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## SAFETY DATA SHEET

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

#### 1.1 Product identifiers

Product name: Urea

CAS number: 57-13-6

Synonyms: Carbamide, Carbonyl Diamide, Or Carbonyldiamine

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

Identified uses: Food, Pharma, Technical

#### 1.3 Details of the supplier of the safety data sheet

Company  
Lab Alley, LLC  
12501 Pauls Valley Road, Suite A,  
Austin, TX 78737 U.S.A

Telephone 512-668-9918

Fax 512-886-4008

#### 1.4 Emergency telephone

**Emergency Phone #** US & Canada: 1-800-535-5053 INFOTRACK  
International 1-352-323-3500 INFOTRACK

## 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.

### Pictogram

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

**Signal word:** Not applicable

### Hazard Statement

None

### Precautionary Statements

None

### 2.3 Hazards not otherwise classified (HNOC)

None identified.

## SECTION 3: Composition/information on ingredients

| Chemical name | Common name | CAS number | Concentration by weight |
|---------------|-------------|------------|-------------------------|
| Urea          |             | 57-13-6    | >99%                    |

EC no. 200-315-5

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

Inhalation: Rinse accessible mucous membranes of the respiratory tract with warm water. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: To clear an oral cavity of the remains of substance. Rinse the stomach. Make victim drink water (two glasses at most). Give activated carbon, saline laxative. Consult a doctor if feeling unwell.

Skin: Remove contaminated clothing and wash skin with running water. If irritation occurs, seek medical advice.

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

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

Symptoms: If inhaled-sore throat, cough, chest pain, shortness of breath, in severe cases skin cyanosis, foam from the nose; after ingestion- vomiting, nausea, chest and abdominal pain.

#### **4.3. Medical Attention or Special Treatment Needed**

No information available

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **5.2. Specific Hazards Arising from the Substance or Mixture**

A combustible crystalline substance. Containers with a substance explode when heated. When heated, caustic and poisonous vapors and gases are released. Thermal degradation products: ammonia, nitrogen oxides, carbon dioxide, carbon monoxide, biuret, cyanuric acid.

#### **5.3. Special Protective Equipment for Firefighters**

Cool containers with the product in the fire zone with water jets. Keep a safe distance. Use sprayed water to precipitate thermal decomposition and evaporation products, to absorb heat. In a fire situation, wear self-contained breathing apparatus and protective clothing from resistant materials.

#### **5.4 NFPA Rating**

Not available

#### **5.5 Further Information**

Not available

### **SECTION 6: Accidental release measures**

#### **6.1. Personal Precautions, Protective Equipment and Emergency Procedures**

Avoid inhalation and ingestion. Avoid contact with skin, eyes and clothing. Wear protective clothing specified for normal operations (see Section 8).

#### **6.2 Environmental Precautions**

Avoid release to the environment.

#### **6.3 Methods and materials for containment and Cleaning up**

Substance collects in a closed identified container, using a dry method. Avoid dust. Wash off contaminated surface with water and detergents. Do not allow to enter wastewater drain.

#### **6.4 Reference to other sections**

For disposal see section 13.

### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

Change contaminated clothing immediately, wash hands and face after handling.

## **7.2 Conditions for safe storage, including any incompatibilities.**

Store in a cool, dry, ventilated warehouse in the original tightly closed packaging away from sources of heat. Avoid exposure to direct sunlight. Avoid exposure to moisture (hygroscopic substance).

## **7.3 Specific end use(s)**

Food, pharma, technical.

# **SECTION 8. Exposure controls/personal protection**

## **8.1 Occupations Exposure Guidelines**

### **Control parameters**

Provide adequate ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits. The level of protection and types of controls will vary depending upon potential exposure conditions.

| Component | TLV-TWA       | OSHA PEL      | NIOSH IDLH    | Mexico OEL (TWA) |
|-----------|---------------|---------------|---------------|------------------|
| Urea      | Not available | Not available | Not available | Not available    |

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

## **8.2 Exposure Controls**

Eye/face protection: Safety glasses with side-shields.

Skin and body protection: Wear suitable protective clothing (protective gloves, dustproof clothing and special footwear). Recommended Glove material: Nitrile rubber 0,11 mm.

Respiratory Protection: Respiratory protection necessary at: Dust formation. Recommended Filter type: Filter P1.

# **SECTION 9: Physical and chemical properties**

Form: Solid

Appearance: Colorless crystals or white crystalline powder

Odour: Odourless.

Melting Point: (132,5-134,5)°C

Boiling point: Decomposition below boiling point

Decomposition temperature: At 180°C begins to decompose with the release of ammonia

Solubility in Water: 590 g/l (20°C)

Solubility in Organic Solvents: Ethanol (5.4 g/100 g at 20°C), methanol (5.4 g/100 g at 20°C). Insoluble in chloroform, diethyl ether and benzene.

Specific Gravity: 1,33 g/cm<sup>3</sup> (20°C)

pH: pH 7.2 (10% solution)

Flammability: Flash point: 182°C; ignition temperature: 223°C; autoignition temperature: 470°C (air suspension).

