SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : Urea Solid

CAS No. : 57-13-6

Formula : $(NH_2)_2CO$

Synonyms : Carbamide, Carbonyl diamide, Carbamimidic Acid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation : Fertilizer, Industrial Use

1.3. Details of the supplier of the safety data sheet

East Dubuque Nitrogen Fertilizers, LLC
16675 Highway 20 West
East Dubuque, IL 61025

T 815-747-3101

1.4. Emergency telephone number

Emergency number : 800-424-9300
CHEMTREC

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2A H319

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P264 - Wash hands thoroughly after handling
P280 - Wear eye protection, protective gloves, protective clothing
P302+P352 - IF ON SKIN: Wash with plenty of water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362 - Take off contaminated clothing

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

The toxicity of up to 1.8% of this product's composition is unknown.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Urea	(CAS No.) 57-13-6	96 - 99	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Biuret	(CAS No.) 108-19-0	0.5 - 2	Skin Irrit. 2, H315 Eye Irrit. 2A, H319

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If medical advice is needed, have product container or label at hand.

First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Obtain medical attention if irritation develops or persists.

First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Irritation to eyes, skin and respiratory tract.

Symptoms/injuries after inhalation : Overexposure may be irritating to the respiratory system.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : If a large quantity has been ingested: Abdominal pain; Diarrhea; Nausea; Vomiting. May cause drowsiness and loss of coordination.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Not considered flammable but will burn at high temperatures. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Decomposes above 132 °C (270 °F). Under conditions of fire this material may produce: Ammonia; Nitrogen oxides; Biuret; Cyanuric acid.

Explosion hazard : May form explosive compounds if mixed with: Calcium hypochlorite; Sodium hypochlorite; Nitrates; Nitric acid; Perchloric acid.

Reactivity : Stable at ambient temperature and under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Not flammable.

Protection during firefighting : Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Other information : Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Handle in accordance with good industrial hygiene and safety practice. This material becomes slippery when wet.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.

Emergency procedures : Collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye/face protection.

Emergency procedures : If possible, stop flow of product. Contain and collect as any solid. Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

6.3. Methods and material for containment and cleaning up

For containment : Contain and collect as any solid. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.

Methods for cleaning up : Recover the product by vacuuming, shovelling or sweeping. Avoid generation of dust during clean-up of spills. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Material may be used if uncontaminated.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Wear recommended personal protective equipment. Avoid creating or spreading dust.

Hygiene measures : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Prohibitions on mixed storage : Store away from: Ammonium nitrate. Refer to Section 10 on Incompatible Materials.

Special rules on packaging : Corrosive to copper and its alloys.

7.3. Specific end use(s)

Fertilizer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No exposure limits were found for any of this product's components.

8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas.

Personal protective equipment :

Hand protection : Impermeable protective gloves.

Eye protection : Protective goggles.

Skin and body protection : Wear suitable protective clothing. Wear rubber boots. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice.

Respiratory protection : Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.

Environmental exposure controls : Ensure adequate ventilation, especially in confined areas.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder, Granules, Prills.

Color : White (or dyed to customer's specification)

Odor : Odorless to slight ammonia-like

Odor threshold : 25 ppm (Ammonia vapor)

pH	: 7.2
pH solution	: 10 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 132 °C (270 °F)
Freezing point	: No data available
Boiling point	: Decomposes
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 80 Pa at 20 °C
Relative vapor density at 20 °C (68 °F)	: No data available
Relative density	: 0.75 -0.77 (water = 1)
Density	: 47.0 – 48.3 lb/ft^3
Solubility	: Water: 119 g/100 ml (119 %) at 20 °C (68 °F)
Log Pow	: -1.59 at 20-25 °C
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable at ambient temperature and under normal conditions of use.

10.2. Chemical stability

Stable at standard temperature and pressure.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Protect from moisture. Keep away from heat.

10.5. Incompatible materials

May form explosive mixture if in contact with strong acid such as nitric or perchloric acids.
Avoid contact with: Strong oxidizers; Strong acids; Strong bases; Nitrates; Hypochlorites; Perchlorates; Chlorides
Corrosive to copper and its alloys.

10.6. Hazardous decomposition products

Under conditions of fire this material may produce: Nitrogen oxides; Ammonia; Biuret

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Urea (57-13-6)	
LD50 oral rat	8471 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: 7.2 (10% solution)

Serious eye damage/irritation : Causes serious eye irritation.
pH: 7.2 (10% solution)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Overexposure may be irritating to the respiratory system.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : If a large quantity has been ingested: Abdominal pain; Diarrhea; Nausea; Vomiting. May cause drowsiness and loss of coordination.

SECTION 12: Ecological information

12.1. Toxicity

Urea (57-13-6)	
LC50 fish 1	16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
EC50 Daphnia 1	> 10000 mg/l (Exposure time: 24 h - Species: Daphnia magna Straus)
EC50 Daphnia 2	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Urea Solid	
Persistence and degradability	May cause long-term adverse effects in the environment. This product is water soluble and eventually biodegrades into elemental nitrogen. Exess nitrogen and nitrates in a body of water will contribute to eutrophication with visible effects such as toxic algae bloom.

12.3. Bioaccumulative potential

Urea (57-13-6)	
BCF fish 1	< 10
Log Pow	-1.59 at 25 °C

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste disposal recommendations : Place in an appropriate container and dispose of the contaminated material at a licensed site.

Additional information : Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional Information

DOT Reportable Quantity (RQ) : None

CHRIS Code : URE

SECTION 15: Regulatory information

15.1. US Federal regulations

Urea Solid	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Urea (57-13-6)	
United States TSCA (Toxic Substances Control Act) inventory	Yes
EPCRA (SARA) § 313	No
EPCRA (SARA) Threshold Planning Quantity (TPQ)	None
EPCRA (SARA) Reportable Quantity (RQ)	None
EPCRA(SARA) Extremely Hazardous Substance	No
CERCLA Reportable Quantity (RQ)	None
CERCLA Hazardous Substance	No

Biuret (108-19-0)	
United States TSCA (Toxic Substances Control Act) inventory	Yes
EPCRA (SARA) § 313	No
EPCRA (SARA) Threshold Planning Quantity (TPQ)	None
EPCRA (SARA) Reportable Quantity (RQ)	None
EPCRA(SARA) Extremely Hazardous Substance	No
CERCLA Reportable Quantity (RQ)	None
CERCLA Hazardous Substance	No

15.2. US State regulations

Urea (57-13-6)
U.S. - Minnesota - Hazardous Substance List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

SECTION 16: Other information

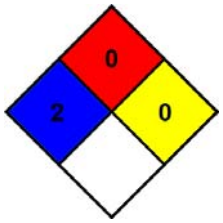
Full text of H-phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Irrit. 2	Skin corrosion/irritation Category 2
H315	Causes skin irritation
H319	Causes serious eye irritation

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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