

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

**CHEMTREC:(800) 424-9300**

-----  
ALL OTHER INQUIRIES:  
(770) 904-7042 // [www.ciscochem.com](http://www.ciscochem.com)  
266 Rue Cezzan Lavonia, GA 30553



## 1. IDENTIFICATION

PRODUCT NAME: UREA, DRY

PRODUCT FORM: MIXTURE

SYNONYMS: UREA GRANULAR; UREA MICROPRILLS, UREA PASTILLE; UREA PRILLS

PRODUCT USES: AGRICULTURAL, INDUSTRIAL AND FEED GRADE CHEMICAL

## 2. HAZARDS IDENTIFICATION

Causes skin irritation. Causes serious eye irritation. May cause respiratory problems.

Avoid breathing dust.  
Wash hands thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear eye protection, protective gloves, protective clothing.

IF ON SKIN: wash with plenty of water

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

CALL A POISON CENTER or doctor if you feel unwell.

If skin irritation occurs, get medication attention.  
If eye irritation persists, get medical attention.

Take off contaminated clothing!

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents/container in accordance with local, regional, national and international regulations.

Other hazards!

Hazardous! to the aquatic environment

### 3. COMPOSITION

#### MIXTURES:

NAME	CAS #	% BY WEIGHT	GHS-US CLASSIFICATION
Urea [Carbamide, Carbonyldiamide, Carbamidic Acid]	57-13-6	97.5-99.7%	SKIN IRRIATION 2 EYE IRRIATION 2A
Alkalinity, as Ammonia	7664-41-7	150 ppm (max)	
Methylenediurea	68611-64-3	0-2.5	Eye Irritant 2A
biuret	108-19-0	0-1.5	Skin Irritant 2

### 4. 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 from source of exposure 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. Symptoms may be delayed.

#### FIRST AID MEASURES AFTER SKIN CONTACT:

Wash skin thoroughly with mild soap and water. For contact with molten product, do not remove clothing. flush skin immediately with cold water. Obtain medical attention if irritation develops or persist. Wash contaminated clothing before reuse.

#### FIRST AID MEASURES AFTER EYE CONTACT:

Immediately rinse with water for a prolonged period (15 minutes) while holding the eyelids open to ensure thorough rinsing. Obtain medical attention immediately if irritation develops or persists.

#### FIRST AID MEASURES AFTER INGESTION:

Do not induce vomiting. Keep affected person warm and treat for shock. A single dose of 100 grams has reportedly caused mild symptoms of Central Nervous System depression (drowsiness, etc). Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell.

#### 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.

### 5. FIRE FIGHTING MEASURES

#### 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

#### SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Fire Hazard: Decomposes above 132.6°C (270.7° F) Under conditions of fire this material may produce: Ammonia; Nitrogen

oxides; Biuret. Short-term exposures to smoke and gases may lead to irreversible lung injury without early signs and symptoms.

Explosion hazard:

Product is not explosive. May form explosive mixtures if mixed strong acid (Nitric/Perchloric) and strong oxidizers.

Reactivity:

Stable at ambient temperature and under normal conditions of use.

#### ADVISE FOR FIREFIGHTERS

Firefighting instructions:

Not flammable. Material burns with difficulty. Urea becomes slippery when wet - guard against slips and falls.

Protection during firefighting:

Wear full fire fighting turn-out gear (full Bunker gear) and NIOSH approved respiratory protection (SCBA) with full face piece and protective clothing. May form explosive mixtures if mixed with strong acids.

Other Information:

Do not allow run-off from firefighting to enter drains or water courses. Provide local or general ventilation to keep below nuisance dust limits.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

General measures: Handle in accordance with good industrial hygiene and safety practice.

#### FOR NON-EMERGENCY PERSONNEL

Protective equipment:

Wear suitable protective clothing, gloves and eye/face protection including tight fitting of goggles to prevent eye contact. Do not wear contact lenses when working with this substance. Normally no respiratory equipment needed. Use NIOSH approved equipment when airborne dust exposure limits are exceeded. NIOSH approved breathing equipment must be available for non routine emergency use.

Emergency procedures:

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

#### ENVIRONMENTAL PRECAUTIONS:

If spill could potentially enter waterway, including intermittent dry creeks, contact the US Coastguard National Response Center at 1-800-424-8802. In case of accident or road spill notify CHEMTREC at 1-800-424-9300. In other countries call CHEMTREC at (international code) +1-703-527-3887.

#### METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

For Containment:

If contaminated with other material, contain and collect as any solid in suitable containers. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected. Prevent large quantities from contacting vegetation.

#### METHODS FOR CLEANING UP

Recover the product by vacuuming, shoveling or sweeping and place in appropriate container to be disposed at an appropriate disposal facility according to current applicable laws and regulations and product characteristics at the time of disposal. Provide adequate ventilation. Avoid generation of dust during clean-up of spills. If uncontaminated, recover and reuse the product.

## 7. HANDLING AND STORAGE

### PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety procedure. Wear recommended personal protective equipment. Avoid creating or spreading dust.

### HYGIENE MEASURES

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Avoid contamination with other "look alike" materials that may produce a fire or explosion.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

#### Storage Conditions

Store tightly closed in a dry, cool and well-ventilated place away from heat, sources of ignition, and incompatibilities. Protect from moisture. Avoid contamination with other "look alike" materials that may produce a fire or explosion.

#### Incompatible materials

Avoid containers, piping or fittings made of brass, bronze or other copper bearing alloys or galvanized metals.

### SPECIFIC END USE(S)

Agricultural chemical

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### UREA (57-13-6)

USA ACGIH (nuisance dust)	ACGIH TWA (mg/m3)	10 mg/m3 - inhalation particulate
---------------------------	-------------------	-----------------------------------

USA OSHA (nuisance dust)	OSHA PEL (TWA) (mg/me)	5 mg/m3 - respirable particulate
--------------------------	------------------------	----------------------------------

### EXPOSURE CONTROLS

#### Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas to keep below nuisance dust limit of 15 mg/m3.

#### Personal protective equipment:

Gloves, Safety glasses, Protective Clothing

#### Hand Protection:

Impermeable protective gloves

#### Eye Protection:

Protective goggles

#### Skin and body protection:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. 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. NIOSH approved breathing equipment must be available for non-routine and emergency use.

#### Environmental exposure controls;

Ensure adequate ventilation, especially in confined areas.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state

Solid

Appearance

Granules

Color	White
Odor	Slight Ammonia
Odor threshold	No data available
pH	7.2 at 100 g/L
Molecular weight	60.07
Relative evaporation rate (butyl acetate=1)	no data available
Melting point	Decomposes above 132.6°C (270.7° F)
Freezing point	No data available
Boiling point	No data available
Flammability(solid,gas)	Non - flammable
Flash point	no data available
Self-ignition temperature	no data available
Decomposition temperature	no data available
Vapor pressure	80 Pa at 20°C
Relative vapor density at 20°C	no data available
Density	2.31 g/cm <sup>3</sup>
Bulk density	44 - 49 lb/ft <sup>3</sup>
Solubility	1.193 g/l at 25°C
Log POW	-1.59 @ 20°C

## 10. STABILITY AND REACTIVITY

### REACTIVITY

Stable at ambient temperature and under normal conditions of use.

### CHEMICAL STABILITY

Stable at standard temperature and pressure

### POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous polymerization will not occur

### CONDITIONS TO AVOID

Protect from moisture. May slowly hydrolyze to ammonium carbamate and eventually decompose to ammonia and carbon dioxide

### 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 or bases; nitrates; hypochlorites. Reacts with sodium or calcium hypochlorite to form explosive nitrogen trichloride.

## HAZARDOUS DECOMPOSITION PRODUCTS

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

## 11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: NOT CLASSIFIED

UREA (57-13-6)

LD50 oral rat 8471 mg/kg  
LD50 oral rat 14,300 mg/kg-male; 15,000 mg/kg-female  
LD50 oral mouse 11,500 mg/kg-male; 13,000 mg/kg-female

Skin corrosion/irritation: causes skin irritation

Serious Eye damage/irritation: causes eye irritation

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Bacterial Genetic Toxicity  
Invitro: Gene Mutation:  
salmonella typhimurium - Bacterial reverse mutation assay: Neg  
Chinese Hamster - Chromosomal aberrations test: Positive  
(very high dose); Mouse: Positive (very high dose)  
Non-Bacterial Genetic Toxicity In-Vitro: Chromosomal Aberration:  
Mouse - Bone Marrow Cytogenetic Test: Positive (very high dose)

