



## Safety Data Sheet

# Cobalt (II) Chloride

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product Name:** Cobalt (II) Chloride

**Synonyms/Generic Names:** Cobalt Chloride Hexahydrate

**SDS Number:** 199.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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### 2. HAZARDS IDENTIFICATION

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**OSHA Hazards:** Carcinogen, Target organ effect, Harmful by ingestion, Skin and Respiratory sensitizer, Corrosive, Teratogen

**Target Organs:** Thyroid, Heart, Male reproductive system, Blood, Kidney, Pancreas

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Acute Toxicity, Oral	Category 4
Acute Toxicity, Dermal	Category 5
Respiratory Sensitization	Category 1
Skin Corrosion	Category 1
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 1B
Acute Aquatic Toxicity	Category 1

**GHS Label Elements, including precautionary statements:****Hazard Statements:**

H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H317	May cause 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.
H400	Very toxic to aquatic life.

**Precautionary Statements:**

P201	Obtain special instructions before use.
P261	Avoid breathing dust/gas/mist/fumes/vapors/spray.
P273	Avoid release into environment.
P280	Wear protective gloves.
P308+P313	IF exposed or concerned: Get medical advice/attention.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be harmful if swallowed

**NFPA Ratings**

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	0
<b>Personal</b>	E

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Cobalt Chloride Hexahydrate	100	7791-13-1	231-589-4	Cl <sub>2</sub> Co·6H <sub>2</sub> O	237.93 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
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<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic (hydrogen chloride, cobalt oxides) fumes under fire conditions. (See also Stability and Reactivity section).

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up and arrange disposal without creating dust. Sweep up and place in suitable containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use adequate ventilation at places where dust is formed. Wash thoroughly after using. Keep container closed when not in use.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Cobalt Chloride Hexahydrate	0.02 mg/m <sup>3</sup>	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Red crystals.
Odor	Not Available
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	1.92 (Water=1)
Solubility (ies)	Soluble in cold water, diethyl ether, acetone.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Moisture.
<b>Incompatible Materials</b>	Oxidizing agents, alkali metals.
<b>Hazardous Decomposition Products</b>	Hydrogen chloride gas, cobalt oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	LD50 Dermal- rat – 2,000 mg/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral- rat – 766 mg/kg

### Carcinogenicity

<b>IARC</b>	2B: Possibly carcinogenic to humans (Cobalt chloride, hexahydrate)
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Extent of damage depends on duration of contact. Symptoms include burns, redness, itching and pain.
<b>Eyes</b>	Contact rapidly causes severe damage. Symptoms include burning, itching, pain, watering eyes. Permanent damage to cornea may result.
<b>Respiratory</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

<b>Ingestion</b>	Harmful if swallowed. Severe and rapid corrosive burns of the mouth, gullet, and gastrointestinal tract will result if swallowed. Symptoms include burning, choking, nausea, vomiting, and severe pain.
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<b>Chronic Toxicity</b>	May cause cancer based on animal studies.
<b>Teratogenicity</b>	May cause adverse reproductive effects (fetotoxicity). May affect genetic material.
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

<b>Aquatic Vertebrate</b>	LC50- <i>Cyprinus carpio</i> (carp)- 0.33 mg/l- 96 hours
<b>Aquatic Invertebrate</b>	EC50- <i>Daphnia magna</i> (water flea)- 1.1-1.6 mg/l- 48 hours
	EC50- <i>Chlorella vulgaris</i> (fresh water algae)- 0.5 mg/l- 96 hours
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

## 14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	Yes
IATA/ICAO	Not Dangerous Goods

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**15. REGULATORY INFORMATION**

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Cobalt Chloride Hexahydrate
SARA 312	Cobalt Chloride Hexahydrate
SARA 313	Listed: Cobalt Chloride Hexahydrate
WHMIS Canada	Class D-2A: Material causing other toxic effects (VERY TOXIC).

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**16. OTHER INFORMATION**

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Revision	Date
Revision 1	001/22/2013

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