

Producer: **Pakarab Fertilizers Limited**

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Urea

White crystals; ammonia odor.
Irritating to eyes/skin/
respiratory tract.
Also causes: headache,
nausea, vomiting;
disorientation, nervous-
ness, hypotension,
hyperthermia, tachycardia, and
cardiotoxicity (ECG changes)
may also occur.



CAS No. 57-13-6

IDENTIFICATION OF PRODUCT:

Prilled Urea

Product Code: **PUREA**

1. IDENTIFICATION OF PRODUCT:

Prilled Urea

1.1 General Information:

Commonly used synonyms Carbamide, Carbonyl Diamide

1.2 Company Identification (Name & Address):

PAKARAB FERTILIZERS Ltd. Khanewal Road, Multan-Pakistan.

1.3 Contact Numbers:

Tel.: +92-61-9220022

Fax: +92-61-9220021

Head Office, Multan, Tel. : 061 4512031

2. COMPOSITION / COMPONENT INFORMATION:

2.1 General Characteristics of the Chemical Substances:

Components	Weight %
Total Nitrogen	46.0%
Moisture	1.0% (Max)

Product containing urea as essential ingredient (Total nitrogen 46%).

2.2 Classification:

Not classed as hazardous material according to EEC Directive 67/548/EEC

3. HAZARDS IDENTIFICATION. POTENTIAL HEALTH EFFECTS:

3.1 Human Health:

The product has low toxicity. However, the following points should be noted.

Emergency: -not Established

Precautions: -Avoid breathing dust
-Avoid ingestion
-Avoid Contact with eyes
-use by adequate ventilation

Overexposure Conditions: -Acute: unknown

-Chronic: No adverse effects are known. Occurs naturally in the body.

Inhalation: -High Dust concentrations of airborne material may cause irritation of nose and upper respiratory tract.

Skin Contact: - Prolonged or repeated contact may cause some irritation.

Eye Contact: - Prolonged or repeated contact may cause some irritation.

Ingestion: - Small quantities are unlikely to cause toxic effect.

- Large quantities may give rise to gastro-intestinal disorders.

Fire & Thermal Decomposition Products:

- Inhalation of decomposition gases can cause irritation and corrosive effects on the respiratory system. Some lung effects may be delayed.

3.2 Others:**Fire & Heating:**

- When heated, urea decomposes releasing ammonia. In a Fire, toxic fumes containing ammonia and NOX may be released.

4. FIRST AID:**4.1 Product:****4.1.1 Inhalation:**

- Remove from source of exposure to dusts.
- Obtain medical advice if ill effects occur.

4.1.2 Skin Contact:

- Wash the affected area with soap and water.

4.1.3 Eye contact:

- Flush/irrigate eyes with copious amounts of water for at least 10 minutes.
- Obtain medical attention if eye irritation persists.

4.1.4 Ingestion:

- Do not induce vomiting.
- Give water or milk to drink.
- Obtain medical attention if more than a small quantity has been swallowed.

4.1.5 Fire and Decomposition Products:

Skin Contact - Wash areas in contact with molten material copiously with cold water.
- Obtain Medical attention.

Inhalation - Remove from the source of exposure to fumes.
- Keep warm and at rest.
- Persons who have inhaled decomposition gases should immediately obtain medical attention.

5. FIRE-FIGHTING MEASURES:**5.1 Appropriate Fire Fighting Resources:**

The product is not directly involved in the fire, but in event of fire all standard fire-fighting resources may be used.

5.2 Inappropriate Fire Fighting Resources:

No data available.

5.3 Special Fire Fighting protection:

- Call the Fire brigade.
- Avoid breathing the fumes (toxic), stay up-wind of the fire.
- Wear an approved breathing mask when fighting a Fire. Use a self-contained breathing apparatus if fumes are being entered.
- Use plenty of water.
- Open doors and windows of the store to give maximum ventilation.
- Do not allow molten fertilizer to run into drains.

6. ACCIDENTAL RELEASE MEASURES:

6.1 Personal protection:

- use dust masks, protective clothing, goggles, etc.

6.2 Environmental protection:

- Take care to avoid the contamination of watercourses and drains and inform the appropriate authority in case of accidental contamination of watercourses.

6.3 Spillage Cleaning procedure:

- Any spillage of fertilizer should be cleaned up promptly, swept up and placed in a clean, labeled, container/bags for safe disposal.
- Depending on the degree and nature of contamination, dispose of by use as a fertilizer on farms.

