



SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Cobalt Nitrate, Hexahydrate
PRODUCT NUMBER: C193
COMPANY INFO: *PhytoTechnology Laboratories*[®]
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories*[®] are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

- H272 – Oxidizing solids (Category 2)
- H302 – Acute toxicity, Oral (Category 4)
- H341 – Germ cell mutagenicity (Category 2)
- H350 – Carcinogenicity (Category 1B)
- H360 – Reproductive toxicity (Category 1B)

GHS Label elements, including hazard and precautionary statements:



Signal Word: **Warning**

Hazard Statements:

- H272 – May intensify fire; oxidizer.
- H302 – Harmful if swallowed.
- H317 – May cause an allergic skin reaction.
- H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H350 – May cause cancer.
- H360 – May damage fertility or the unborn child.

Precautionary Statements:

- P261 – Avoid breathing dust.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Cobalt(II) Nitrate
CAS No.: 10026-22-9
Formula: $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$
Molecular Weight: 291.03 g/mol

| Ingredient | CAS Number | Percent | Hazardous |
|-----------------------------|------------|---------|--|
| Cobalt Nitrate, Hexahydrate | 10026-22-9 | >98 % | ACGIH TLV: 0.05 mg (Co)/m ³ |

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

| Route of Entry | Symptoms | First Aid Procedures |
|----------------|---|--|
| Ingestion | May cause irritation if swallowed | If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention. |
| Inhalation | May cause irritation to respiratory tract | Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention. |
| Eye Contact | Direct contact may cause irritation. May cause redness, tearing, or blurred vision. | Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists. |
| Skin Contact | Irritating. May cause reddening, itching or inflammation. | Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists. |

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Special Protective Equipment and Precaution for Firefighters: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

Hazardous Combustion Products: May emit toxic fumes under fire conditions.

Toxic Gases Produced: Nitrogen oxides, cobalt oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method of Containment and Cleanup: Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Wash thoroughly after use.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Incompatibilities: Reducing agents, paper, wood, sulfur, aluminum, plastics, and other readily combustible materials

Recommended Storage Temperature: Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): No data available

ACGIH's Threshold Limit Values (TLVs): 0.02 mg/m³

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: Appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Reddish powder

pH: No data available

Solubility: Soluble in Water

Melting Point: 55 °C

Vapor Density: No data available

Vapor Pressure: No data available

Odor: Odorless

Odor Threshold: No data available

Viscosity: No data available

Relative Density: 1.88 g/cm³

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: No data available

Flammability (solid, gas): No data available

Partition coefficient: No data available
n-octanol/water):

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup): No data available

Flammable Limits: Upper (%) – No data available Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use

Possibility of Hazard Reactions: Will not occur

Conditions to Avoid: Incompatibles

Incompatibles Materials: Reducing agents, paper, wood, sulfur, aluminum, plastics, and other readily combustible materials

Hazardous Decomposition Products: Nitrogen oxides

11. TOXICOLOGICAL INFORMATION

Toxicity: LD₅₀ (Oral-Rat)(mg/Kg): 691

LD₅₀ (Sub-Mouse)(mg/Kg): 171

LD₅₀ (Oral-Mouse)(mg/Kg): No data available

| | | |
|--|---|---|
| Carcinogenicity: | NTP: | No |
| | IARC: | 2B - Group 2B: Possibly carcinogenic to humans (Cobaltous nitrate, hexahydrate) |
| | Z List: | No |
| | OSHA Reg: | No |
| Reproductive Toxicity: | Presumed human reproductive toxicant | |
| Symptoms Associated with Overexposure: | Irritation, itching, gastrointestinal upset, sore throat, redness, abdominal cramps, nausea, vomiting | |
| Specific Target Organ Toxicity: | Single Exposure: | No data available |
| | Repeated Exposure: | No data available |
| Target Organs: | None identified | |
| Medical Conditions Aggravated By Exposure: | None identified | |
| Routes of Entry: | Ingestion, inhalation, skin and eye contact | |
| NIOSH/RTECS NO: | QU7355500 | |

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

| | |
|--------------------------------|-----------------------------|
| Ecotoxicity: | No data available |
| Persistence and Degradability: | No data available |
| Bioaccumulative Potential: | No data available |
| Mobility in Soil: | No data available |
| Other Adverse Effects: | Very toxic to aquatic life. |

13. DISPOSAL CONSIDERATION

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|-----------------------------|--|
| Disposal Procedure: | Dispose in accordance with all applicable federal, state, and local environmental regulations. |
| EPA Hazardous Waste Number: | No data available |

14. TRANSPORT INFORMATION

| | | |
|--------------------|-----------------------|-----------------------------------|
| Domestic (D.O.T.): | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |
| | Labels: | N/A |

International:

| | | |
|-------|-----------------------|-----------------------------------|
| IMDG: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |
| | Labels: | N/A |

| | | |
|-------|-----------------------|-----------------------------------|
| IATA: | Proper Shipping Name: | CHEMICALS, N.O.S. (NON-REGULATED) |
| | Hazard Class: | N/A |
| | UN/NA: | N/A |
| | Labels: | N/A |

15. REGULATORY INFORMATION

TSCA: No

SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: CAS No.: 10026-22-9 Cobaltous nitrate, hexahydrate

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components: CAS No.: 10026-22-9 Cobaltous nitrate, hexahydrate

New Jersey Right to Know Components: CAS No.: 10026-22-9 Cobaltous nitrate, hexahydrate

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

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|--------------|----------------------|------------------------------|--------------------------|------------------------|
| HMIS Rating: | Health Hazard | Chronic Health Hazard | Flammability | Physical Hazard |
| | 2 | * | 0 | 2 |
| NFPA Rating: | Health Hazard | Fire Hazard | Reactivity Hazard | Special Hazard |
| | 2 | 0 | 2 | OX |

*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

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Revision Date: 1 May 15