Molecular Weight: 60.06

Partition coefficient: octanol/water: Log K<sub>ow</sub>=-2.11; Log P(oct)=-2.97 to -2.26

Vapor pressure: 0.002 hPa (750°C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity and Chemical Stability

The substance is chemically stable under standard environmental conditions. Hygroscopic. The substance is hydrolyzed, reacts with acids and their anhydrides, oxidizes, deaminates. In molten form, it reacts with alkali metals and their amides, ammonium nitrate, with bromine, alcohols, carboxylic acids, and ethers.

### 10.2 Possibility of Hazardous Reactions

No information available.

### 10.3 Conditions to Avoid and Incompatible Materials

Dust formation. Moisture. Incompatible substances. Direct sunlight.

### 10.4. Hazardous Decomposition Products

See 5.2

## SECTION 11: Toxicological information

### 11.1 Information on Toxicological Effects

**Acute Toxicity:** LD50 oral rat = 8471 mg/kg; LD50 oral mouse = 11000 mg/kg; LD50 subcutaneously rat = 8200 mg/kg; LD50 intravenously mouse = 4600 mg/kg; subcutaneously mouse = 9200 mg/kg.

Inhalation: Yes (irritates the respiratory tract, coughing, shortness of breath short).

Skin: Yes (person, standard Dreiser test, reaction of mild to moderate)

Eye: Yes (rabbit 50 mg, single-weak reaction, for saturated aqueous solution -reacting from moderate to strong, 40% aqueous solution 1 hourreversible corneal damage).

Carcinogenicity: Human - no information is available. Animals- yes (mice, orally, the substance is carcinogenic according to the RTECS, tumors of blood- lymphoma, Hodgkin's disease. The substance is not revealed in the lists of IARC.

Mutagenicity: Positive result ("in vitro", cytogenetic analysis, human lymphocytes, without metabolic activation system; "in vivo" culture of mouse bone marrow cells. Negative result (mouse sperm morphology, Ames test, Salmonella typhimurium, Escherichia coli, with and without metabolic activation system.

Reproductive toxicity: No information available

Specific target organ toxicity - single exposure: No information available

Specific target organ toxicity – repeated exposure: No information available

Aspiration hazard: No information available

Systemic effects: See 4.2

## **SECTION 12. Ecological information**

### **12.1. Ecotoxicity**

Acute Toxicity to Fish: LC50 >10000 mg/l (Leuciscus idus melanotus, 48 hours); LC50 >12000 mg/l (Rasbora heteromorpha, 96 hours).

Acute Toxicity to Aquatic Invertebrates: EC50 >10000 mg/l (Daphnia magna, 24 hours).

Acute Toxicity to Aquatic Plants: ECmin>10000 mg/l (Scenedesmus quadricauda, 168 hours).

### **12.2. Persistence and Degradability**

Stable under abiotic conditions 7-1 days (stable).

### **12.3. Bio-accumulative Potential**

No information available.

### **12.4. Mobility in Soil**

No information available.

### **12.5. Other Adverse Ecological Effects**

Transformation in the environment: Yes (ammonia, nitrates, carbonic acid).

## **SECTION 13. Disposal considerations**

### **13.1 Waste Disposal Method**

Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

## SECTION 14: Transport information

### 14.1 UN number

Not dangerous goods

### 14.2 UN proper shipping name

Not dangerous goods

### 14.3 Transport hazard class(es)

#### Land transport (ADR/RID):

Not classified as dangerous in the meaning of transport regulations

#### Air transport (IATA):

Not classified as dangerous in the meaning of transport regulations.

#### Sea transport (IMDG):

Not classified as dangerous in the meaning of transport regulations.

### 14.4 Packaging group:

Not dangerous goods

## SECTION 15: Regulatory information

### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

No information

### 15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

No information

### 15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

No information

### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

No information

### 15.5. Massachusetts Right-to-Know Substance List

No information

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

No information

### 15.7. New Jersey Worker and Community Right-to-Know Components

No information

### 15.8. California Proposition 65

No information

### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

No data available

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

No information

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

No information

#### International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENC S | AICS | IECS C | KECL |
|-----------|------|-----|------|--------|--------|-----|-------|-------|------|--------|------|
|           |      |     |      |        |        |     |       |       |      |        |      |
|           |      |     |      |        |        |     |       |       |      |        |      |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.



U.S. Federal Regulations

TSCA 12(b)

No information

SARA 313

No information

| Component | CAS-No | Weight % | SARA 313 -<br>Threshold Values % |
|-----------|--------|----------|----------------------------------|
|           |        |          |                                  |

SARA 311/312 Hazard Categories See section 2 for more information.

No information

CWA (Clean Water Act)

No information

Clean Air Act

No information

OSHA Occupational Safety and Health Administration

No information

CERCLA

No information

**California Proposition 65**

No information

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
|           |               |            |              |          |              |
|           |               |            |              |          |              |

U.S. Department of Transportation

Reportable Quantity (RQ): No information

DOT Marine Pollutant: No information

DOT Severe Marine Pollutant: No information

U.S. Department of Homeland Security

This product contains the following DHS chemicals: No information.

| Component |  |
|-----------|--|
|           |  |

## Other International Regulations

Not available

### SECTION 16: Other information

Date of issue: 1/8/2024

Revision: None

### SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 any other material or in any process, unless specified in the text.