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UREA Granules

1. Product Identification

Synonyms: Carbamide resin; Isoourea; Carbonyl diamide; Carbonyldiamine
CAS No.: 57-13-6
Molecular Weight: 60.06
Chemical Formula: (NH₂)₂CO
Product Codes:
RAPID ICE MELT

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	H
Urea	57-13-6	99 - 100%	-

3. Hazards Identification

There are no ingredients present within the current knowledge of the supplier that are hazardous to health or the environment.

(1) Substance classified with a health or environmental hazard

(2) Substance with a workplace exposure limit

Occupational exposure limits if available are listed in section 8

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Above relates to dust given off in manufacturing process

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Reactions with incompatibles may pose an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and SCBA-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

HANDLING : Avoid the creation of dust when handling and sources of ignition (do not smoke) avoid contamination by any source including metals, dust and organic materials.

STORAGE : Must be stored in a dry location.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Urea:

-AIHA Workplace Environmental Exposure Limit (WEEL):

10 mg/m³, 8-hour TWA

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators :

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (SCBA or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (SCBA type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a SCBA type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If heat is involved, an ammonia/methylamine, dust/mist cartridge may be necessary.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

ABOVE IS APPLICABLE IN THE BAGGING/MANUFACTURING PROCESS.

9. Physical and Chemical Properties

Appearance:

White Prills

Odor:

Develops odor of ammonia.

Solubility:

Very soluble in water.

Specific Gravity:

1.32 @ 20C/4C

pH:

7.2 (10% in water)

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Decomposes.

Melting Point:

132 - 135C (270 - 275F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Urea decomposes upon heating and can form products including ammonia, oxides of nitrogen, cyanuric acid, cyanic acid, biuret, carbon dioxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. It is incompatible with sodium nitrite, gallium perchlorate, strong oxidizing agents (permanganate, dichromate, nitrate, chlorine), phosphorus pentachloride, nitrosyl perchlorate, titanium tetrachloride and chromyl chloride.

Conditions to Avoid:

Incompatibles.

11. Toxicological Information

Urea: Oral rat LD50: 8471 mg/kg. Investigated as a tumorigen, mutagen, reproductive effector.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Urea (57-13-6)	No	No	None

12. Ecological Information

Environmental Fate:

When released to soil, this material will hydrolyze into ammonium in a matter of days to several weeks. When released into the soil, this material may leach into groundwater. When released into water, this material may biodegrade to a moderate extent. When released into water, this material is not expected to evaporate significantly. This material has an experimentally-determined bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with local requirements and regulations .

HAZARDOUS WASTE : This product is not regarded as hazardous waste as defined by EU directive 91/689/EEC

14. Transport Information

Not regulated.

15. Regulatory Information

EU REGULATIONS

RISK PHRASES ; THIS PRODUCT IS NOT CLASSIFIED AS HAZARDOUS

PRODUCT USE ; INDUSTRIAL APPLICATIONS

EUROPE INVENTORY : ALL COMPONENTS ARE LISTED OR EXEMPT

16. Other Information

REFERENCES : European Chemical bureau, annex 1 EU directive 67/548/EEC.

Revision Information:

No Changes.

11/5/09

