



**SAFETY DATA SHEET**  
Name of Product:  
**UREA SOLUTION**

Product #: See Section 1  
Revision Date: August 19, 2015

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**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

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PRODUCT NAME: Urea Solution  
SYNONYMS: Carbamide; carbonyldiamide; urea liquor  
PRODUCT CODES: I000027, I000063, I000072, I000074, I000078, I000086

MANUFACTURER: NACHURS ALPINE SOLUTIONS  
DIVISION: Marion  
ADDRESS: 421 Leader Street, Marion, OH43302, United States

PHONE: 800-622-4877 (USA)  
800-265-2268 (CANADA)

EMERGENCY PHONE: United States: Chemtrec: 800-424-9300  
Canada: CANUTEC: 1-613-996-6666  
I TECH 877-324-4402

CHEMICAL NAME: Urea  
CHEMICAL FAMILY: Amide  
CHEMICAL FORMULA: CH<sub>4</sub>N<sub>2</sub>O.H<sub>2</sub>O

PRODUCT USE: Fertilizer, Chemical manufacturing

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**SECTION 2: HAZARDS IDENTIFICATION**

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GHS ELEMENTS:

Hazard Classification: Eye Irritation (Category 2B).

Pictogram: None.

Signal Word: Warning

Hazard Statements: Causes eye irritation.

Precautionary Statements: Wash skin thoroughly after handling. Wear protective gloves, clothing, eye and face protection.  
If swallowed, rinse mouth. Do NOT induce vomiting.  
If on hair or skin, remove all contaminated clothing and rinse skin with water.  
If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If in eyes, rinse carefully with water for several minutes. Remove contactlenses, if able and continue rinsing.  
Immediately call a poison center or doctor/physician. See First Aid instruction for specific treatment.  
If irritation persists, get medical attention.  
Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation, redness, and discomfort.  
SKIN: May cause mild irritation and discomfort.  
INGESTION: May cause irritation.  
INHALATION: May cause mild irritation and discomfort.

ACUTE HEALTH HAZARDS: N/A

CHRONIC HEALTH HAZARDS: N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

CARCINOGENICITY:

OSHA: N/A  
ACGIH: N/A  
NTP: N/A  
IARC: N/A

# SAFETY DATA SHEET

Product #: See Section One

Name of Product: **UREA SOLUTION**

Revision Date: August 19, 2015

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENT:	Urea	20-50%	CAS# 57-13-6
	Water	Balance	CAS# 7732-18-5

SARA 313 REPORTABLE: N/A

OSHA PEL-TWA: N/A  
OSHA PEL STEL: N/A  
OSHA PEL CEILING: N/A

ACGIH TLV-TWA: N/A  
ACGIH TLV STEL: N/A  
ACGIH TLV CEILING: N/A

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## SECTION 4: FIRST AID MEASURES

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EYES: Flush with water immediately and thoroughly for 15 minutes. If irritation persists, seek medical attention.  
SKIN: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation persists seek medical attention.  
INGESTION: DO NOT induce vomiting. Seek immediate medical advice and attention.  
INHALATION: If inhaled, remove to fresh air. If qualified, provide assisted respiration if breathing has stopped or is difficult. Seek medical attention.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat symptomatically.

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## SECTION 5: FIRE-FIGHTING MEASURES

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FLAMMABILITY: Nonflammable.

FLAMMABLE LIMITS IN AIR: UPPER: N/A  
(% BY VOLUME) LOWER: N/A

FLASH POINT: F°: N/A  
C°: N/A

METHOD USED: N/A

AUTOIGNITION TEMPERATURE: F°: N/A  
C°: N/A

NFPA HAZARD CLASSIFICATION:  
HEALTH: 1  
FLAMMABILITY: 0  
REACTIVITY: 0  
OTHER: 0

HMIS HAZARD CLASSIFICATION  
HEALTH: 1  
FLAMMABILITY: 0  
REACTIVITY: 0  
PROTECTION: B

EXTINGUISHING MEDIA: Urea liquor as distributed is non-flammable. Water or media suitable for surrounding material.

# SAFETY DATA SHEET

Product #: See Section One

Name of Product: **UREA SOLUTION**

Revision Date: August 19, 2015

SPECIAL FIRE FIGHTING PROCEDURES: Positive pressure self-contained breathing apparatus should be used when there is a potential for inhalation of vapors and/or fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Decomposition can occur at elevated temperatures with production of toxic fumes of nitrogen oxides (NOx) and/or ammonia.

HAZARDOUS DECOMPOSITION PRODUCTS: Can form ammonia, cyanuric acid and nitrogen oxides.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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ACCIDENTAL RELEASE MEASURES: Confine the spill to a dike area or sump, if possible, and recover as much of the product as possible. Place in suitable containers. May be used as a fertilizer.

