



THE AMALGAMATED SUGAR COMPANY LLC

3184 ELDER STREET - BOISE, IDAHO 83705
PHONE: (208) 383-6500 - FAX: (208) 383-6688

MATERIAL SAFETY DATA SHEET

Version: 02 September 24, 2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Betaine Liquid**
PRODUCT CODE: 13063900
CHEMICAL FAMILY: (Formula – $C_5H_{11}NO_2$)
CHEMICAL NAME: Betaine
SYNONYMS: Betaine, 1-Carboxy-N,N,N-trimethylmethan-
aminiumhydroxide inner salt, Trimethylglycine
TYPICAL USES: Nutritional Feed Additive (vitamin)

MANUFACTURER: The Amalgamated Sugar Company LLC, Boise, Idaho 83705

EMERGENCY TELEPHONE NUMBERS: (208) 383-6500- Mike Fowers or 1-(800) 255-3582

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>WEIGHT %</u>	<u>CAS #</u>	<u>EXPOSURE LIMITS</u>
<u>COMPONENTS:</u> Betaine (min)	34%	107-43-7	NA
Plant Non-Sucroses	< 25%	NA	NA
Water	< 45%	NA	NA

HAZARDOUS COMPONENTS: None

SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview: As with all chemicals, avoid direct contact with skin, eyes, and mucus membranes.

Potential Health Effects: May cause allergic type reactions in sensitive people.

Eye: May cause irritation with direct contact
Inhalation: NA
Skin: May cause irritation with direct contact
Ingestion: May cause irritation if ingested
Systemic: NA
Medical Conditions Aggravated by Exposure: None known
Exposure Symptoms: NA
Carcinogenicity: Not Carcinogenic

SECTION 4. FIRST AID MEASURES

Eyes: Flush eyes immediately with copious amounts of water
Inhalation: NA
Skin: Wash skin immediately with soap and water.
Ingestion: Wash out mouth with water unless person is unconscious.
Call a Physician.

SECTION 5. FIRE FIGHTING MEASURES

Flammable Properties:	Non-flammable
Flammable Limits:	Non-flammable
Auto Ignition Temperature:	None
Hazardous Combustion/Decomposition Products:	Trimethyl ester, dimethylaminoacetic acid
Other Fire and Explosion Hazards:	None
Extinguishing Media:	Water, CO ₂ , foam powder, sand
Fire Fighting Equipment:	Extinguishers
Fire Fighting Instructions:	Use usual methods

SECTION 6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up: wash with lots of water

SECTION 7. HANDLING AND STORAGE

General Handling Precautions: Avoid direct contact with skin, eyes and mucous membranes
Storage Information: Store at ambient temperature. Temperature should be less than 30°C
Special Sensitivity: NA
Shelf life: NA

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Recommend personal protective equipment
Eye Protection:	Protective glasses, goggles or shields
Respiratory Protection:	NA
Protective Equipment:	Approved uniforms, glasses, and gloves
Personnel sampling procedure:	Impermeable gloves

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown syrup
Physical state:	slightly sticky syrup
Odor:	Faint molasses odor
Molecular Formula:	C ₅ H ₁₁ NO ₂
Molecular Weight:	NA
Bulk Density:	ca. 1.15 kg/l
Solubility in water:	Mixable with water
Solubility in ethanol:	NA
pH:	ca. 7.5-9.5
Melting Point:	NA
Boiling Point:	NA
Ignition Temp.:	Non-flammable
Combustion point:	Non-combustible
Explosion Limits:	NA

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability:	Stable product at normal temperatures
Material Incompatibility:	Avoid hot alkaline solutions – may form trimethylamine
Hazardous Decomposition Products:	May decompose above 310° C forming trimethyl ester, dimethylaminoacetic acid
Hazardous Polymerization:	Will not polymerize

SECTION 11. TOXICOLOGICAL INFORMATION

Classified as non-toxic for acute health hazards.

SECTION 12. ECOLOGICAL INFORMATION

Not dangerous to the environment based on ecotoxicity studies.

SECTION 13. DISPOSAL CONSIDERATIONS

No special disposal methods are required, except to be in accordance with current local authority regulations

SECTION 14. TRANSPORT INFORMATION

Labeling: Not applicable

SECTION 15. REGULATORY INFORMATION

U.S. Federal Regulations: Not considered an acute hazardous product

OSHA:

PSM:

FIFRA:

TSCA:

CERCLA:

SARA TITLE III:

RMP:

RCRA:

CWA:

FDA/USDA:

International Regulations

Canadian Dangerous Substance List (DSL):

European Inventory of Existing Commercial Chemical Substances (EINECS):

Australian Inventory of Chemical Substances (AICS):

Japan ENCS:

State Regulations

None

16. OTHER INFORMATION

Reason for Issue:

Hazard Ratings –

<u>NFPA</u>	
Fire	– 1
Health	– 2
Reactivity	– 0
Specific Hazard	– None

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The Amalgamated Sugar Company, LLC
3184 Elder Street
Boise, Id 83705

Product: Betaine Liquid

ADDENDUM

Abbreviations - The following abbreviations may be used in this document:

g/cm³ – gram per cubic centimeter
g/L – grams per liter
lb/ft³ – pounds per cubic foot
mg/kg – milligrams per kilogram
mg/m³ - milligrams per cubic meter
ppm - parts per million
ACGIH - American Council of Governmental Industrial Hygienists
AICS - Australian Inventory of Chemical Substances
CAS - Chemical Abstract Service
CERCLA - Comprehensive Emergency Response, Compensation and Liability Act
CFR - Code of Federal Regulations
CWA - Clean Water Act
D.O.T. - Department of Transportation
DSL - Dangerous Substance List (Canada)
ECL - Existing Chemicals List (Korea)
EINECS - European Inventory of Existing Commercial Substances
FDA - Food and Drug Administration
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
IDLH - Immediately Dangerous to Life and Health
LFL - Lower Flammable Limit
LD₅₀ – Lethal dose for 50% mortality of subject species
MSHA - Mine Safety Health Administration
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit (default 8-hour day, 40-hour week TWA)
PSM - Process Safety Management
RCRA - Resource Conservation and Recovery Act
REL - Recommended Exposure Limit (default 10-hour day, 40-hour week TWA)
RMP - Risk Management Plan
SARA - Superfund Amendment and Reauthorization Act
STEL - Short Term Exposure Limit (default 15-minute TWA)
TSCA - Toxic Substance Control Act
TWA - Time Weighted Average
VOC – Volatile Organic Chemical
UFL - Upper Flammable Limit
USDA - United States Department of Agriculture