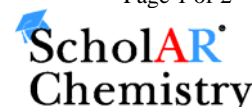


MSDS # 203.50

Cobalt Nitrate Solution, 1.0M**Section 1: Product and Company Identification****Cobalt Nitrate Solution, 1.0M****Synonyms/General Names:** N/A**Product Use:** For educational use only**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.**24 Hour Emergency Information Telephone Numbers****CHEMTREC (USA): 800-424-9300****CANUTEC (Canada): 613-424-6666**

ScholarAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification*Clear, pink liquid; no odor.***HMIS (0 to 4)**

Health	2
Fire Hazard	0
Reactivity	2

WARNING! Strong oxidizing agent, moderately toxic by ingestion, and possible carcinogen.

Target organs: Kidneys, lungs, thyroid.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 3: Composition / Information on Ingredients

Cobalt Nitrate, Hexahydrate, (10026-22-9), 25-26%.

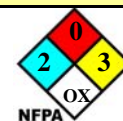
Water (7732-18-5), 74-75%.

Section 4: First Aid Measures*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.**Section 5: Fire Fighting Measures**

Strong Oxidizer. Noncombustible solution. When heated to decomposition, emits acrid fumes.

Protective equipment and precautions for firefighters: Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Contain spill with sand or absorbent material and place in sealed bag or container for disposal. Ventilate and wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage**Yellow****Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skins, eyes, or clothing. Wash hands thoroughly after handling.**Storage:** Store in Oxidizer Storage Area [Yellow Storage] with other oxidizers and away from any combustible materials. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.**Section 8: Exposure Controls / Personal Protection**

Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Exposure guidelines: Cobalt Nitrate: OSHA PEL: Not Available, ACGIH: TLV: Not Available, STEL: Not Available.

Section 9: Physical and Chemical Properties

Molecular formula	Co(NO ₃) ₂ •6H ₂ O.	Appearance	Clear, pink liquid.
Molecular weight	291.03.	Odor	No odor.
Specific Gravity	1.15 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	N/A.	Solubility	Soluble.
Melting Point	N/A.	Evaporation rate	N/A . (<i>Butyl acetate = 1</i>).
Boiling Point/Range	N/A.	Partition Coefficient	N/A . (<i>log P_{ow}</i>).
Vapor Pressure (20°C)	N/A.	pH	N/A.
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

N/A = Not available or applicable

Section 10: Stability and Reactivity**Stability:** Stable under normal conditions of use and storage.**Incompatibility:** Oxidizing materials.**Shelf life:** Poor shelf life, store in a cool, dry environment.**Section 11: Toxicology Information****Acute Symptoms/Signs of exposure:** *Eyes:* Redness, tearing, itching, burning, conjunctivitis. *Skin:* Redness, itching.*Ingestion:* Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain. *Inhalation:* Irritation of mucous membranes, coughing, wheezing, shortness of breath,**Chronic Effects:** Suspect carcinogen**Sensitization:** none expected*Cobalt Nitrate:* LD50 [oral, rat]; 691 mg/kg; LC50 [rat]; N/A; LD50 Dermal [rabbit]; N/A*Material has been found to be a Class 2B – a possible carcinogen by IARC.***Section 12: Ecological Information****Ecotoxicity (aquatic and terrestrial):** Contains a heavy metal – Toxic to terrestrial and aquatic plants and animals. Do not release to the environment**Section 13: Disposal Considerations**

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Use a licensed chemical waste disposal firm for proper disposal.

Section 14: Transport Information

DOT Shipping Name:	Nitrates, Inorganic, n.o.s., (Cobalt Nitrate).	Canada TDG:	Nitrates, Inorganic, n.o.s., (Cobalt Nitrate).
DOT Hazard Class:	5.1, pg II.	Hazard Class:	5.1, pg II.
Identification Number:	UN1477.	UN Number:	UN1477.

Section 15: Regulatory Information**EINECS:** Not listed.**WHMIS Canada:** Not WHMIS Controlled.**TSCA:** All components are listed or are exempt.**California Proposition 65:** Listed causing cancer.

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

Section 16: Other Information**Current Issue Date:** January 23, 2009

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