

MATERIAL SAFETY DATA SHEET

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MSDS No. CC0020
Effective Date January 1, 2004

SECTION I NAME

Product	Cadmium Nitrate, Tetrahydrate
Chemical Synonyms	Cadmium Nitrate, Tetrahydrate
Formula	Cd(NO ₃) ₂ ·4H ₂ O
Unit Size	up to 2.5 Kg.
C.A.S. No.	10022-68-1

24 HOUR EMERGENCY ASSISTANCE

	CHEMTREC 800-424-9300 Day 716-226-6177	Health	3
	NFPA	Fire	0
HAZARD RATING		Reactivity	3
MINIMAL 0	SLIGHT 1	HMIS *	
MODERATE 2	SERIOUS 3	SEVERE 4	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Cadmium Nitrate, Tetrahydrate	100%	See Section V.

DANGER! STRONG OXIDIZER! MAY BE FATAL IF SWALLOWED, INHALED OR

ABSORBED THROUGH SKIN. IRRITANT TO SKIN, EYES OR MUCOUS MEMBRANES.

SECTION III PHYSICAL DATA

Melting Point (°F)	59.5°C (139°F)	Specific Gravity (H ₂ O = 1)	2.455
Boiling Point (°F)	132°C (269°F)	Percent Volatile by Volume (%)	N/A
Vapor Pressure (mm Hg)	N/A	Evaporation Rate (-1)	N/A
Vapor Density (Air=1)	N/A		
Solubility in Water	Freely soluble in water.		
Appearance & Odor	White amorphous crystals, pieces or hygroscopic needles; no odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-combustible.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Extinguisher Media	Water spray; dry chemical; alcohol foam; carbon dioxide.				

SPECIAL FIREFIGHTING PROCEDURES

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

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 141)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Contact with oxidizable substances may cause extremely violent combustion. **EXPLOSION:** Strong oxidants may explode when shocked, or if exposed to heat, flame or friction. Also may act as initiation source for dust or vapor explosions.

D.O.T. Oxidizing solid, toxic, n.o.s., (Cadmium nitrate), 5.1, UN3087, PG II

Approved by U.S. Department of Labor *essentially similar* to form OSHA-20

SECTION V HEALTH HAZARD DATA

CC0020

Threshold Limited Value ACGIH (as Cadmium) - TLV 8-hour TWA (dust) 0.05 mg/m³; Fume 0.05 mg/m³. OSHA-PEL 8-hour TWA (dust) 0.2 mg/m³; 0.1 mg/m³. ACGIH STEL 0.2 mg/m³. RTECS No. EV1850000; Oral-rat LD50 300 mg/kg.

Effects of Overexposure Material is extremely destructive to tissues of the mucous membranes, upper respiratory tract, eyes and skin. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache. Ingestion may cause nausea, vomiting, diarrhea, abdominal cramps. May cause damage to kidneys, lungs. May cause chemical pneumonitis and pulmonary edema. Cadmium compounds are known carcinogens based on tests with laboratory animals. Target organs: Liver, kidneys, blood.

Emergency and First Aid Procedures
INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable	X	Conditions to Avoid	Stable under ordinary conditions of use and storage. Excessive temperature and heat.
	Stable			

Incompatibility (Materials to Avoid) Reducing agents, hydrides, halogen, combustible material. Easily oxidizable material.

Hazardous Decomposition Products Oxides of nitrogen. Cadmium metal as dust or fume.

Hazardous Polymerization		Conditions to Avoid	Not applicable.
May Occur	Will Not Occur		
	X		

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Clean-up personnel require protective clothing and respiratory protection from dust. Sweep up and collect in a suitable container and send to RCRA-approved waste disposal facility. Do NOT flush to sewer.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.
Dispose of in an approved chemical landfill or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	If dusty or fume conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved dust mask or respirator for fumes.			
Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	Adequate to maintain below exposure limits.
Protective Gloves	Rubber.		Eye Protection	Goggles.
Other Protective Equipment	Goggles with face shield, lab coat, ventilation hood, proper gloves, eye wash station.			

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Keep container tightly closed when not in use. Store in cool, dry, well-ventilated area away from flammable and oxidizable materials. Wash thoroughly after handling.
Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.
Avoid breathing dust. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Use with adequate ventilation. Remove and wash contaminated clothing.

Revision No. 8 | Date 01/01/04 | Approved Michael Raszeja | Chemical Safety Coordinator MR

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