



40% UREA SOLUTION

Safety Data Sheet

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name: Urea Solution

Chemical Family: Organic salt solution

General Use: Waste water treatment, power plant emissions control, agriculture, and other manufacturing applications

Company Information:

GAC Chemical Corporation

34 Kidder Point Road

Searsport, Maine 04974 U.S.A.

Phone: 207-548-2525 FAX: 207-548-2891 Toll Free: 800-266-5155

Emergency Phone:

1-800-424-9300 Chemtrec (USA)

SECTION 2. HAZARDS IDENTIFICATION

Pictogram: None required

Signal Word: WARNING

Hazard Statements: Causes mild skin irritation
Causes eye irritation

Precautionary Statements: Do not get in eyes, on skin or on clothing.
Wear gloves, eye and face protection and protective clothing.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation occurs: get medical advice or attention.
If eye irritation persists: get medical advice or attention.
Collect spillage.
Store in a closed container.
Dispose of container in accordance with local, state, province and federal regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance

Chemical Name:	Urea	CAS#: 57-13-61	(39.0 - 41.0%)
	Water	CAS#: 7732-18-5	(59.0 - 61.0%)

Synonyms: Carbamide

Impurities: NA. No impurities or additives which are themselves classified and which contribute to the classification of the substance.

SECTION 4. FIRST AID MEASURES

Inhalation of mist or liquid:

Remove person from source of exposure to fresh air. If breathing is difficult, administer oxygen. If not breathing, start CPR. Get medical attention immediately.

Skin contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing.

If irritation develops get medical attention.

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open.

Get medical attention if irritation persists.

Ingestion:

If fully conscious, drink as much water as can be tolerated. DO NOT induce vomiting. Get medical attention.

Most Important Symptoms/Effects:

Inhalation:

Mists may irritate nose, throat, mucous membranes, and respiratory tract.

Skin contact:

Prolonged and repeated exposure may cause mild irritation.

Eye contact:

May cause irritation. May cause pain and tearing.

Ingestion:

May cause irritation of the mouth, throat, gastrointestinal tract. May cause abdominal pain, nausea, vomiting.

SECTION 5. FIRE FIGHTING MEASURES

Flammability:

Product is not flammable and will not burn.

Suitable Extinguishing Media:

For fires in area use appropriate extinguishing media.

Specific Hazards Arising from the Chemical:

In a fire, dried product can decompose at elevated temperatures and may release ammonia, carbon monoxide, carbon dioxide and oxides of nitrogen. Exposure to products of decomposition during a fire may be hazardous.

Special Protective Equipment and Precautions for Firefighters:

Wear full protective fire fighting clothing including NIOSH approved self contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products.

SECTION 6. ACCIDENTAL RELEASE MEASURES**General:**

Site specific procedures to address accidental spills are necessary as dictated by facility design, location, staffing, containment structures, and regulatory requirements. Consult engineers if needed.

Personal Precautions, Protective Equipment and Emergency Procedures:

In the event of a spill, clear unnecessary personnel from spill area. If direct contact with spilled material is likely, use personal protective equipment recommended in Section 8.

Methods and Materials for Containment and Cleaning Up:

Shut off source of leak if safe to do so. Manage spill using containment structures or inert materials and collect for reuse. Material can be captured using absorbent materials for disposal in accordance with local, state, province, and federal regulations. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

SECTION 7. HANDLING AND STORAGE**Incompatible Chemicals:**

Avoid contact with hypochlorites and oxidizers.

Containment:

To minimize the possibility of a release into the environment and contact with other incompatible chemicals, storage tanks and containers should have a dedicated liquid tight secondary containment system. Consult engineers if needed.

General Hygiene:

Do not eat, drink, take medication or smoke when direct contact is possible.

Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

Storage:

Keep storage tanks and containers closed and contents protected from dust, dirt, and moisture.

Clean storage tanks on a regular schedule based on inspection and experience.

Have storage tanks, containers, and transfer systems properly labeled for contents.

Have procedures for determining product quantity in storage tanks and for accepting deliveries.

Use tanks, transfer lines, pumps valves and process instrumentation designed for this material using approved materials of construction. Some materials commonly used are stainless steel, some plastics, and FRP. Mild steel, iron and nonferrous metals will be damaged by corrosion. Consult engineers if needed.

Temperature for Storage:

Preferred storage temperature range is 10°C-38°C (50°F-100°F). Product crystallizes at 2°C (35°F).

Ventilation:

No special requirements.

Personal Protection:

If direct contact with material is likely use personal protective equipment.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits

Ingredient: urea salt solution (nuisance dust/mist)

OSHA PEL		ACGIH TLV		NIOSH TLV		NIOSH
TWA	STEL	TWA	STEL	TWA	STEL	IDLH
15mg/m ³	none est.	10mg/m ³	none est.	none est.	none est.	none est.

Respiratory - Ventilation:

Local passive ventilation is typically used. Under normal conditions respiratory protective equipment is not needed. If work requires direct exposure to product mist, use appropriate, NIOSH approved respiratory protection. Consult engineers if necessary.

Eye - Skin wash:

Have appropriate eye wash and safety shower stations available in the work area.

