

Section 1. Product and Company Identification

Product Name Cobalt Chloride
CAS Number 7791-13-1

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
☎ (914) 654-6800 ☎ (914) 654-6899
🌐 parchem.com ✉ info@parchem.com

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

Physical Hazards: Not classified.

Health Hazards

Acute toxicity, oral - Category 4
Acute toxicity, inhalation - Category 4
Serious eye damage/eye irritation - Category 1
Sensitization, respiratory - Category 1B
Sensitization, skin - Category 1
Germ cell mutagenicity - Category 2
Carcinogenicity - Category 1A
Reproductive toxicity - Category 1B
Specific target organ toxicity, repeated exposure - Category 2
Hazardous to the aquatic environment, acute hazard - Category 1

Environmental hazards

Hazardous to the aquatic environment, long-term hazard - Category 1

OSHA Defined Hazards: Not classified.

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

Hazard Statements: Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if



inhaled. Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors

or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response: If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

Section 3. Composition / Information on Ingredients

Common Name Cobalt Chloride
Synonym(s) Cobalt Chloride Hexahydrate
Formula $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$
CAS Number 7791-13-1

COMPONENT	CAS NUMBER	CONCENTRATION
Cobalt Chloride Hexahydrate	7791-13-1	≥ 97.2%
Nickel Chloride	7718-54-9	0.1 – 0.3%

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. If not breathing, give artificial respiration or give oxygen by trained personnel. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Keep victim warm. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.



Remove affected person from source of contamination. Promptly remove clothing if soaked through and wash as above. Get medical attention promptly if symptoms occur after washing.

Eye contact: Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Continue to rinse for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion: Have victim rinse mouth thoroughly with water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. Never make an unconscious person vomit or drink fluids!

Most important symptoms/effects, acute and delayed: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information: IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the materials involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

Section 5. Firefighting Measures

Suitable Extinguishing Media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific Hazards Arising from the Chemical: None known.

Special protective equipment and precautions for firefighters: Firefighters should wear full protective clothing including self-contained breathing apparatus.

Firefighting equipment/instructions: Use water spray to cool unopened containers.

Specific methods: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

General fire hazards: No unusual fire or explosion hazards noted.

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and Materials for Containment and Cleaning up: Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). This product is miscible in water. This material is



classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7. Handling and Storage

Precautions for safe handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not get this material in contact with eyes. Do not taste or swallow. Use this product with adequate ventilation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. Avoid spilling, skin and eye contact. Persons with impaired lung functions should not handle this preparation. Product can be hyper allergenic, persons susceptible should not handle the product.

Conditions for safe storage, including any incompatibilities: Store locked up. Keep the container in a well-ventilated place. Store in original tightly closed container. Keep the container dry. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool dry place.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Percent	Form
COBALT COMPOUNDS (as Co)	PEL	0.1 mg/m ³		Dust and fume
NICKEL, SOLUBLE COMPOUNDS (as Ni)	PEL	1 mg/m ³		(as Ni)



US. ACGIH Threshold Limit Values

Components	Type	Value	Percent	Form
COBALT COMPOUNDS (as Co)	TWA	0.02 mg/m ³		
NICKEL, SOLUBLE COMPOUNDS (as Ni)	TLV	0.2 mg/m ³		(as Ni) Respirable
	TWA	1.5 mg/m ³		(as Ni) Inhalable Fraction

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
COBALT COMPOUNDS (as Co)	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*

* - For sampling details, please see the source document.

Exposure guidelines: No exposure standards allocated.

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/Face Protection: Wear safety glasses with side shields (or goggles) and a face shield. Wear approved chemical safety goggles where eye exposure is reasonably probable.

Skin protection

Hand protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Use Protective Gloves made of resistant material. The most suitable glove must be chosen in consultation with the gloves supplier; who can inform about the break through time of the glove material.

Other: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Disposable one-piece overalls should be worn.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Exposure should be avoided/controlled by ventilation or extraction: If exposure limits are likely to be exceeded wear suitable dust mask.



Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Observe any medical surveillance requirements.

Section 9. Physical and Chemical Properties

Appearance: Red crystals

Physical state: Solid.

Form: Solid. Crystals

Color: Red.

Odor: Slight acid odor.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: Not available.

Initial boiling point and boiling range: Not available.

Flash point: Not available.

Evaporation rate: Not available.

Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits

Flammability Limit - Lower: Not available.

Flammability Limit - Upper: Not available.

Explosive Limit - Lower (%): Not available.

Explosive Limit - Upper (%): Not available.

Vapor pressure: Not applicable

Vapor density: Not available

Relative density: Not available.

Solubility (water): 585.8 g/l @20°C

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not available.

Other information

Density: 1.92 g/cm³

Explosive properties: Not explosive.

Molecular formula: CoCl₂ · 6H₂O



Molecular weight: 237.93
Oxidizing properties: Not oxidizing.
Specific gravity: 1.92
Loose Packing Density: Not available.

Section 10. Stability and Reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Contact with incompatible materials. Avoid dust formation.

Incompatible materials: None known.