7. HANDLING AND STORAGE:

7.1 Handling:

- To be used:**
 - Dust protective Masks;
 - When handling the product over long periods use appropriate personal protective equipment e.g. gloves.
 - Safety goggles
- To avoid:**
 - Avoid excessive generation of dust.
 - Avoid unnecessary exposure to the atmosphere to prevent moisture pick-up.

7.2 Storage:

- Locate away from the source of heat or Fire.
- Ensure high standard of housekeeping in the storage area.
- Any building used for the storage should be dry and well ventilated

8. EXPOSURE CONTROL AND PERSONAL PROTECTION:

8.1 Occupational Exposure Limits:

- No specific official limit. ACGIH recommended value (1995-96) for inhalable particulate: TLV/TWA : 10mg/m³.

8.2 Precautionary and engineering measures:

- Avoid high dust concentration and provide ventilation where necessary.

8.3 Personal Protection:

- Wear suitable gloves when handling the product over long periods.
- Use suitable dust respirator if dust concentration is high.

9. PHYSICAL AND CHEMICAL PROPERTIES:

9.1 General Information:

- Appearance / Colour: Prilled Material / White,
- Physical Condition: Solid
- Odour: Odourless

9.2 Physical and chemical Information:

- pH: 9~10 (for 10% water solution)
- Melting Point: 133°C (decomposes)
- Bulk Density: 700~780 kg/m³
- Water Solubility: 1080g/l at 20°C
- Flammability (solids): Not flammable (Method A10 EEC)

- Explosive properties: Uncontaminated urea is not an explosion hazard. However it may form explosive mixtures subject to spontaneous detonation when contaminated with strong acid (nitric or perchloric) or nitrates.
- Oxidizing properties: None.

10. STABILITY AND REACTIVITY:

10.1 Stability:

- The product is stable under normal conditions of storage, handling and use.

10.2 Condition to Avoid:

- Heating above melting point.
- Welding or hot work on equipment or plant which may have contained fertilizer without first washing thoroughly to remove all fertilizer.

10.3 Materials to avoid:

- Strong oxidizers, acids, alkalis, nitrates, sodium or calcium hypochlorite.

10.4 Hazardous reactions/decomposition products:

- Urea reacts with sodium or calcium hypochlorite to form explosive nitrogen trichloride

11. TOXICOLOGICAL INFORMATION:

11.1 General:

- See section 3.0

11.2 Toxicity Data:

- LD50 (Oral, Rat) > 2000mg/kg

12. ECOLOGICAL INFORMATION:

12.1. Ecotoxicity:

- Has low intrinsic aquatic toxicity but will exert a substantial oxygen demand when significant quantities as in a spillage reach a watercourse and may cause damage to aquatic life.

12.2 Mobility:

- Soluble in water.

12.3 Persistence and degradability:

- Substantially biodegradable in soil and water.

12.4 Bio Accumulation:

- Low potential for bio-accumulation

13. DISPOSAL CONSIDERATIONS:

13.1 General:

- Depending on degree and nature of contamination, dispose of by use on farm, by spreading thinly on open ground or to an authorised waste facility.

14. TRANSPORT INFORMATION:

14.1 UN Classification:

- Not classed, i.e considered non-hazardous material according to UN Orange Book and international transport codes e.g. RID (rail), ADR (road) and IMDG (sea).
- Packing- in WPP bags of 50 Kg.

15. REGULATORY INFORMATION:

15.1 EEC Directives:- Directive 76/116/EEC (Law relating to fertilizers).

16. OTHER INFORMATION:

The information in this safety data sheet is given in good faith and belief in its accuracy based on our knowledge of the substance/preparation concerned at the date of publication. It does not imply the acceptance of any legal liability or responsibility whatsoever by the Company for the consequences of its use or misuse in any particular circumstances.

16.1 Acronyms & References used in preparation of MSDS:

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS#	CAS Registration Number is an assigned number to identify a material. CAS stands for Chemical Abstracts Service.
NIOSH:	National Institute for occupational Safety and health
NFPA:	National Fire Protection Association
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit (OSHA)
REL:	Recommended Exposure Limit (OSHA)
TLV:	Threshold Limit Values (ACGIH)
TWA:	Time Weighted Average

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