SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : Cobaltous Chloride, Hexahydrate
CAS-No. : 7791-13-1
Product code : LC13190
Formula : CoCl2.6H2O
Synonyms : cobalt dichloride, hexahydrate

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Acute toxicity (oral) Category 4 : H302 Harmful if swallowed
Respiratory sensitization, Category 1 : H334 May cause an allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization, Category 1 : H317 May cause an allergic skin reaction
Germ cell mutagenicity Category 2 : H341 Suspected of causing genetic defects
Carcinogenicity Category 1B : H350 May cause cancer
Reproductive toxicity Category 1B : H360 May damage fertility or the unborn child
Hazardous to the aquatic environment - Acute Hazard Category 1 : H400 Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1 : H410 Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H334 - May cause an 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 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust.
Cobaltous Chloride, Hexahydrate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P264 - Wash exposed skin 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.
P284 - Wear respiratory protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P330 - If swallowed, rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations.

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name: Cobaltous Chloride, Hexahydrate (Main constituent)
Product identifier: (CAS-No.) 7791-13-1
%: 100
GHS US classification:
Acute Tox. 4 (Oral), H302
Resp. Sens. 1, H334
Skin Sens. 1, H317
Muta. 2, H341
Carc. 1B, H350
Repr. 1B, H360
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact: Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.
First-aid measures after eye contact: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice.
First-aid measures after ingestion: Rinse mouth with water. Do not apply (chemical) neutralizing agents without medical advice. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms: Harmful if swallowed. Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg).
Symptoms/effects after inhalation: AFTER INHALATION OF DUST: Coughing. Respiratory difficulties.
Symptoms/effects after skin contact: No effects known.
Symptoms/effects after eye contact: No effects known.

4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media: Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical
Fire hazard: DIRECT FIRE HAZARD. Non combustible.
Hazardous decomposition products in case of fire: On burning: release of toxic and corrosive gases/vapours (chlorine, hydrogen chloride, cobalt oxides).

5.3. Special protective equipment and precautions for fire-fighters
Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions: Cool tanks/drum with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Use water moderately and if possible collect or contain it. Protection during firefighting: Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Protective equipment: Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137).
Emergency procedures: Mark the danger area. Prevent dust cloud formation. No naked flames. Wash contaminated clothes.
Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection. Do not breathe dust.
Emergency procedures: Stop release. Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions
Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up
For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Cobaltous Chloride, Hexahydrate
Safety Data Sheet

7.2. Conditions for safe storage, including any incompatibilities

Incompatible products: Strong oxidizers.
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents, water/moisture.
Storage area: Store in a dry area, Store at ambient temperature. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing, watertight, dry, correctly labelled, meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: cardboard, synthetic material, glass.

SECTON 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
</tr>
<tr>
<td>ACGIH OEL TWA</td>
</tr>
<tr>
<td>USA - OSHA - Occupational Exposure Limits</td>
</tr>
<tr>
<td>OSHA PEL (TWA) [1]</td>
</tr>
<tr>
<td>USA - IDLH - Occupational Exposure Limits</td>
</tr>
<tr>
<td>IDLH</td>
</tr>
<tr>
<td>USA - NIOSH - Occupational Exposure Limits</td>
</tr>
<tr>
<td>NIOSH REL (TWA)</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber, PVC

Hand protection:
Gloves

Eye protection:
Face shield (EN 166). In case of dust production: protective goggles (EN 166)

Skin and body protection:
Protective clothing (EN 14605 or EN 13034). In case of dust production: head/neck protection. In case of dust production: dustproof clothing (EN 13982)

Respiratory protection:
Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus (EN 136 + EN 137)

Personal protective equipment symbol(s):

SECTON 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
## Cobaltous Chloride, Hexahydrate
### Safety Data Sheet

- **Appearance**: Crystalline solid. Crystalline powder.
- **Color**: Rose to red
- **Odor**: Mild odour Irritating/pungent odour
- **Odor threshold**: No data available
- **pH**: 7 (Aqueous solution, 58.5 %, 20 °C, OECD 105: Water Solubility)
- **Melting point**: 735 °C (Anhydrous form)
- **Freezing point**: No data available
- **Boiling point**: 1049 °C (1013 hPa, Anhydrous form)
- **Flash point**: Not applicable
- **Relative evaporation rate (butyl acetate=1)**: No data available
- **Flammability (solid, gas)**: No data available
- **Vapor pressure**: < 0.01 hPa (20 °C, Anhydrous form)
- **Relative vapor density at 20 °C**: Not applicable
- **Relative density**: 1.92 (20 °C)
- **Density**: 3360 kg/m³ (25 °C, Anhydrous form)
- **Molecular mass**: 237.93 g/mol
- **Log Pow**: No data available
- **Auto-ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **No data available/Viscosity, kinematic**: No data available
- **Viscosity, dynamic**: No data available
- **Explosion limits**: No data available
- **Explosive properties**: No data available
- **Oxidizing properties**: No data available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
No additional information available

