

MATERIAL SAFETY DATA SHEET

For Emergency Assistance  
 Involving Chemicals Call CHEMTREC  
 (800) 424-9300

WHMIS (Classification)  
 CLASS D-1B: Material causing  
 immediate and serious toxic effects  
 (TOXIC).  
 CLASS D-2A: Material causing other  
 toxic effects (VERY TOXIC).

**\*\*Section I. Chemical Product Identification\*\***

Distributed by:  
 Univar Canada Ltd.  
 9800 Van Horne Way  
 Richmond, BC  
 V6X 1W5

Product Name	Cobalt sulfate	Code	LA1783
		CAS#	010124433
Synonym	Not available.	DSL	On the DSL list.
Chemical Name	Cobalt sulfate, monohydrate	CI#	Not available.
Chemical Family	Not available.		
Chemical Formula	CO04S		
Material Uses	Not available.		

**\*\*Section II. Composition and Information on Ingredients\*\***

Name	CAS #	% by Weight	LC50/LD50
Cobalt sulfate	010124433	100	ORAL (LD50): Acute: 424 mg/kg [Rat]. 584 mg/kg [Mouse].

**\*\*Section III. Hazards Identification\*\***

Potential Acute Health Effects Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Hazardous in case of inhalation (lung sensitizer).

Chronic Health Effects CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC.  
MUTAGENIC EFFECTS: Not available.  
TERATOGENIC EFFECTS: Not available.  
DEVELOPMENTAL TOXICITY: Not available.  
The substance is toxic to kidneys.  
Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**\*\*Section IV. First Aid Measures\*\***

Eye Contact IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Hazardous Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Hazardous Inhalation Not available.

Ingestion If swallowed, induce vomiting as directed to do so by medical personnel. Have conscious person drink several glasses of water or milk. Never give anything by mouth to an unconscious person. Seek medical attention.

Hazardous Ingestion Not available.

**\*\*Section V. Fire and Explosion Data\*\***

The Product is: May be combustibile at high temperature.

Auto-Ignition Temperature Not available.

Flash Points Not available.

Flammable Limits Not available.

Products of Combustion These products are carbon oxides (CO, CO2), sulfur oxides (SO2, SO3...).

Fire Hazards in Presence of Various Substances Not available.

Explosion Risks of explosion of the product in presence of mechanical

Hazards in impact: Not available.  
Presence of Risks of explosion of the product in presence of static  
Various discharge: Not available.  
Substances

Fire Fighting SMALL FIRE: Use DRY chemical powder.  
Media LARGE FIRE: Use water spray, fog or foam. DO NOT use  
and Instructions water jet.

Special Remarks Not available.  
on  
Fire Hazards

Special Remarks Not available.  
on Explosion  
Hazards

**\*\*Section VI. Accidental Release Measures\*\***

Small Spill Use appropriate tools to put the spilled solid in a  
convenient waste disposal container. Finish cleaning by  
spreading water on the contaminated surface and dispose of  
according to local and regional authority requirements.

Large Spill Use a shovel to put the material into a convenient waste  
disposal container. Avoid creating dust. Finish cleaning  
by spreading water on the contaminated surface and dispose  
of according to local and regional authority requirements.

**\*\*Section VII. Handling and Storage\*\***

Precautions Keep away from heat. Keep away from sources of ignition.  
Empty containers pose a fire risk, evaporate the residue  
under a fume hood. Ground all equipment containing  
material. DO NOT ingest. Do not breathe dust. In case of  
insufficient ventilation, wear suitable respiratory  
equipment. If ingested, seek medical advice immediately  
and show the container or the label. Avoid contact with  
skin and eyes. Avoid creating dust.

Storage Keep container tightly closed. Keep container in a cool,  
well-ventilated area.

**\*\*Section VIII. Exposure Controls/Personal Protection\*\***

Engineering Use process enclosures, local exhaust ventilation, or other  
Controls engineering controls to keep airborne levels below  
recommended exposure limits. If user operations generate  
dust, fume or mist, use ventilation to keep exposure to  
airborne contaminants below the exposure limit.

