



## Safety Data Sheet

### Section 1: Identification

**Product Name:** Urea

**Product Type:** Solid

**Recommended Uses:** For further manufacturing of feed

**Synonyms:** Carbamide, carbonyl diamide, carbonydiamine, diaminomethanal, diaminomethanone

**Company Identification:**

Origination, LLC  
1802 Wooddale Drive, Suite 200  
Woodbury, MN 55125

**For information, call:** 1-800-625-6079

**Emergency Number:** 1-800-625-6079

**For CHEMTREC assistance, call:** 1-800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2: Hazard(s) Identification

**OSHA/HCS status:** This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification and labeling have been performed following the guidelines and recommendation of GHS and the intended use.**

**Classification of the substance or mixture:** Not classified.

**GHS label elements**

**Signal Word:** No signal word.

**Hazard statements:** Not applicable.

**Precautionary statements**

**General:** Not applicable.

**Hazards not otherwise classified:** Product forms slippery surface when combined with water.

### Section 3: Composition / Information on Ingredients

**Substance/mixture:** Substance.

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## CAS number/other identifiers

**Other means of identification:** Urea.

**CAS number:** 57-13-6.

Product/ingredient name	CAS number	%
Urea	CAS: 57-13-6	100

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available are listed in Section 8.**

## Section 4: First Aid Measures

### Description of necessary first-aid measures

**In case of eye contact:** Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**In case of inhalation effects:** If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**In case of skin contact:** Wash off with soap and water. Get medical attention if irritation develops.

**In case of ingestion:** Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe.

### Most important symptoms and effects, both acute and delayed

#### Potential acute health effects

**In case of eye contact:** No known significance effects or critical hazards.

**In case of inhalation:** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**In case of skin contact:** No known significant effects or critical hazards.

**In case of ingestion:** No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

**In case of eye contact:** No specific data.

**In case of inhalation:** No specific data.

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**In case of skin contact:** No specific data.

**In case of ingestion:** No specific data.

### **Indication of any immediate medical attention and special treatment needed, if necessary**

**Notes to physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments:** No specific treatment.

**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training.

**See toxicological information (section 11)**

## Section 5: Fire Fighting Measures

### **Extinguishing media**

**Suitable extinguishing media:** Use extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None identified.

**Special hazards arising from the chemical:** No specific fire or explosion hazard.

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, ammonia. Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.

**Special protective actions for fire-fighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark:** Non-flammable.

**Remark:** None.

## Section 6: Accidental Release Measures

### **Personal precautions, protective equipment and emergency procedures**

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**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel”.

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill:** Move containers from the spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill:** Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7: Handling and Storage

### Precautions for safe handling

**Protective measures:** Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities :** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8: Exposure Controls, Personal Protection

### Control parameters

### Occupational exposure limits

Ingredient name	Exposure limits
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Urea	AIHA WEEL (1999-01-01) Time Weighted Average (TWA) 10 mg/m <sup>3</sup> NIOSH REL (2005-09-30)
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**Appropriate engineering controls:** Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## Individual protection measures

**Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.

**Eye/face protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

## Skin protection

**Hand protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

**Other skin protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection:** Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9: Physical and Chemical Properties

### Appearance

**Physical State:** Solid [Granular solid, prills] White.

**Color:** White.

**Odor:** Odorless

**Odor thresholds:** Not determined.

**pH:** 9 [Conc.: 100 g/l] @ 20 °C (68.00 °F)

**Melting/freezing point:** 133 - 134 °C (271.40 - 273.20 °F)

**Boiling/condensation point:** Not determined.

**Sublimation temperature:** Not determined.

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**Flash point:** Not applicable.