#### 10.2. Chemical stability
Hygroscopic.

#### 10.3. Possibility of hazardous reactions
Not established.

#### 10.4. Conditions to avoid
Incompatible materials. Moisture.

#### 10.5. Incompatible materials
Strong oxidizers.

#### 10.6. Hazardous decomposition products
Hydrogen chloride.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects
- **Acute toxicity (oral)**: Harmful if swallowed.
- **Acute toxicity (dermal)**: Not classified
- **Acute toxicity (inhalation)**: Not classified
Cobaltous Chloride, Hexahydrate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50 oral rat</strong></td>
</tr>
<tr>
<td>537 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Hydrate form, Oral, 10 day(s))</td>
</tr>
<tr>
<td><strong>LD50 dermal rat</strong></td>
</tr>
<tr>
<td>&gt; 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))</td>
</tr>
<tr>
<td><strong>ATE US (oral)</strong></td>
</tr>
<tr>
<td>537 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
pH: 7 (Aqueous solution, 58.5 %, 20 °C, OECD 105: Water Solubility)

Serious eye damage/irritation: Not classified
pH: 7 (Aqueous solution, 58.5 %, 20 °C, OECD 105: Water Solubility)

Respiratory or skin sensitization: May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity: Suspected of causing genetic defects.

Carcinogenicity: May cause cancer.

Reproductive toxicity: May damage fertility or the unborn child.

STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available

Likely routes of exposure: Skin and eye contact. Inhalation.

Potential Adverse human health effects and symptoms: Harmful if swallowed. Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg).

Symptoms/effects after inhalation: AFTER INHALATION OF DUST: Coughing. Respiratory difficulties.
Symptoms/effects after skin contact: No effects known.
Symptoms/effects after eye contact: No effects known.


SECTION 12: Ecological information

12.1. Toxicity

Ecology - general: Dangerous for the environment.
Ecology - air: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water: Toxic to crustacea. Toxic to fishes. Inhibition of activated sludge. Very toxic to algae.

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LC50 fish 1</strong></td>
</tr>
<tr>
<td>1.512 mg/l (ASTM, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Anhydrous form)</td>
</tr>
<tr>
<td><strong>EC50 Daphnia 1</strong></td>
</tr>
<tr>
<td>5.89 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)</td>
</tr>
<tr>
<td><strong>ErC50 (algae)</strong></td>
</tr>
<tr>
<td>144 μg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Anhydrous form)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Biodegradability in soil: not applicable. Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>Not applicable (inorganic)</td>
</tr>
</tbody>
</table>

09/07/2021 EN (English US) 6/9
**12.3. Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

<table>
<thead>
<tr>
<th>Cobaltous Chloride, Hexahydrate (7791-13-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
</tr>
</tbody>
</table>

**12.5. Other adverse effects**

No additional information available.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste disposal recommendations:

Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove to an authorized dump (Class I). Precipitate/make insoluble.

Additional information:


## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

- **Transport document description**: UN3260 Corrosive solid, acidic, inorganic, n.o.s., 8, III
- **UN-No.(DOT)**: UN3260
- **Proper Shipping Name (DOT)**: Corrosive solid, acidic, inorganic, n.o.s.
- **Transport hazard class(es) (DOT)**: 8 - Class 8 - Corrosive material 49 CFR 173.136
- **Packing group (DOT)**: III - Minor Danger
- **Hazard labels (DOT)**: 8 - Corrosive

Dangerous for the environment: Yes
Marine pollutant: Yes

**DOT Packaging Non Bulk (49 CFR 173.xxx)**: 213
**DOT Packaging Bulk (49 CFR 173.xxx)**: 240
**DOT Symbols**: G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102): IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberglass (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.

DOT Packaging Exceptions (49 CFR 173.xxx):
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 25 kg
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 100 kg
- DOT Vessel Stowage Location: A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.
- Other information: No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

**Cobaltous Chloride, Hexahydrate (7791-13-1)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Health hazard - Acute toxicity (any route of exposure)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health hazard - Carcinogenicity</td>
</tr>
<tr>
<td></td>
<td>Health hazard - Respiratory or skin sensitization</td>
</tr>
<tr>
<td></td>
<td>Health hazard - Germ cell mutagenicity</td>
</tr>
<tr>
<td></td>
<td>Health hazard - Reproductive toxicity</td>
</tr>
</tbody>
</table>

All components of this product are listed as Active, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

| Cobaltous Chloride, Hexahydrate | CAS-No. 7791-13-1 | 100% |

15.2. International regulations

**CANADA**

**Cobaltous Chloride, Hexahydrate (7791-13-1)**

Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

No additional information available

**National regulations**

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 09/07/2021
Cobaltous Chloride, Hexahydrate
Safety Data Sheet

Full text of H- and EUH-statements: see section 16:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H334</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NFPA health hazard: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating
Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 0 Minimal Hazard - Materials that will not burn
Personal protection: F
  F - Safety glasses, Gloves, Synthetic apron, Dust respirator

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