Personal Gloves (impervious). Lab coat. Splash goggles. In case  
Protection of insufficient ventilation, wear suitable respiratory  
equipment. Be sure to use a MSHA/NIOSH approved respirator  
or equivalent.

Personal Splash goggles. Full suit. Boots. A self-contained  
Protection in breathing apparatus should be used to avoid inhalation of  
Case of a Large the product. Gloves (impervious). Be sure to use a  
Spill MSHA/NIOSH approved respirator or equivalent.

Exposure Limits TWA: 0.1 (mg/m3) from OSHA (PEL) [United States]  
TWA: 0.02 (mg/m3) from ACGIH (TLV) [United States]

Consult local authorities for acceptable exposure limits.

**\*\*Section IX. Physical and Chemical Properties\*\***

Physical State and Appearance	Solid. (Crystalline solid.)	Odor	Odorless.
Molecular Weight	155 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	Pink
Boiling Point	Not available.		
Melting Point	989°C (1812.2°F)		
Critical Temperature	Not available.		
Specific Gravity	3.07 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Evaporation rate	Not available.		
Viscosity	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Soluble in cold water, hot water.		

**\*\*Section X. Stability and Reactivity Data\*\***

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Not available.
Corrosivity	Not available.
Special Remarks	Not available.

on Reactivity

Special Remarks Not available.  
on Corrosivity

Hazardous Will not occur.  
Polymerization

**\*\*Section XI. Toxicological Information\*\***

Routes of Entry Eye contact. Inhalation. Ingestion.

Toxicity to Acute oral toxicity (LD50): 424 mg/kg [Rat].  
Animals

Chronic Effects Hazardous in case of inhalation (lung sensitizer).  
on Humans CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.)  
by ACGIH, 2B (Possible for human.) by IARC.  
MUTAGENIC EFFECTS: Not available.  
TERATOGENIC EFFECTS: Not available.  
DEVELOPMENTAL TOXICITY: Not available.  
The substance is toxic to kidneys.  
Repeated or prolonged exposure to the substance can  
produce target organs damage. Repeated exposure to an  
highly toxic material may produce general deterioration of  
health by an accumulation in one or many human organs.

Other Toxic Very hazardous in case of skin contact (irritant), of eye  
Effects on contact (irritant), of ingestion, of inhalation. Severe  
Humans over-exposure can result in death. Inflammation of the  
eye is characterized by redness, watering, and itching.  
Skin inflammation is characterized by itching, scaling,  
reddening, or, occasionally, blistering.

Special Remarks Not available.  
on  
Toxicity to  
Animals

Special Remarks Not available.  
on  
Chronic Effects  
on Humans

Special Remarks May cause allergic reactions to certain individuals.  
on Causes dermatitis.  
Other Toxic  
Effects on Humans

**\*\*Section XII. Ecological Information\*\***

Ecotoxicity Not available.

BOD5 and COD Not available.

Products of Not available.  
Biodegradation

Toxicity of the Not available.  
Products  
of  
Biodegradation

Special Remarks Not available.  
on the Products  
of  
Biodegradation

**\*\*Section XIII. Disposal Considerations\*\***

Waste Disposal Disposal of all wastes must be done in accordance with  
municipal, provincial and federal regulations.

**\*\*Section XIV. Transport Information\*\***

TDG Not controlled under TDG (Canada).  
Classification

Shipping name Not applicable.

PIN Not applicable.

Packing Group Not applicable.

Special No additional remark.  
Provisions for  
Transport

**\*\*Section XV. Other Regulatory Information\*\***

Other Regulations OSHA: Hazardous by definition of Hazard Communication  
Standard (29 CFR 1910.1200).

**\*\*Section XVI. Other Information\*\***

References -Manufacturer's Material Safety Data Sheet.

Other Special Not available.  
Considerations

Validated by Hardev Bendick on Verified by Hardev Bendick.  
1/26/2001.

Tel. number for non-emergency questions concerning MSDS: 1-866-686-4827

Notice to Reader

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are described herein, we cannot guarantee that these are the only hazards  
that exist.

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respect to the product provided.\*\*

===== END OF MSDS =====