Hazardous Decomposition Products: Halogenated materials. Hydrogen chloride. No dangerous reaction known under conditions of normal use. Metal oxides.

Section 11. Toxicological Information

Information on likely routes of exposure

Inhalation: Harmful if inhaled.

Skin contact: No adverse effects due to skin contact are expected.

Eye contact: Causes serious eye damage.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity: Harmful if inhaled. Harmful if swallowed. May cause an allergic skin reaction.

Cobalt Chloride Hexahydrate (CAS 7791-13-1)

Acute Oral LD50 - Rat: 537 mg/kg

Nickel Chloride (CAS 7718-54-9)

Acute Inhalation LC50 - Rat: 2.48 mg NiSO₄/L, 4 Hours (read across)

Acute Oral LD50 - Rat: 500 mg/kg

Skin corrosion/irritation: Not available.

Serious eye damage/eye irritation: Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization: May cause sensitization by inhalation.

Skin sensitization: Causes skin irritation. May cause sensitization by skin contact.
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Germ cell mutagenicity

Carcinogenicity: May cause cancer. May cause cancer by inhalation.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cobalt chloride hexahydrate (CAS 7791-13-1): 2B Possibly carcinogenic to humans.
Nickel chloride (CAS 7718-54-9): 1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Nickel chloride (CAS 7718-54-9): Known To Be Human Carcinogen.

Reproductive toxicity: May damage fertility or the unborn child.

Specific target organ toxicity - single exposure: Not classified.

Specific target organ toxicity - repeated exposure: Not classified.

Aspiration hazard: Not an aspiration hazard.

Chronic effects: Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Not available.

Further information: Overexposure to cobalt compounds may cause respiratory sensitization and an allergic skin rash. They are mildly irritating to the eyes and if swallowed, may cause vomiting and diarrhea and a sensation of hotness. Excessive inhalation and/or ingestion of cobalt salts may affect the kidneys, lungs, and thyroid.

Section 12. Ecological Information

Ecotoxicity: Very toxic to aquatic life. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Cobalt Chloride Hexahydrate (CAS 7791-13-1)

Aquatic Toxicity

Algae LC50 - Algae: 144 Kg/l cobalt in fresh water

Algae LC50 - Algae: 24.1 Kg/l cobalt in sea water

Crustacea LC50 - Daphnia: 2.32 mg/l cobalt in sea water

Crustacea LC50 - Daphnia: 0.61 mg/l cobalt in fresh water

Fish EC50 - Fish: 1.5 mg/L cobalt in fresh water

Nickel Chloride (CAS 7718-54-9)

Aquatic Toxicity

Crustacea EC50 - Water flea (Daphnia magna): 0.51 mg/l, 48 hours

Fish LC50 - Carp (Cyprinus carpio): 2.3 mg/l, 96 hours



Persistence and Degradability

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT

UN Number: UN3077

UN proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Cobalt Chloride), Marine Pollutant

Transport hazard class(es)

Class: 9

Subsidiary risk: -

Label(s): 9

Packing group: III

Environmental hazards

Marine pollutant: Yes

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Special provisions: 8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33

Packaging exceptions: 155

Packaging non-bulk: 213

Packaging bulk: 240

IATA

UN number: UN3077

UN proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Cobalt Chloride)

Transport hazard class(es)

Class: 9

Subsidiary risk: -

Packing group: III

Environmental hazards: Yes

ERG Code: 9L

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.



Other information

Passenger and cargo aircraft: Forbidden.

Cargo aircraft only: Allowed.

IMDG

UN number: UN3077

UN proper shipping name: Environmentally Hazardous Substance, Solid, N.O.S. (Cobalt Chloride), Marine Pollutant

Transport hazard class(es)

Class: 9

Subsidiary risk: -

Packing group: III

Environmental hazards

Marine pollutant: Yes

EmS: F-A, S-F

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

General information IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

Section 15. Regulatory Information

US Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Nickel chloride (CAS 7718-54-9): Listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories

Immediate Hazard: Yes

Delayed Hazard: Yes

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: Yes



SARA 313 (TRI Reporting)

Chemical name	CAS number	% by wt.
Cobalt Compounds, Inorganic N096	7791-13-1	>= 97.2
Nickel Compounds N495	7718-54-9	0.1 - 0.3

Other Federal Regulations

Safe Drinking Water Act (SDWA): Not regulated.

US State Regulations

US - New Jersey RTK - Substances: Listed substance

Cobalt chloride hexahydrate (CAS 7791-13-1)

Nickel chloride (CAS 7718-54-9)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Nickel chloride (CAS 7718-54-9)

US. Massachusetts RTK - Substance List

Nickel chloride (CAS 7718-54-9)

US. New Jersey Worker and Community Right-to-Know Act

Cobalt chloride hexahydrate (CAS 7791-13-1)

Nickel chloride (CAS 7718-54-9)

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Cobalt chloride hexahydrate (CAS 7791-13-1)

Nickel chloride (CAS 7718-54-9)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Nickel chloride (CAS 7718-54-9)

Listed: May 7, 2004



Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 2/8/2018