**Evaporation rate:** Not determined.

**Flammability:** Not-flammable.

**Lower and upper explosive (flammable) limits: Lower:** Not determined. **Upper:** Not determined.

**Vapor pressure:** 0.000016 hPa

**Vapor density:** 2.07 [Air = 1]

**Bulk density:** 760 - 800 kg/m<sup>3</sup>

**Density:** 1.33 g/cm<sup>3</sup> @ 20 °C (68.00 °F)

**Relative density:** Not determined

**Solubility:** Easily soluble in the following materials cold water.

**Solubility in water:** 624 g/l @ 20 °C (68.00 °F)

**Partition coefficient: noctanol/water:** Not determined.

**Auto-ignition temperature:** Not determined.

**Decomposition temperature:** Not determined.

**Viscosity: Dynamic:** Not determined. **Kinematic:** Not determined.

**Explosive properties:** None.

**Oxidizing properties:** None.

### Section 10: Stability and Reactivity

**Reactivity:** No specific test data related to reactivity available for this product or its ingredients.

**Chemical Stability:** The product is stable.

**Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to Avoid:** Avoid contamination by any source including metals, dust and organic materials.

**Incompatible materials:** Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride.

**Remark:** acids alkalis Nitrites and nitrates

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.



## Section 11: Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Urea					
	LD50 Oral	Rat	14,300 mg/kg OECD 401	-	IUCLID 5

**Conclusion/Summary:** No known significant effects or critical hazards.

#### Irritation/Corrosion

##### Conclusion/Summary

**Skin:** No known significant effects or critical hazards.

**Eyes:** No known significant effects or critical hazards.

**Respiratory:** No known significant effects or critical hazards.

#### Sensitization

##### Conclusion/Summary

**Skin:** No known significant effects or critical hazards.

**Respiratory:** No known significant effects or critical hazards.

#### Mutagenicity

**Conclusion/Summary:** No known significant effects or critical hazards.

#### Carcinogenicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Urea	Negative - Oral - NOAEL	Rat	2250 mg/kg	-	IUCLID 5

**Conclusion/Summary:** No known significant effects or critical hazards.

#### Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure	References
Urea	-	-	Negative	Rat	Oral: 500 mg/kg	7 days per week	IUCLID 5

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**Conclusion/Summary:** No known significant effects or critical hazards.

## Teratogenicity

**Conclusion/Summary:** No known significant effects or critical hazards.

**Specific target organ toxicity (single exposure):** No known significant effects or critical hazards.

**Specific target organ toxicity (repeated exposure):** No known significant effects or critical hazards.

**Aspiration hazard:** No known significant effects or critical hazards.

**Information on the likely routes of exposure:** Not available.

## Potential acute health effects

**Eye contact:** No known significant effects or critical hazards.

**Inhalation:** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact:** No known significant effects or critical hazards.

**Ingestion:** No known significant effects or critical hazards.

## Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact:** No specific data.

**Inhalation:** No specific data.

**Skin contact:** No specific data.

**Ingestion:** No specific data.

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

**Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

### Long term exposure

**Potential immediate effects:** Not available.

**Potential delayed effects:** Not available.

## Potential chronic health effects

Product / ingredient name	Result	Species	Dose	Exposure	References
Urea	NOAEL Oral	Rat	2250 mg/kg	12months 7 days per week	IUCLID 5

**Conclusion/Summary:** No known significant effects or critical hazards.

**General:** No known significant effects or critical hazards.



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**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

## Over-exposure signs/symptoms

**Eye contact:** No specific data.

**Inhalation:** No specific data.

**Skin contact:** No specific data.

**Ingestion:** No specific data.

## Numerical measures of toxicity

**Acute toxicity estimates:** Not available.

## Section 12: Ecological Information

### Toxicity

Product / ingredient name	Result	Species	Exposure	References
Urea				
	Acute LC50 6,810 mg/l Fresh water	Fish - Labeo boga	96 h	IUCLID 5
	Acute EC50 10,000 mg/l Fresh water	Aquatic invertebrates. - Daphnia magna	24 h	IUCLID 5
	Acute NOEC 47 mg/l Fresh water	Aquatic plants - Heterosigma akashiwo	192 h	IUCLID 5

**Conclusion/Summary:** No known significant effects or critical hazards.

### Persistence/degradability

Product / ingredient name	Test	Result	Dose	Inoculum	References
Urea		96 % - 16 d		Activated sludge	

**Conclusion/Summary:** No known significant effects or critical hazards.

### Bioaccumulative potential

Product / ingredient name	LogPow	BCF	Potential
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Urea	1.73-2.11-1.73	-	low
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**Conclusion/Summary:** No known significant effects or critical hazards.