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## SECTION 7: HANDLING AND STORAGE

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HANDLING AND STORAGE: Store in suitable containers made of mild steel, stainless steel, plastic or fiberglass.  
OTHER PRECAUTIONS: General safety and industrial hygienic practices should always be followed.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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ENGINEERING CONTROLS: N/A

VENTILATION: Provide adequate ventilation for local areas. If hazardous decomposition products are present use explosion proof mechanical ventilation.

RESPIRATORY PROTECTION: Respiratory protection is not required under normal circumstances. If material is misted or sprayed, use appropriate NIOSH approved respirator or self contained breathing apparatus. Do not use single use type.

EYE PROTECTION: Safety glasses/ goggles with face shield.

SKIN PROTECTION: Chemical resistant gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Long sleeved clothing to prevent skin contact.

WORK HYGIENIC PRACTICES: General safety and industrial hygienic practices should always be followed.

EXPOSURE GUIDELINES: See section 3.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE: Translucent, nearly colorless liquid.

ODOR: Ammonia.

ODOR THRESHOLD: No data available.

PHYSICAL STATE: Liquid.

pH AS SUPPLIED: 7 - 10

BOILING POINT:  
F°: N/A  
C°: N/A

MELTING POINT:  
F°: N/A  
C°: N/A

# SAFETY DATA SHEET

Product #: See Section One

Name of Product: **UREA SOLUTION**

Revision Date: August 19, 2015

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FREEZING POINT:	Dependent upon concentration.
FLASH POINT:	F°: N/A C°: N/A
METHOD USED:	N/A
EVAPORATION RATE:	N/A
FLAMABILITY:	Not flammable.
FLAMMABLE LIMITS IN AIR: (% BY VOLUME)	UPPER: N/A LOWER: N/A
VAPOR PRESSURE (mmHg):	Unknown
VAPOR DENSITY (AIR = 1)	Unknown
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.04-1.15
DENSITY, LBS/GAL:	8.6 - 9.6
SOLUBILITY IN WATER:	Complete
PARTITION COEFFICIENT:	n-octanol/water – N/A
PERCENT SOLIDS BY WEIGHT:	20 - 60
PERCENT VOLATILE:	40 - 80
VOLATILE ORGANIC COMPOUNDS (VOC):	N/A
AUTOIGNITION TEMPERATURE:	N/A
THERMON DECOMPOSITIONS:	N/A
MOLECULAR WEIGHT:	60.06
VISCOSITY:	40% @ 0°C = 2.6 cPs

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## SECTION 10: STABILITY AND REACTIVITY

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	STABLE	UNSTABLE
STABILITY:	x	
CONDITIONS TO AVOID (STABILITY):		Extreme heat or fire may decompose to toxic gases.
INCOMPATIBILITY (MATERIAL TO AVOID):		Reacts with sodium hypochlorite or calcium hypochlorite to form unstable and explosive nitrogen trichloride.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:		Can form ammonia, cyan uric acid and nitrogen oxides.
HAZARDOUS POLYMERIZATION:		Will not occur
CONDITIONS TO AVOID (POLYMERIZATION):		N/A

# SAFETY DATA SHEET

Product #: See Section One

Name of Product: **UREA SOLUTION**

Revision Date: August 19, 2015

## SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Oral, rat: LD<sub>50</sub> 8470 mg/kg

## SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Do not allow into drinking water.  
LC50 *Poecilia reticulata* (guppy) – 17500 mg/L 96h  
EC50 *Daphnia magna* (Water flea) – 3910 mg/L 48h

## SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Reclaim and reuse as much as possible. Dispose in accordance with all federal, state, and local regulations.

RCRA HAZARD CLASS: N/A

## SECTION 14: TRANSPORT INFORMATION

### U.S. DEPARTMENT OF TRANSPORTATION:

PROPER SHIPPING NAME: Urea Solution  
HAZARD CLASS: N/A  
ID NUMBER: N/A  
PACKING GROUP: N/A  
LABEL STATEMENT: N/A

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

### WATER TRANSPORTATION:

PROPER SHIPPING NAME: Urea Solution  
HAZARD CLASS: N/A  
ID NUMBER: N/A  
PACKING GROUP: N/A  
LABEL STATEMENTS: N/A

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

### AIR TRANSPORTATION

PROPER SHIPPING NAME: Urea Solution  
HAZARD CLASS: N/A  
ID NUMBER: N/A  
PACKING GROUP: N/A  
LABEL STATEMENTS: N/A

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

OTHER AGENCIES:

## SECTION 15: REGULATORY INFORMATION

### U.S. FEDERAL REGULATIONS:

TSCA (TOXIC SUBSTANCE CONTROL ACT): Yes

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): No

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS:

# SAFETY DATA SHEET

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Name of Product: **UREA SOLUTION**

Revision Date: August 19, 2015

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## SECTION 16: OTHER INFORMATION

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**PREPARATION INFORMATION:**            *Technical Services*

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