

MSDS# 05290

Section 1 - Chemical Product and Company Identification

MSDS Name: Cobalt(II) nitrate hexahydrate

Catalog Numbers: AC213090000, AC213090010, AC213090050, AC213091000, AC213095000, AC219210000, AC219210000, AC219211000, AC219215000, AC423580000, AC423580025, AC423580050, AC423580050, AC423581000, AC423585000, C378-500

Synonyms: Nitric acid, cobalt(2+) salt, hexahydrate; Cobaltous nitrate hexahydrate.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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Risk Phrases:

CAS#: 10026-22-9  
Chemical Name: Cobalt(II) nitrate hexahydrate  
%: >98  
EINECS#: unlisted  
Hazard Symbols:

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Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

T O



22 36/37/38 40 42/43 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. Harmful if swallowed. Potential cancer hazard. May cause allergic respiratory and skin reaction. Causes eye, skin, and respiratory tract irritation. Target Organs: Heart, lungs, respiratory system, red blood cells, reproductive system.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.

Inhalation: Causes respiratory tract irritation. May be harmful if inhaled. May cause respiratory sensitization.

Chronic: Repeated exposure may cause allergic respiratory reaction (asthma). Cobalt compounds may cause cancer based upon animal studies.

Section 4 - First Aid Measures

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get

Eyes: medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Administration of calcium disodium EDTA may be useful in acute poisoning with its use at the discretion of qualified medical personnel.

#### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: Not applicable.

Flash Point: Noncombustible.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; instability: OX

#### Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material.

#### Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Keep from contact with clothing and other combustible materials. Do not breathe dust. Inform laundry personnel of contaminant's hazards.

Storage: Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cobalt(II) nitrate hexahydrate	0.02 mg/m3 TWA (as Co) (listed under Cobalt, inorganic compounds).	none listed	none listed
Cobalt(II) nitrate anhydrous	0.02 mg/m3 TWA (as Co) (listed under Cobalt, inorganic compounds).	none listed	none listed

OSHA Vacated PELs: Cobalt(II) nitrate hexahydrate: None listed Cobalt(II) nitrate anhydrous: None listed

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below

recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

#### Exposure Limits

#### Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Section 9 - Physical and Chemical Properties

Physical State: Solid

Color: red

Odor: odorless

pH: Not available

Vapor Pressure: Negligible.

Vapor Density: Not available

Evaporation Rate: Negligible.

Viscosity: Not applicable.

Boiling Point: Not available

Freezing/Melting Point: 55 - 56 deg C

Decomposition Temperature:

Solubility in water: Soluble

Specific Gravity/Density: 1.88

Molecular Formula: CoH<sub>12</sub>N<sub>2</sub>O<sub>12</sub>

Molecular Weight: 291.03

#### Section 10 - Stability and Reactivity

Chemical Stability: Stable. However, may decompose if heated. Deliquescent (tending to absorb atmospheric water vapor and become liquid).

Conditions to Avoid: Dust generation, moisture, excess heat.

Incompatibilities with Other Materials: Reducing agents, combustible organics.

Hazardous Decomposition Products: Nitrogen oxides, oxygen, oxides of cobalt.

Hazardous Polymerization: Will not occur.

#### Section 11 - Toxicological Information

RTECS#: CAS# 10026-22-9: QU7355500  
CAS# 10141-05-6: GG1109000

RTECS:

**CAS# 10026-22-9:** Oral, rat: LD50 = 691 mg/kg;

LD50/LC50: RTECS:  
**CAS# 10141-05-6:** Oral, rat: LD50 = 434 mg/kg;  
Oral, rat: LD50 = 434 mg/kg;

Carcinogenicity: Cobalt(II) nitrate hexahydrate - IARC: Group 2B carcinogen  
Cobalt(II) nitrate anhydrous - IARC: Group 2B carcinogen

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Not available

## Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

## Section 14 - Transport Information

US DOT

Shipping Name: NITRATES, INORGANIC, N.O.S.

Hazard Class: 5.1

UN Number: UN1477

Packing Group: II

Canada TDG

Shipping Name: NITRATES INORGANIC NOS (COBALT NITRATE)

Hazard Class: 5.1

UN Number: UN1477

Packing Group: II

## Section 15 - Regulatory Information

### European/International Regulations

#### European Labeling in Accordance with EC Directives

Hazard Symbols: T O

Risk Phrases:

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 40 Limited evidence of a carcinogenic effect.

R 42/43 May cause sensitization by inhalation and skin contact.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 17 Keep away from combustible material.

S 22 Do not breathe dust.

S 24 Avoid contact with skin.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### WGK (Water Danger/Protection)

CAS# 10026-22-9: 2

CAS# 10141-05-6: 2

#### Canada

CAS# 10141-05-6 is listed on Canada's DSL List

Canadian WHMIS Classifications: C, D2A, D1B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 10026-22-9 is not listed on Canada's Ingredient Disclosure List.

CAS# 10141-05-6 is listed on Canada's Ingredient Disclosure List

#### US Federal

##### TSCA

CAS# 10026-22-9 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

CAS# 10141-05-6 is listed on the TSCA Inventory.

## Section 16 - Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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