Eyes:

Use protective eye glasses with side shields/goggles and face shield protection to prevent direct contact.

Skin:

Wear long sleeve shirt, full length trousers, and gloves. No open-toed footwear. For spill cleanup, use impervious gloves and boots.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid, clear to slight haze, colorless.

Odor: None to slight ammonia

Odor Threshold: NA

pH: 8.0 – 9.5

Melting/Freeze point: 2°C (35°F)

Boiling point-range: >100°C (>212°F)

Flash point: NA

Evaporation rate: <1 (Butyl Acetate=1)

Flammability: Not flammable.

Upper/lower flammability limits: NA

Vapor pressure: NA

Vapor density: NA

Relative Density (Specific Gravity): 1.1095 – 1.1158 S.G. @ 20°C (68°F)

Water Solubility: Complete.

Partial coefficient: n-octanol/water: NA

Auto ignition: NA

Decomposition temperature: unknown

Viscosity: NA

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

Reacts with hypochlorites to form explosive compounds that are sensitive to pressure and temperature increases.

Chemical Stability:

Product is chemically stable under normal ambient temperature and conditions while stored or used.

Possibility of Hazardous Reactions:

Product will not polymerize.

Conditions to Avoid:

At elevated temperatures ammonia gas may be released. Avoid Freezing. Keep away from incompatibles.

Incompatible Materials:

Strong alkalis, strong acids, strong oxidizing agents, chlorates, nitrates, hypochlorites, mild steel, iron, and non-ferrous metals. Consult engineers if necessary.

Hazardous Decomposition Products:

In a fire, dried product can decompose at elevated temperatures and may release ammonia, carbon monoxide, carbon dioxide and oxides of nitrogen. Exposure to products of decomposition during a fire may be hazardous.

SECTION 11. TOXICOLOGICAL INFORMATION**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Urea (57-13-6)

Oral LD50 Rat 14300 mg/kg

HEALTH EFFECTS**Inhalation - Acute Exposure**

Mists may irritate nose, throat, mucous membranes, and respiratory tract.

Inhalation - Chronic Exposure

Mists may irritate nose, throat, mucous membranes, and respiratory tract.

Skin Contact - Acute Exposure

May cause mild irritation.

Skin Contact - Chronic Exposure

Prolonged and repeated exposure may cause mild irritation.

Eye Contact - Acute Exposure

May cause irritation, pain and tearing.

Eye Contact - Chronic Exposure

May cause irritation, pain and tearing.

Ingestion - Acute Exposure

May cause irritation of the mouth, throat, gastrointestinal tract. May cause abdominal pain, nausea, vomiting.

Ingestion - Chronic Exposure

No data available.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity (aquatic):****Urea (57-13-6)**

Fish: LC50 Guppy: 11,252,875 ug/L

Invertebrate: LC50 Daphnia magna: 10,000,000 ug/L

Persistence and Degradability:

No information available

Bioaccumulation Potential:

No information available

Mobility in Soil:

No information available.

Other Adverse Effects:

Urea will promote algae growth which may degrade water quality and taste.

SECTION 13. DISPOSAL CONSIDERATIONS

RCRA Hazardous Waste: Not listed.

Neutralization:

No neutralization required.

Contaminated Packaging:

Packaging and storage containers that cannot be thoroughly cleaned must be disposed of in accordance with local, state, province, and federal regulations.

SECTION 14. TRANSPORTATION INFORMATION

Land (DOT), Sea (IMDG), Air (ICAO/IATA)

Identification Number: NA

Proper Shipping Name: NA

Hazard Class: NA

Packing Group: NA

Environmental Hazards: Marine pollutant: no; Hazardous substance: no

Special Precautions: None known

SECTION 15. REGULATORY INFORMATION

RCRA Hazardous Waste: Not Listed.

CERCLA Hazardous Substance: No

CERCLA Reportable Quantity (RQ): NA

SARA 311/312 Categories:

Acute (immediate) health effects: Yes

Chronic (delayed) health effects: No

Sudden release of pressure hazard: No

Reactivity hazard: No

Fire hazard: No

SARA 313 Toxic Chemical Listing: Not listed

SARA Extremely Hazardous Substance (EHS): Not listed

OSHA Air (29CFR 1910.10000, Table Z-1, Z-1A): Not listed

OSHA Special Regulated Substance (29CFR 1910): Not listed

California Prop 65 Chemical: No

United States TSCA Section Inventory Status: Product listed on the TSCA Inventory.

State Regulations: State specific regulations have not been determined by GAC Chemical Corporation.

Consult engineers if necessary.

SECTION 16. OTHER INFORMATION

HMIS Rating:

Health: 1

Flammability: 0

Reactivity: 0

NFPA Rating:

Health: 1

Fire: 0

Reactivity: 0

Special: NA

Preparatory Statement:

The information in this Safety Data Sheet (SDS) is correct to the best of our knowledge, information we have available, and belief as of the publication date. The information is designed solely as guidance for handling, storage, transportation, release, and disposal 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 other materials or in any process unless specified in the text.

Date Sources for the SDS:

Literature, databases, practice, publications, own tests, regulations

Revision:

March 2015 replaces all earlier

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