

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name COBALT(II) NITRATE HEXAHYDRATE, 98+%,
A.C.S. REAGENT
Product Number 239267
Brand SIAL
Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
COBALT(II) NITRATE HEXAHYDRATE	10026-22-9	Yes
Formula	Co(NO3)2.6H2O	
Synonyms	Cobalt dinitrate hexahydrate * Cobalt nitrate hexahydrate * Cobalt(2+) nitrate hexahydrate * Cobalt(II) nitrate hexahydrate * Cobaltous nitrate hexahydrate	
RTECS Number:	QU7355500	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Oxidizing. Harmful. Dangerous for the environment.
Contact with combustible material may cause fire. Harmful if
swallowed. Limited evidence of a carcinogenic effect. May cause
sensitization by skin contact. Very toxic to aquatic organisms,
may cause long-term adverse effects in the aquatic environment.
Target organ(s): Thyroid. Lungs.

HMIS RATING

HEALTH: 3*
FLAMMABILITY: 0
REACTIVITY: 3
SPECIAL HAZARD(S): Oxidizer

NFPA RATING

HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 3
SPECIAL HAZARD(S): Oxidizer

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.
Contact with other material may cause fire. May accelerate combustion.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	NIOSH	TWA	0.05 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: Deep red Form: Fine crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	291.03 AMU	
pH	4	20 °C Concentration: 100 g/l
BP/BP Range	N/A	
MP/MP Range	55 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.88 g/cm ³	
Bulk Density	0.8 kg/l	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	

Miscellaneous Data N/A
Solubility Solubility in Water:Soluble.

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Conditions to Avoid: Heat. Moisture.

Materials to Avoid: Reducing agents, Organic materials.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: Harmful if swallowed.

SENSITIZATION

Skin: May cause allergic skin reaction.

TARGET ORGAN(S) OR SYSTEM(S)

Lungs. Thyroid.

TOXICITY DATA

Oral

Rat

691 mg/kg

LD50

Remarks: Behavioral:Somnolence (general depressed activity).

Gastrointestinal:Hypermotility, diarrhea. Nutritional and Gross

Metabolic:Weight loss or decreased weight gain.

Subcutaneous

Mouse

171 MG/KG

LD50

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 2B

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Nitrates, inorganic, n.o.s.
UN#: 1477
Class: 5.1
Packing Group: Packing Group II
Hazard Label: Oxidizer
PIH: Not PIH

IATA

Proper Shipping Name: Nitrates, inorganic, n.o.s.
IATA UN Number: 1477
Hazard Class: 5.1
Packing Group: II

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: O-Xn-N
Indication of Danger: Oxidizing. Harmful. Dangerous for the environment.
R: 8-22-43-40-50/53
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. May cause sensitization by skin contact. Limited evidence of a carcinogenic effect. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 17-36/37-60-61
Safety Statements: Keep away from combustible material. Wear suitable protective clothing and gloves. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Oxidizing. Harmful. Dangerous for the environment.
Risk Statements: Contact with combustible material may cause fire. Harmful if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: Keep away from combustible material. Wear suitable protective clothing and gloves. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
US Statements: Target organ(s): Thyroid. Lungs.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
DEMINIMIS: 0.1 %
NOTES: This product is subject to SARA section 313 reporting requirements. This product is subject to SARA section 313 reporting requirements.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.