

UREA

1. CHEMICAL IDENTITY

Chemical Name	Urea.	Chemical Classification :	Amides.
Synonyms :	Carbamide, Carbonyl Diamide, Carbonyl diamine, Iso urea.	Trade Name :	Narmada Urea.
Formula :	NH ₂ -CO-NH ₂	C.A.S. No. :	57-13-6
		U.N. No. :	--

Regulated Identification :

Shipping Name	N. O. S		
Codes/Label :	---	Hazchem Code No.	--
Hazardous waste I.D. No. :	--		
Hazardous ingredients :	C. A. S. No.		
1.Urea (99-100%)	57-13-6		

2. PHYSICAL AND CHEMICAL DATA

Boiling Range/point degreeC	: Physical State	Crystalline Solid	Appearance : White crystals, Hygroscopic.
Decomposes	:		Odour : Ammonical Odour.
Melting/Freezing Point degree C	56		
C :	N. A.	mm Hg at 25.7 degree	
Vapour Pressure at 35 degree C :			
Vapour Density : 1.0 (Air = 1)	Solubility in water at 30 degree C : yes.		Others : Sinks and mix with water. Slightly soluble in ether.
Specific Gravity : 1.34	pH : N/A		
Water = 1			

3. FIRE AND EXPLOSION HAZARD DATA

Flammability : No	LEL : Not applicable	Flash Point degree C : N. A	Autoignition temperature degree C : N. A
TDG Flammability : No	UEL : Not applicable	Flash Point degree C : N. A	
Explosion Sensitivity to Impact :	to None identified	Explosion Sensitivity to Static Electricity :	Hazardous Combustion Products :
Hazardous Polymerisation :	will not occur	None Identified	Produce toxic gases such as Ammonia, Carbon dioxide, CO, and Oxides of Nitrogen.
Combustible liquid : No	Explosive Material : No	Corrosive Material : Yes	
Flammable Material : Yes	Oxidiser : No	Others : --	
Pyrophoric Material : No	Organic Peroxide :	No	

4. REACTIVITY DATA

Chemical Stability	Stable but highly hygroscopic. Decomposes at boiling point.
Incompatibility with other material	Heat, Moisture (Humid air). Strong oxidizing agents, Ammonia, Oxides of Nitrogen, Carbon Monoxide, Carbon dioxide.
Reactivity	No.
Hazardous Reaction Products	Hydrogen Cyanide, Ammonia, Oxides of Nitrogen, Carbon Monoxide, Carbon Dioxide.

5. HEALTH HAZARDS DATA

Routes of Entry	Inhalation, Ingestion, Skin and Eyes.
Effects of Exposure/Symptoms	Medical conditions generally aggravated by exposure like Asthma, Kidney Disorders, Respiratory System Disease.
Inhalation	Irritation of upper respiratory tract. It directly attacks to respiratory system.
Ingestion	Nausea, vomiting, Diarrhea, Gastrointestinal Irritation.
Skin	Irritation.
Eyes	Irritation.
Emergency Treatment	INGESTION : If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention immediately. INHALATION : If a person breathes in large amounts, move the exposed person to fresh air. Give medical aid immediately. SKIN : In case of contact, immediately wash the skin with plenty of soap and water for at least about 15 minutes. Give medical aid immediately. EYES : In case of Eye contact, immediately flush with plenty of water for at least 15 minutes. Give medical aid immediately. Seek medical aid immediately for all types of exposures.
TLV (ACGIH)	Not established mg/m ³ STEL : Not established
Permissible Exposure Limit	Not established
LD - 50 (oral-rat)	14.3 gm/kg
LDLo (Dog)	3000 mg/kg
LDLo (Domestic animal)	511 mg/kg
NFPA Hazard Signals	Health 0 Flammability 1 Reactivity 0 Special 1(contact)
	Odour Threshold : N. A. ---

6. PREVENTIVE MEASURES

Personal Protective Equipment	Keep the containers tightly closed. Use goggles, Full clothes. Ventilation : Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible. Respiratory : None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask. Eye/Skin : Safety goggles, Impervious PVC / Butyl rubber gloves are recommended.
Handling and Storage	Keep the container tightly closed. Suitable for any general chemical storage area. Isolate from incompatible materials.
Precautions	This material is hygroscopic. It melts and generates ammonia. Avoid breathing, dust, fumes. In case of fire evacuate the area.

7. EMERGENCY AND FIRST AID MEASURE

FIRE	FIRE EXTINGUISHING MEDIA	Use extinguishing media appropriate to the surrounding fire.
FIRE	Special Procedures	Keep the containers cool by spraying water if exposed to heat or flame. Firefighters should wear proper protective equipment and a self-contained breathing apparatus with full facepiece operated in positive pressure mode.

EXPOSURE	Unusual Hazards	Dust may form explosive mixture with air. Decomposes at boiling point. It produces toxic gases such as Ammonia, Carbon monoxide, Carbon Dioxide, Oxides of Nitrogen. Consider appropriate evacuation in case of any kind of emergency.
	First Aid Measures	INGESTION : If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention immediately. INHALATION : If a person breathes in large amounts, move the exposed person to fresh air. obtain medical attention immediately. Remove the victim to fresh air. If not breathing give CPR, if breathing is difficult give oxygen. SKIN : In case of contact, immediately wash the skin with plenty of soap and water for at least about 15 minutes. EYES : In case of Eye contact, immediately flush with plenty of water for at least 15 minutes. Seek medical aid immediately for all types of exposures.
	Antidotes/Dosages	--
	Notes to Physician	
SPILLS	Steps to be taken	Shut off the leakage if possible. Wear suitable Impervious protective clothing. Carefully sweep up and remove from the spill area. Use SCBA.
	Waste disposal Method	Dispose in accordance with all applicable central, state and local Environmental regulations. Treat contaminated water used for spills/ leaks or used for fire control.

8. ADDITIONAL INFORMATION / REFERENCES :

It may cause irritation. May be harmful if inhaled. During use avoid contact with eyes, skin, clothing.

Wash thoroughly after handling. Keep the container tightly closed.

When handling liquid products, secondary protective containers must be used for carrying.

Urea is not usually considered as a hazardous material. It is neither flammable nor caustic and its dusts are not toxic. In fact it is used to treat some diseases, as well as for hand - creams and deodorants. In the synthesis of urea, however, Carbon dioxide and Ammonia are used and since the latter presents some hazards, the same precautionary measure shall be applied as concerns Carbon dioxide and Ammonia.

9. MANUFACTURE / SUPPLIERS DATA

Name of Firm	M/S GNFC Ltd.	Contact person in emergency
Mailing Address	Po. Narmadanagar, Bharuch - 392 015	
Telephone/Fax Nos. :	47001- 47028 /	
	02642-47094	
Telephonic Address	Local Bodies Involved	
	Standard Packing	HDPE Bags
	Tremcard	and Jute bags
	Detail/Ref.	
	Others.	

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