

# SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

Product Name: Urea

Product Number: EC-605

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

#### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

### 1.4 Emergency Telephone Number

#### ChemTel Inc.

Contract number MIS8894340  
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)  
01-800-099-0731 (Mexico)  
400-120-0751 (China)  
000-800-100-4086 (India)  
1-300-954-583 (Australia)  
0-800-591-6042 (Brazil)  
+1-813-255-3924 (All other regions)

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

Not a hazardous substance or mixture according to regulation (EC) No. 1272/2008.

### 2.2 Label Elements

This product has no labeling elements associated with EC directives or respective national laws.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substance

#### Chemical Names/Description

Carbamide resin; Isourea; Carbony diamide; Carbonyldiamine

#### Chemical Formula

CH<sub>4</sub>N<sub>2</sub>O

#### Component List

Component	% Comp.	CAS #	EC #
Urea	100	57-13-6	200-315-5

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### Ingestion

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

#### Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

### Inhalation

Symptoms may include coughing, shortness of breath. May be absorbed into the bloodstream with symptoms similar to ingestion.

### Ingestion

Symptoms may include nausea, vomiting, and diarrhea. May also cause headache, confusion and electrolyte depletion.

### Skin

Symptoms include redness, itching, and pain.

### Eyes

Redness, itching and pain.

## 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Use media appropriate to the primary cause of fire.

### 5.2 Special Hazards Arising from the Substance/Mixture

#### Hazardous Combustion Products

Can form oxides of nitrogen, cyanuric acid, cyanic acid, biuret or carbon dioxide.

#### Hazardous Decomposition Products

Undergoes thermal decomposition at elevated temperatures to produce cyanuric acid and release toxic and combustible gases (ammonia, carbon dioxide and oxides of nitrogen).

#### Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### 5.3 Advice for Firefighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### 5.4 Further Information

No data available.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

### 6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

### 6.3 Methods and Materials for Containment and Cleaning Up

Ventilate area. Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

### 6.4 References to Other Sections

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

## SECTION 7 - HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

### 7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area. Protect from physical damage. Isolate from incompatible materials (section 10).

#### Incompatibles

Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. It is incompatible with sodium nitrite, gallium perchlorate, strong oxidizing agents (permanganate, dichromate, nitrate, chlorine), phosphorus penta

### 7.3 Specific End Uses

Investigational research by professional users

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

### 8.1 Control Parameters

ACGIH Threshold Limit Value (TLV): 10 mg/m<sup>3</sup>, 8-hour TWA  
 OSHA Permissible Exposure Limit (PEL): not available

## 8.2 Exposure Controls

### Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### Respiratory Protection

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

### Eye Protection

Safety glasses.

### Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical & Chemical Properties

a. Appearance	White crystals or white powder	b. Odor	None
c. Odor Threshold	N.A.	d. pH	7.2 (10% in water)
e. Melting/Freezing Point (°C)	132-135 C	f. Boiling point (°C)	Decomposes
g. Flash Point (°C)	N.A.	h. Evaporation Rate	No data found.
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	No data found.	l. Vapor Density (Air = 1)	No data found.
m. Relative Density	1.32 @ 20C	n. Water Solubility	Very soluble.
o. Partition Coefficient n-octanol/water	log Kow=-1.59	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	May form ammonia on heating	r. Viscosity	No data available.
s. Explosive Properties	N.A.	t. Oxidizing Properties	N.A.

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

Reacts with oxidizing agents

### 10.2 Chemical Stability

Stable under ordinary conditions of use and storage.

### 10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### 10.4 Conditions to Avoid

Incompatibles.

### 10.5 Incompatible Materials

Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. It is incompatible with sodium nitrite, gallium perchlorate, strong oxidizing agents (permanganate, dichromate, nitrate, chlorine), phosphorus penta

### 10.6 Hazardous Decomposition Products

Undergoes thermal decomposition at elevated temperatures to produce cyanuric acid and release toxic and combustible gases (ammonia, carbon dioxide and oxides of nitrogen).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

Oral Rat LD50 (mg/kg)

8471

Dermal Rabbit LD50 (mg/kg)

N.A.

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Urea	No	No	None

## Potential Health Effects

### Inhalation

Causes irritation to the respiratory tract.

### Ingestion

Causes irritation to the gastrointestinal tract.

### Skin

Causes irritation to the skin.

### Eyes

Causes irritation to the eyes.

## Carcinogenicity

Not listed as a carcinogen by NTP or IARC.

## Mutagenicity

No information found.

## Reproductive Toxicity

No information found.

## Teratogenic Effects

No information found.

## Routes of Entry

Ingestion and inhalation.

## Target Organ Statement

Supersensitive individuals with skin or eye problems, kidney impairment or asthmatic condition should have physician's approval before exposure to urea dust.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	>6810 @96 hrs	>10000 @ 24 hrs	>10000@ 7 days	>10000 @ 72 hrs
	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	>16000mg/kg	no data	no data	no data

### 12.2 Persistence and Degradability

Readily biodegradable

### 12.3 Bioaccumulative Potential

No data

### 12.4 Mobility in Soil

K<sub>0c</sub>=0.037 - 0.064.

### 12.5 Results of PBT and vPvB Assessment

Not a PBT or vPvB

### 12.6 Other Adverse Effects

No data

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

## SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.

<b>14.4 Packing Group</b>	N.A.	N.A.	N.A.	N.A.
<b>14.5 Environmental Hazards</b>	N.A.	N.A.	N.A.	N.A.
<b>14.6 Special Precautions</b>	N.A.	N.A.	N.A.	N.A.

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

#### United States

##### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

##### SARA 311/312 Hazard Categories

<b>Component</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>	<b>Acute</b>	<b>Chronic</b>
Urea	No	No	No	Yes	Yes

#### Europe

##### EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

## SECTION 16 - OTHER INFORMATION

### Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.1

5/31/2013 - Released Version 1.0

### NFPA Codes

Health 1 Flammability 0 Reactivity 0

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