** None expected under normal conditions of use.

**Ingestion:** None expected under normal conditions of use.

**Chronic Symptoms:** None expected under normal conditions of use.

### **Indication of Any Immediate Medical Attention and Special Treatment Needed**

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## **SECTION 5: FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

**Suitable Extinguishing Media:** Water spray, dry chemical, alcohol-resistant foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### **Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### **Advice for Firefighters**

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Toxic vapors.

### **Reference to Other Sections**

Refer to Section 9 for flammability properties.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

**General Measures:** Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

#### **For Non-Emergency Personnel**

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### **For Emergency Personnel**

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### **Environmental Precautions**

Avoid unnecessary release into environment.

### **Methods and Materials for Containment and Cleaning Up**

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### **Reference to Other Sections**

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## **SECTION 7: HANDLING AND STORAGE**

### **Precautions for Safe Handling**

**Additional Hazards When Processed:** Contains substances that are combustible dusts. If dried and allowed to accumulate, may form combustible dust concentrations in air that could ignite and cause an explosion. Take appropriate precautions.

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray.

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

### **Conditions for Safe Storage, Including Any Incompatibilities**

**Technical Measures:** Comply with applicable regulations.

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**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Materials:** Strong bases. Strong oxidizers.

### Specific End Use(s)

No use is specified.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Not generally required. The use of personal protective equipment may be necessary as conditions warrant.

**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear protective gloves.

**Eye Protection:** Chemical goggles or safety glasses.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear
Odor	: None
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Not available
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

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**Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.

**Incompatible Materials:** Strong bases. Strong oxidizers.

**Hazardous Decomposition Products:** Risk for formation of trimethylamine in hot, strongly alkaline solution.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects - Product

**Acute Toxicity (Oral):** Not classified

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** None expected under normal conditions of use.

**Symptoms/Injuries After Skin Contact:** None expected under normal conditions of use.

**Symptoms/Injuries After Eye Contact:** None expected under normal conditions of use.

**Symptoms/Injuries After Ingestion:** None expected under normal conditions of use.

**Chronic Symptoms:** None expected under normal conditions of use.

### Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:** Not available

## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity

**Ecology - General:** Not classified.

### Persistence and Degradability

Betaine Solution	
<b>Persistence and Degradability</b>	Not established.

### Bioaccumulative Potential

Betaine Solution	
<b>Bioaccumulative Potential</b>	Not established.

**Mobility in Soil:** Not available

### Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, and international regulations

**Ecology - Waste Materials:** Avoid unnecessary release into the environment.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

**In Accordance with DOT:** Not regulated for transport

**In Accordance with IMDG:** Not regulated for transport

**In Accordance with IATA:** Not regulated for transport

**In Accordance with TDG:** Not regulated for transport

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### SECTION 15: REGULATORY INFORMATION

#### US Federal Regulations

##### Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Methanaminium, 1-carboxy-N,N,N-trimethyl-, inner salt (107-43-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Carbohydrates and Sugars, carboxylic acids, sodium salts (70955-51-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### US State Regulations

Neither this product nor its chemical components appear on any US state lists.

#### Canadian Regulations

##### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

##### Methanaminium, 1-carboxy-N,N,N-trimethyl-, inner salt (107-43-7)

Listed on the Canadian DSL (Domestic Substances List)

##### Carbohydrates and Sugars, carboxylic acids, sodium salts (70955-51-0)

Listed on the Canadian NDSL (Non-Domestic Substances List)

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 10/12/2016

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR).

#### GHS Full Text Phrases:

Comb. Dust

Combustible Dust

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

NA GHS SDS 2015 (US, Can)