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Rainbow Technology Corp.
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RTC Products #79014

SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT: Urea Cold Pack
Product Label Name: Urea Cold Pack

Company Name and Address: Dukal Corporation
2 Fleetwood Court
Ronkonkoma, NY 11779

Emergency Telephone Number: 631-656-3800

Recommended use:

SECTION 2: HAZARDOUS IDENTIFICATION

Hazard Class/Category: Acute Toxicity Cat. 5
Eye Irritant Cat. 2A
Skin Irritant Cat. 3

Hazard Symbol: No Symbol

Signal Word, Cautions or Precautionary statements: WARNING. May be harmful if swallowed or inhaled. Causes eye irritation. Causes skin irritation. Causes respiratory irritation. IF SWALLOWED: Call a POISON CENTER or doctor/physician. Induce vomiting as directed. IF IN EYES: Rinse cautiously with water for at least 15 minutes. Get medical advice/attention. IF ON SKIN: Rinse cautiously with water for several minutes. Take off contaminated clothing and wash before reuse.

Additional Label Precautions:

Avoid breathing dust.
Keep container closed.
Avoid contact with eyes, skin and clothing.
Use only with adequate ventilation.
If breathing is difficult, give oxygen. In any case, get medical attention.

Product Use: Laboratory Reagent.

Synonyms: Carbamide resin; Isourea; Carbonyl diamide; Carbonyldiamine
CAS No.: 57-13-6
Molecular Weight: 60.06

Eye: Eye irritant. Contact may cause stinging, watering, redness, and swelling.

Skin: Skin irritant. Contact may cause redness, itching, burning and skin damage. No harmful effects from skin absorption have been reported.

Inhalation (Breathing): Low to moderate degree of toxicity by inhalation.

Ingestion (Swallowing): Low to moderate degree of toxicity by ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose, throat and digestive tract; coughing, nausea, vomiting, diarrhea, abdominal pain, breathing difficulties, and blood disorders (methemoglobinemia).



SAFETY DATA SHEET

Cancer: No data available.
Target Organs: No data available.
Developmental: Inadequate data available for this material.
Other Comments: This material contains nitrate salts. Nitrates may be reduced by intestinal bacteria to nitrite. When absorbed, nitrites may result in effects on the blood (methemoglobinemia) and blood vessels (vasodilating and a fall in blood pressure). Symptoms of toxicity may include headache, fainting, fatigue, cyanosis, confusion, irregular heartbeats, and possible respiratory paralysis. Pre-existing heart disease may be aggravated by exposure to nitrates.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include heart, blood vessel and skin disorders.

SECTION 3: INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
Urea	57-13-6	50%	Yes
Water	7732-18-5	50%	No

SECTION 4: FIRST-AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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.

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

SECTION 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 NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.



SECTION 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.

SECTION 7: HANDLING AND STORAGE

To preserve product integrity, store at 25C, excursions permitted between 15C and 30C. Store in a tightly closed container. Protect container from physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

SECTION 8: EXPOSURE CONTROLS

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 (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 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 (NIOSH 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 NIOSH 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.



SAFETY DATA SHEET

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White crystals or white powder.
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.

SECTION 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.

SECTION 11: TOXICOLOGICAL INFORMATION

Urea (100%): Oral rat LD50: 8471 mg/kg. Investigated as a tumorigen, mutagen, and reproductive effector.

Section 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.



SAFETY DATA SHEET

Section 13: DISPOSABLE 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 federal, state and local requirements.

Section 14: TRANSPORTATION INFORMATION

Hazard Class or Division: Not classified as hazardous.

Section 15: REGULATORY INFORMATION

N/A

SECTION 16: OTHER INFORMATION

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Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.