COLUMBUS CHEMICAL INDUSTRIES

Safety Data Sheet

Cobalt Chloride, Hexahydrate, Crystal Reagent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cobalt Chloride, Hexahydrate, Crystal Reagent

Synonyms/Generic Names: Cobalt (II) Chloride Hexahydrate

Product Number: 1530

Product Use: Industrial, Manufacturing or Laboratory use

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

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

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

2. HAZARDS IDENTIFICATION

Signal Words: Danger

Pictograms:

GHS Classification:

Acute toxicity, oral	Category 4
Skin Corrosion	Category 1A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.

H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation, wear respiratory protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see label or SDS)
P363	Wash contaminated clothing before reuse.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse SKIN with water/shower.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P341	IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor/ physician.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

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

NFPA Ratings

Health	3
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	3
Fire	0
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Cobalt Chloride Hexahydrate	>98	7791-13-1	231-589-4	$Cl_2Co \cdot 6H_2O$	237.93 g/mol

4. FIRST-AID MEASURES

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

5. FIRE-FIGHTING MEASURES

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	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 a 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^3	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

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	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	Hydrochloric acid odor.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	87°C (188.6°F)
Initial boiling point and boiling range	1048°C (1918 °F)
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	6.67
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

Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture and excess heat.
Incompatible Materials	Oxidizing agents, alkali metals.
Hazardous Decomposition Products	Hydrogen chloride gas, cobalt oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Cobalt Chloride

Skin	LD50 Dermal- rat – >2 g/kg
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral- rat – 766 mg/kg

Carcinogenicity

IARC	2B: Possibly carcinogenic to humans as Cobalt (II) Chloride Hexahydrate)
ACGIH	A3: Animal carcinogen as Cobalt (II) Chloride Hexahydrate)
NTP	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.
OSHA	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

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

Chronic Toxicity	May cause cancer based on animal studies.
Teratogenicity	May cause adverse reproductive effects (fetotoxicity). May affect genetic material.
Mutagenicity	Considered a germ cell mutagenicity hazard.
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Adverse reproductive effects have occurred in experimental animals.
Respiratory/Skin Sensitization	May cause allergic respiratory and skin reactions.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

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

13. DISPOSAL CONSIDERATIONS

Waste Residues	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 or residue.
Product Containers	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	UN3260, Corrosive solid, acidic, inorganic, n.o.s. (Cobalt chloride) 8, pgII
TDG	UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (COBALT CHLORIDE) 8, PGII
IMDG	UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (COBALT CHLORIDE) 8, PGII
Marine Pollutant	No
IATA/ICAO	UN3260, Corrosive solid, acidic, inorganic, n.o.s. (Cobalt chloride) 8, pgII

15. REGULATORY INFORMATION

TSCA Inventory Status	Ingredient is listed on the TSCA Active inventory as Cobalt chloride CAS#7646-79-9.
DSL / NDSL	Ingredients is listed on the DSL inventory as Cobalt chloride CAS#7646-79-9.
California Proposition 65	Not Listed
Massachusetts: Toxic or Hazardous Substance List	Not Listed
Pennsylvania: Hazardous Substance List	Not Listed
New Jersey: Right to Know Hazardous Substance List	Not Listed
Rhode Island: Hazardous Substance List	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard, Chronic Health Hazard
SARA 312	Acute Health Hazard, Chronic Health Hazard
SARA 313	Listed: Cobalt compound
WHMIS Canada	Not Listed

16. OTHER INFORMATION

Revision	Date
Revision 1	01/22/2013
Revision 2	08/14/2013
Revision 3	04/13/2016
Revision 4	08/05/2020