

Material Safety Data Sheet



Martrex, Inc.

Section 1: Chemical Product and Company Information

Product name: Cobalt Sulfate 33%

Reference Number:

Web: www.martrexinc.com

Supplier/ Further Information: Martrex, Inc.

P. O. Box 1709

Phone: 952/933-5000

14525 Highway 7

Toll Free: 800/328-3627

Minnetonka, Minnesota 55345-3793

FAX: 952/933-1889

EPA Registration Number: n/a

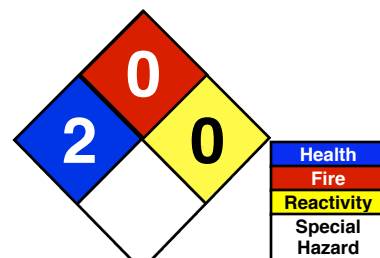
CAS#: 10124-43-3

Chemical Name: Cobalt Sulfate Monohydrate

Synonyms: Cobalt Sulfate Monohydrate

Chemical Family: Inorganic metallic salt

MSDS Number: n/a



For Rating Explanation see Section 16

24 Hour Emergency Phone - Chemtrec Transport: 1-800-424-9300; Medical: 1-800-441-3637

Section 2: Composition/Information on Ingredients

Hazardous Component	CAS#	%	OSHA Limits	ACGIH Limits	OTHER Limits
Cobalt Sulfate Monohydrate	10124-43-3	33%	PEL: 0.1mg/m ³ (TWA) Cobalt Metal Dust and fumes as Co	TLV: inorganic cobalt compounds 0.2mg/m ³ (TWA) as Co, A3: Animal Carginogen	See Section 11,12,15

Section 3: Hazards Identification

Emergency Overview: Warning! Harmful if Swallowed or Inhaled. Causes irritation to Skin, Eyes and Respiratory Tract. May cause Allergic Skin or Respiratory Reaction. Chronic Exposure may affect Thyroid, Lungs, Heart, and Kidneys.

NFPA: Health: 2 Flammability: 0 Reactivity: 0

Potential Health Effects:

Primary Routes of Exposure / Entry: Eye & Skin contact, Ingestion, Inhalation.

Target Organs: no data

Acute and Chronic Exposure Symptoms

Inhalation (breathing): Causes irritation to the respiratory tract, symptoms may include coughing, shortness of breath, and nausea. Respiratory hypersensitivity, asthma may appear. Inhalation of cobalt dust and fumes is associated with an increased incidence of lung disease.

Eye Contact: Causes irritation, redness, and pain.

Skin Contact: Causes irritation to skin. Symptoms include redness, itching, and pain. May cause dermatitis.

Ingestion (swallowing): Toxic. Causes abdominal pain, nausea, vomiting, flushing of the face and ears, mild hypotension, rash, and ringing in the ears. May have cumulative toxic action where elimination cannot keep pace with absorption. Large amounts depress erythrocyte production.

Chronic Exposure Symptoms: Repeated oral administration may produce goiter and reduced thyroid activity. Prolonged or repeated skin exposure may cause dermatitis. Chronic exposure associated with kidney, heart and lung damage.

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Medical Conditions Aggravated By Long-Term Exposure: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance. Persons with allergies or sensitivity to cobalt may also be more susceptible to the effects of the substance.

Carcinogenicity Data:

See Section 11 for more Toxicological information

Section 4: First Aid Measures

Eye Exposure: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. **Get Medical Attention Immediately.**

Skin Exposure: Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. **Get medical attention.** Wash clothing before reuse. Thoroughly clean shoes before reuse.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. **Call a physician or Poison Control center immediately.**

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **Get medical attention.**

NOTE TO THE PHYSICIAN: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

Flammability Classification: no data

Fire: Contact with strong oxidizers may cause fire.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

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

Section 6: Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill: Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

Spill and Leak Personal Procedures: See Section 8.

Containment of Spill: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

Cleanup and Disposal of Spill: Consult local waste regulators for proper disposal. Do not discharge.

Environmental and Regulatory Reporting: Toxic to Fish. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7: Handling and Storage

Minimum/maximum Storage Temperature: no data.

Handling: Wash hands before eating and do not eat, drink, or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances.

REGULATORY REQUIREMENTS: See Section 2, 8 and 11 for employee exposure controls and Section 15 for other regulatory requirements.

Section 8: Exposure Controls / Personal Protection

Ventilation/Engineering Protection: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Respiratory Protection (NIOSH Approved): If the exposure limit is exceeded, a half-face high efficiency dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece high efficiency dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. **Maintain eye wash fountain and quick-drench facilities in work area.**

Skin Protection: Wear protective gloves and clean body-covering clothing.

Other Protective Clothing and Equipment: no data

Hygienic Work Practices: no data

Section 9: Physical and Chemical Properties

Chemical Name: Cobalt Sulfate monohydrate

Percent Equivalent: 33%

Physical State: Solid crystals

Color and Appearance: Pink to red transparent crystals.

