

1 Identification

Product Name: Cobalt Chloride, 6H₂O

Catalog Number: C007

Company: Caisson Laboratories

Address: 836 South 100 East, Smithfield, UT 84335

Telephone: 435.755.7615

Fax: 435.755.7617

Emergency Contact: CHEMTREC 800.424.9300 (703.527.3887)

Recommended Use: For research and laboratory use only.

Restrictions On Use: This product is intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2 Hazard(s) Identification

Classification of the Substance or Mixture

GHS Classification: H302 - Acute Toxicity, Oral (Category 4)

H317 - Sensitization, Skin (Category 1)

H334 - Sensitization, Respiratory (Category 1)

H341 - Germ Cell Mutagenicity (Category 2)

H350 - Carcinogenicity (Category 1B)

H360 - Reproductive Toxicity (Category 1B)

H410 - Chronic Aquatic Toxicity (Category 1)

GHS Label elements, including precautionary statements

Signal Word: Danger

Hazard Statements

H302 - Harmful if swallowed.

H317 - May cause an allergic skin reaction.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341 - Suspected of causing genetic defects.

H350 - May cause cancer.

H360 - May damage fertility or the unborn child.

H410 - Chronic Aquatic Toxicity.

Precautionary Statements

P201 - Obtain special instructions before use.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P501 - Dispose of contents/container to an approved waste disposal plant.

Pictograms:



3 Composition / Information on Ingredients

Synonyms: Cobaltous Chloride Hexahydrate; Cobalt(II) Chloride Hexahydrate

Formula: $\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$

Molecular Weight (g/mol): 237.93

CAS Number: 7791-13-1

EC Number: 231-589-4

Component	Concentration (%)	Classification
Cobalt Chloride, Hexahydrate	98 - 102	Acute Tox. (Oral) 4; Skin Sens. 1; Respiratory Sens. 1; Germ Cell Mutagenicity 2; Carcinogenicity 1B; Reproductive Tox. 1B; Chronic Aquatic Tox. 1; H302, H334, H317, H341, H350, H360, H410

4 First-Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Exposure

If swallowed: If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.

In case of skin contact: Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

In case of eye contact: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get medical attention.

If inhaled: Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

Recommendation for immediate medical care and special treatment needed: No data available

5 Fire-Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment and precautions for fire-fighters: Wear self-contained breathing apparatus and protective clothing.

Special hazards arising from the substance or mixture: Hydrogen chloride gas, Chlorine, Cobalt oxides

Additional Information: No data available

6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and material for containment and cleanup: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7 Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

Conditions for safe storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Recommended storage temperature: Room Temperature

Incompatibilities: Strong oxidizing agents, Alkali metals

8 Exposure Controls / Personal Protection

OSHA Permissible Exposure Limits (PELs): 0.08 mg/m³

ACGIH Threshold Limit Values (TLVs): 0.02 mg/m³

Engineering controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE)

Eye/face protection: Wear chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin protection: Wear protective gloves.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Body protection: Wear lab coat, gown, or coveralls to protect from exposure.

9 Physical and Chemical Properties

Appearance: Red to Pink Crystalline Powder

pH: No data available

Solubility: Soluble in water

Specific Gravity: No data available

Melting Range: 87 °C (188.6 °F)
Odor: Odorless
Odor Threshold: No data available
Viscosity: No data available
Relative Density: 1.920 g/cm³
Evaporation Rate: No data available
Initial Boiling Point and Boiling Range: 1920 °C (3488 °F)
Flash Point: No data available
Flammability (Solid, gas): No data available
Flammability Upper/Lower Limits: No data available
Partition Coefficient: n-octanol/water: No data available
Vapor Density: No data available
Vapor Pressure: No data available
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available

10 Stability and Reactivity

Reactivity: No data available
Chemical stability: Stable under normal conditions of use.
Possibilities of hazardous reactions: No data available
Conditions to avoid: Exposure to moisture.
Incompatible materials: Strong oxidizing agents, Alkali metals
Hazardous decomposition products: Hydrogen chloride gas, Chlorine, Cobalt oxides

11 Toxicological Information

Toxicity: LD₅₀ Oral - Rat - 766 mg/kg
LD₅₀ Dermal - Rat: > 2,000 mg/kg
LD₅₀ IP - Mouse: 90 mg/kg

Carcinogenicity

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: Group 2B - Possibly carcinogenic to humans

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by OSHA.

Reproductive toxicity: Presumed human reproductive toxicant.

Symptoms associated with overexposure: Irritation, itching, gastrointestinal upset, erythrocyte production depression, chest pains, dermatitis, tinnitus, nausea, vomiting, nerve deafness, congestive heart failure, thyroid hyperplasia, possible death in children, possible reproductive, mutagenic, or tumorigenic effects

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Target Organs: Liver

Medical conditions aggravated by exposure: Pre-existing heart or lung problems

Routes of entry: Ingestion, inhalation, skin and eye contact

NIOSH/RTECS: GG0200000

12 Ecological Information

Toxicity: Toxicity to fish - LC₅₀ - Carp: 0.33 mg/L - 96 h

Toxicity to daphnia - EC₅₀ - Daphnia magna (Water flea): 1.1 - 1.6 mg/L - 48 h

Toxicity to algae - EC₅₀ - Chlorella vulgaris (Fresh water algae): 0.5 mg/L - 96 h

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13 Disposal Considerations

Disposal of Product: Dispose in accordance with all applicable federal, state, and local environmental regulations.

Disposal of Packaging: Dispose of as unused product.

14 Transport Information

DOT (US)

Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

UN/NA number: N/A Class: N/A Packaging group: N/A Hazard Label: N/A

Reportable Quantity (RQ): N/A

Poison Inhalation Hazard: N/A

IMDG

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)

UN number: 3077 Class: 9 Packaging group: III Hazard Label: Miscellaneous Hazardous Material

IATA

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)

UN Number: 3077 Class: 9 Packaging group: III Hazard Label: Miscellaneous Hazardous Material

15 Regulatory Information

TSCA: Not Listed

SARA Title III

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: Yes - Cobalt compound of concentration > 0.1 %

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

16 Other Information

HMIS Rating

Health hazard: 3

Chronic health hazard: *

Flammability: 0

Physical hazard: 0

NFPA Rating

Health hazard: 3

Fire hazard: 0

Reactivity: 0

Special Hazard:

Further information: All chemicals may pose unknown hazards and should be used with caution. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Caisson Laboratories, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

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