

# SAFETY DATA SHEET



Revision date: 25-Aug-2020

Revision Number 4

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** UREA  
**Product Code(s)** 000000031619

### Other means of identification

**CAS No.** 57-13-6  
**Synonyms** Carbonyl Diamide; Carbamide; Granular Urea; Prilled Urea; Industrial Urea; Urea BP/USP

### Recommended use of the chemical and restrictions on use

**Recommended use** Cosmetics. Personal care. Fertilizers. Industrial applications.  
**Uses advised against** No information available.

### Supplier

Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia  
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Villawood NSW 2163  
Australia

Telephone Number: +61 2 8717 2929  
Facsimile: +61 2 9755 9611

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Not classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS)

### Label elements

**Hazard statements**

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:  
H316 - Causes mild skin irritation  
H320 - Causes eye irritation

**Other hazards which do not result in classification****General Hazards**

Poisons Schedule (SUSMP)            None allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Chemical name	CAS No.	Weight-%
Urea	57-13-6	100%

**4. FIRST AID MEASURES****Description of first aid measures**

**General advice**                            For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

**Emergency telephone number**        Poisons Information Center, Australia: 13 11 26  
Poisons Information Center, New Zealand: 0800 764 766

**Inhalation**                                Remove to fresh air. Call a physician if symptoms occur.

**Eye contact**                                Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.

**Skin contact**                                Wash skin with soap and water. Call a physician if symptoms occur.

**Ingestion**                                 Clean mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

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

**Symptoms**                                 No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**                        Treat symptomatically.

**5. FIRE FIGHTING MEASURES****Suitable Extinguishing Media**

**Suitable Extinguishing Media**        Dry chemical, CO2, water spray or regular foam.

**Unsuitable extinguishing media**        Do not use straight streams.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Non-combustible.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **6. ACCIDENTAL RELEASE MEASURES**

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

**Personal precautions** Avoid contact with skin and eyes. Avoid generation of dust.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

## **7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Avoid contact with eyes and prolonged or repeated contact with skin.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Protect from moisture. Store away from sources of heat or ignition. Keep at a temperature not exceeding 23 °C. Keep container closed when not in use.

**Incompatible materials** Strong oxidising agents, hypochlorites, sodium nitrate, diphosphorus pentachloride, gallium perchlorate, nitrosyl perchlorate, chlorine, sodium nitrite, permanganates, nitrates, dichromates, chlorides.

**Poisons Schedule (SUSMP)** None allocated

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Limits** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m<sup>3</sup>

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Appropriate engineering controls

#### **Engineering controls**

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.



#### **Eye/face protection**

Glasses.

#### **Skin and body protection**

Protective shoes or boots. Wear suitable protective clothing. Overalls.

#### **Hand protection**

Impervious gloves.

#### **Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a dust mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

#### **Environmental exposure controls**

No information available.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Crystalline
<b>Color</b>	White
<b>Odor</b>	Faint Ammonia
<b>Odor threshold</b>	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.2 (10% solution)	None known
Melting point / freezing point	132.7°C	None known
Boiling point / boiling range	No data available	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	No data available	None known
Vapor density	2.07 (air=1)	None known
Relative density	1.323 (water=1)	None known
Water solubility	Soluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	Not applicable	None known
Decomposition temperature	>133°C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

**Reactivity** Hygroscopic. Reacts with chlorine to form chloramines.

Chemical stability

**Stability** Stable under normal conditions.

Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

**Hazardous polymerization** Hazardous polymerization does not occur.

Conditions to avoid

**Conditions to avoid** Dust formation. Heat.

Incompatible materials

**Incompatible materials** Strong oxidising agents, hypochlorites, sodium nitrate, diphosphorus pentachloride, gallium perchlorate, nitrosyl perchlorate, chlorine, sodium nitrite, permanganates, nitrates, dichromates, chlorides.

Hazardous decomposition products

**Hazardous decomposition products** Carbon oxides. Nitrogen oxides. Ammonia.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure**

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation** May cause irritation.

**Eye contact** Mild eye irritation.

**Skin contact** Causes mild skin irritation.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Urea	= 8471 mg/kg ( Rat )	-	-

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Mild Irritant.

**Serious eye damage/eye irritation** Mild eye irritation.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** Not classified.

**Chronic effects:**

Urea can be toxic to livestock, pets and wildlife. As little as 0.25 g/kg live weight can kill cattle not previously adapted to it. Avoid ingestion, and clean up spills promptly. Avoid contamination of drinking water.

Should accidental poisoning of livestock occur, vinegar (acetic acid) needs to be administered at quite high dose rates (as a guide 2 to 4 litres for cattle), repeating the treatment if necessary. The vinegar makes the ruminal contents more acidic and delays the uptake of ammonia by the blood.

Death from urea poisoning is rapid (generally within 2 hours of ingestion of the urea) and often by the time symptoms appear (severe abdominal pain, shivering, excessive salivation, rapid breathing, unstable gait, bellowing and bloat), it is too late. To have any chance of being effective, treatment must be quick.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Urea	-	LC50: 16200 - 18300mg/L (96h, Poecilia reticulata)	-	EC50: =3910mg/L (48h, Daphnia magna) EC50: >10000mg/L (24h, Daphnia magna Straus)

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

Chemical name	Partition coefficient
Urea	-1.59

### Mobility

**Mobility in soil** No information available.

### Other adverse effects

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

## 14. TRANSPORT INFORMATION

### **ADG**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

### **IATA**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

### **IMDG**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Not classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS)

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** None allocated

**National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
Urea - 57-13-6	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

**International Inventories****AICS**

This material is listed on the Australian Inventory of Chemical Substances.

**NZIoC**

This material is listed on the New Zealand Inventory of Chemicals.

**Legend:**

**AICS** - Australian Inventory of Chemical Substances

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**16. OTHER INFORMATION**

Supplier Safety Data Sheet 01/ 2019

**Reason(s) For Issue:** 5 Yearly Revised Primary SDS

**Issuing Date:** 25-Aug-2020

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).



**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australian Industrial Chemicals Introduction Scheme (AICIS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris.**

**End of Safety Data Sheet**