Odor: odorless

Odor Threshold: no data

pH: no data

Specific Gravity (water=1): no data

Vapor Pressure: no data

Vapor Density (Air = 1): no data

Density: 2.03 @ 25C/4C

Bulk Density: no data

Volatiles Percent: 0

Boiling Point: 735C (1355F)

Melting Point: 96.8C (207F) Loses water @ 420C (788F)

Evaporation Rate (Butyl Acetate=1): no data

Solubility in water@ 3C (37F): 60.4 g/100 ml.

Viscosity: no data

Other Solubilities: no data

Chemical Formula: CoSO₄•H₂O

Formula Wt: 173.01

Section 10: Stability and Reactivity

Chemical Stability (under normal conditions of storage, handling, use): Stable X Unstable

Hazardous Polymerization: May Occur

Will Not Occur X

Conditions to Avoid: Incompatible materials.

Chemical Incompatibility and Materials to Avoid: Strong oxidizers, tert-butyl hydroperoxide.

Hazardous Decomposition Products: Oxides of sulfur and the contained metal.

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Section 11: Toxicological Information

Toxicological Data: Oral rat LD₅₀: 424 mg/kg. Investigated as a tumorigen and mutagen.

Carcinogenicity: Cobalt and its compounds have been shown to cause cancer in laboratory animals.

Carcinogenicity Data:

<u>Ingredient</u>	<u>CAS#</u>	<u>*NTP Carcinogen*</u>		<u>IARC Category</u>
		<u>Known</u>	<u>Anticipated</u>	
Cobalt Sulfate	10124-43-3	No	No	2B

Other Effects on Humans: no data

Section 12: Ecological Information

Environmental Fate:

72 Hr EC₅₀ Selenastrum capricornutum: 0.4-72 mg/L

Environmental Toxicity:

No information found.

Section 13: Disposal Considerations

Disposal Procedures: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

Not regulated.

Section 15: Regulatory Information**Chemical Inventory Status - Part 1**

<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>	<u>Japan</u>	<u>Australia</u>
Cobaltous Sulfate (10124-43-3)	Yes	Yes	Yes	Yes

Chemical Inventory Status - Part 2

<u>Ingredient</u>	<u>Canada</u>			
	<u>Korea</u>	<u>DSL</u>	<u>NDSL</u>	<u>Phil.</u>
Cobaltous Sulfate (10124-43-3)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

<u>Ingredient</u>	<u>SARA 302</u>		<u>SARA 313</u>	
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Chemical Catg.</u>
Cobaltous Sulfate (10124-43-3)	No	No	No	Cobalt compo

Federal, State & International Regulations - Part 2

<u>Ingredient</u>	<u>CERCLA</u>	<u>RCRA 261.33</u>	<u>TSCA 8(d)</u>
Cobaltous Sulfate (10124-43-3)	1	No	No
	<u>CWC</u>	<u>TSCA 12(b)</u>	<u>CDTA</u>
	No	No	No

<u>SARA 311/312:</u>	<u>Acute</u>	<u>Chronic</u>	<u>Fire</u>	<u>Pressure</u>	<u>Reactivity</u>
	Yes	Yes	No	No	No (Mixture / Solid)

WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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Section 16: Other Information

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. CHRONIC EXPOSURE MAY AFFECT THYROID, LUNGS, HEART, AND KIDNEYS.

Label Precautions:

Avoid breathing dust.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

ACGIH - American Conference of Governmental Industrial Hygienists

ANSI - American National Standards Institute

CAS - Chemical Abstracts Service

CERCLA - Comprehensive Environmental Response, Compensation & Liability Act of 1980

CFR - Code of Federal Regulations

CHEMTREC - Chemical Transportation Emergency Center

CPR - Controlled Products Regulations

CWC - Chemical Weapons Convention

DOT - U.S. Department of Transportation

DSL - Canadian Domestic Substance List

EHS - Extremely Hazardous Substance

EPA - U.S. Environmental Protection Agency

HMIS - Hazardous Material Identification System

IARC - International Agency for Research on Cancer




LEL/UEL - Lower and Upper Explosive Limit

mg/m³ - Milligrams per cubic meter

MSDS - Material Safety Data Sheet

NAERG - North American Emergency Response Guidebook

NIOSH - National Institute of Occupational Safety and Health

 NFPA Rating Explanation Guide 					
Rating Number	Health Hazard	Flamability Hazard	Instability Hazard	Rating Symbol	Special Hazard
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	ACID	Acidic
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	BIO	BioHazard
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	COR	Strong Corrosive
0	No Hazard	Will not burn	Stable	CRYO	Cryogenic
				OXY	Oxidizer
					Radioactive
				W	Reacts violently or explosively with water
				W OX	Reacts violently or explosively with water or oxidizer

This chart for reference only - For complete specifications consult the NFPA Standard

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NFPA - National Fire Protection Association
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit (set by OSHA)
PPE - Personal Protective Equipment
RCRA - Resource Conservation and Recovery Act of 1976
SARA - Superfund Amendments and Reauthorization Act
TDG (Canadian): Transport of Dangerous Goods Regulations
TLV - Threshold Limit Value (set by ACGIH)
TWA - 8-hour Time Weighted Average
TSCA - US Toxic Substance Control Act
WHMIS - Workplace Hazardous Material Information System

MSDS Issue Date: n/a
Revised Date: 10-1-2010
Supersedes: n/a

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