**Mobility in soil**

**Soil/water partition coefficient (KOC):** Not available.

**Mobility:** This product may move with surface or groundwater flows because its water solubility is: high

**Other adverse effects:** No known significant effects or critical hazards.

### Section 13: Disposal Considerations (non-mandatory)

#### Disposal Methods

Dispose in accordance with all applicable regulations. The U.S. EPA has not published waste numbers for this product's components. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

#### Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

### Section 14: Transport Information

**US DOT Information** No Classification assigned.

**TDG Information** No Classification assigned.

**ADR Information** No Classification assigned.

**ADR Tunnel Code Restrictions** No information is available.

**RID Information** No Classification assigned.

**IATA Information** No Classification assigned.

**ICAO Information** No Classification assigned.

**IMDG Information** No Classification assigned.

### Section 15: Regulatory Information

**United States U.S. Federal regulations :**

**United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.

**United States - TSCA 4(a) - Final Test Rules:** Not listed

**United States - TSCA 4(e) - ITC Priority list:** Not listed

**United States - TSCA 4(a) - Proposed test rules:** Not listed

**United States - TSCA 4(f) - Priority risk review:** Not listed

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- United States - TSCA 5(a)2 - Final significant new use rules:** Not listed
- United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed
- United States - TSCA 5(e) - Substances consent order:** Not listed
- United States - TSCA 6 - Final risk management:** Not listed
- United States - TSCA 6 - Proposed risk management:** Not listed
- United States - TSCA 8(a) - Comprehensive assessment report (CAIR):** Not listed
- United States - TSCA 8(a) - Chemical risk rules:** Not listed
- United States - TSCA 8(a) - Dioxin/Furane precursor:** Not listed
- United States - TSCA 8(a) - Chemical Data Reporting (CDR):** Not determined
- United States - TSCA 8(a) - Preliminary assessment report (PAIR):** Not listed
- United States - TSCA 8(c) - Significant adverse reaction (SAR):** Not listed
- United States - TSCA 8(d) - Health and safety studies:** Not listed

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):** Not listed

**Clean Air Act Section 602 Class I Substances:** Not listed

**Clean Air Act Section 602 Class II Substances:** Not listed

**DEA List I Chemicals (Precursor Chemicals):** Not listed

**DEA List II Chemicals (Essential Chemicals):** Not listed

**SARA 302/304:** Not applicable.

**SARA 304 RQ SARA 311/312:** Not applicable.

**Classification:** Not applicable.

### State regulations

**Massachusetts:** None of the components are listed.

**New York:** None of the components are listed.

**New Jersey:** None of the components are listed.

**Pennsylvania:** None of the components are listed.

### California Prop. 65

This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

**Safety, health and environmental regulations:** No known other specific national and/or regional regulations applicable to this product (including its specific for the product ingredients).

## Section 16: Additional Information

Hazardous Material Information System (U.S.A.)

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Health	-	1
Flammability		0
Reactivity		0

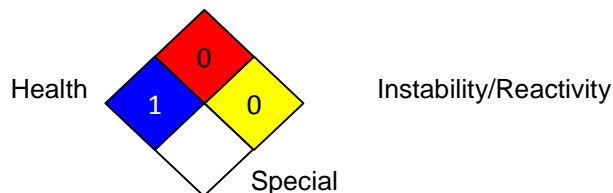
**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks

**Chronic toxicity:** No data available.

\* Carcinogen, Target organs, Reproductive effects, Sensitizer to lungs

## National Fire Protection Association (U.S.A.)

Flammability



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Prepared by: Origination, LLC

Prepared: November 12, 2020

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