Carcinogenicity: Not listed in IARC monographs, by NTP or OSHA

Reproductive toxicity: Toxicity to Reproduction:  
No toxic effects on mouse gonads up to 6750 mg/kg/day  
No toxic effects on rat gonads up to 2,250 mg/kg/day  
Developmental toxicity

Specific target organ toxicity  
(single exposure) May cause respiratory irritation

## 12. ECOLOGICAL INFORMATION

ECOTOXICITY:

EPA Ecological Toxicity rating:

Acute Toxicity to fish: 96 -h:(Barillius bama)LC50- >9,100 mg/L

Chronic Toxicity to Aquatic Invertebrates: (Daphnia magna): 24 - h EC50 > 10,000 mg/L

Chronic Toxicity to Fish: No data available

Toxicity to Aquatic Plants: (Scenadesmus quadricuada) 192 - h cell  
multiplication inhibition test TT > 10,000 mg/L

Toxicity to soil dwelling organisms: Applications of nitrogenous fertilizers to  
grassland for long period may have  
deleterious effects on earthworms in the  
absence of liming.

Toxicity to other Non-mammalian  
Terrestrial species: (Pigeon)-subcutaneous-LDLO=16,000 mg/kg.  
Since Urea is a fertilizer, it may promote

eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA

Toxicity to Terrestrial Plants:	7 days exposure to 0 mg urea/leaf - leaf-tip necrosis
Stability in Water:	T1/2 > 1 year.
Environmental Fate: Stability in Soil:	No data available
Transport and Distribution:	0.16% in air, 99.84% in water (calculated (Fugacity Level 1))
Toxicity:	Non toxic to aquatic organisms as defined by USEPA. No known toxicity
Degradation Products:	Biodegradation: Ultimately biodegradeable (OECDTG 302B) 93-98% (SCAS 24 hr)
	Photodegradation: No data available

### 13. DISPOSAL CONSIDERATIONS

#### WASTE TREATMENT METHODS

Sewage disposal recommendations:	This material is hazardous to the aquatic environmental. 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.

### 14. TRANSPORT INFORMATION

In accordance with DOT/TDG/ADR/RID/ADNR/IMDG/ICAO/IATA

1. UN NUMBER  
No dangerous good in sense of transport regulations
2. UN proper shipping name  
Not applicable

### 15. REGULATORY INFORMATION

#### US FEDERAL REGULATIONS

UREA, DRY  
SARA Section 311/312 Hazard classes / Immediate (acute) health hazard

UREA (57-13-6)  
Listed on the United States TSCA (Toxic substances control act) inventory

BIURET (108-19-0)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### US STATE REGULATIONS

The following states have an OSH program approved by OSHA. If you are located in any of these states you may be under state jurisdiction rather than federal jurisdiction and your state may have more stringent requirements than OSHA. You should consult your state regulations to ensure compliance.

Alaska  
Arizona  
California  
\*Connecticut  
Hawaii

Indiana  
Iowa  
Kentucky  
Maryland  
South Carolina

Minnesota  
Nevada  
New Mexico  
\*New Jersey

North Carolina  
Vermont  
Oregon  
Puerto Rico

Utah  
\*Virgin Islands  
Virginia  
\*New York

\*The state plan in these states apply only to public sector employers. In these states private sector employers are subject to USOL - OSHA jurisdiction. All other state plans apply to both public and private sector employers.

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

#### CANADIAN REGULATIONS

Urea, Dry

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

Imidodicarbonic diamide (108-19-0)

Listed on the Canadian DSL (Domestic Sustances List) Inventory

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPA

## 16. OTHER INFORMATION

NFPA Fire Hazard

0- - Materials will not burn

NFPA Reactivity

0- -Normally stable, even under fire exposure conditions, and are not reactive

Eye Irritant:

2- - Serious eye damage/eye irritant - Category 2

Skin Irritant:

2- - Skin corrosion/irritation Category 2

STOT SE 3

Specific target organ toxicity (single exposure) Category 3

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

Although the information contained is offered in good faith, SUCH INFORMATION IS EXPRESSLY GIVEN WITHOUT ANY WARRANTY (EXPRESS OR IMPLIED) OR ANY GUARANTEE OF ITS ACCURACY OR SUFFICIENCY and is taken at the user's sole risk. User is solely responsible for determining the suitability of use in each particular situation.

Date Created: 9/8/2015

Date Updated: 9/8/2015