SDS 1950 Cobalt (II) Chloride

Date of Issue/re-issue: 07/01/2024 Expiry: 01/02/2029

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name **ECP Limited**

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Product	Cobalt (II) chloride hexahydrate				**Code(s)**	19501, 19508, 4532
CAS#	**HSNO#**	**UN #**	**DG Class/es**	**Packing group #**	**Tracking?**	**Handlers Certificate?**
7791-13-1	HSR003623	3077	9	III	No	No

Recommended use: Laboratory Investigations

2. Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity, Oral (Category 4), H302

Respiratory sensitisation (Category 1), H334

Skin sensitisation (Category 1), H317

Germ cell mutagenicity (Category 2), H341

Carcinogenicity, Inhalation (Category 1B), H350i

Reproductive toxicity (Category 1B), H360F

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

2.2 Label elements

Pictogram  Signal word **Danger**

Hazard statement(s)

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.

H350i May cause cancer by inhalation.

H360F May damage fertility.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P284 Wear respiratory protection.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

Supplemental Hazard Statements

None

Restricted to professional users.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

3.1 Substances

Formula: $CoCl_2.6H_2O$

Molecular weight: 237.93 g/mol

CAS-No. : 7791-13-1

Component	Classification	Concentration
Cobalt dichloride hexahydrate		
CAS No. 7791-13-1	Acute Tox. 4; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1B; Repr. 1B; Aquatic Acute 1; Aquatic Chronic 1; H302, H334, H317, H341, H350i, H360F, H400, H410 Concentration limits: >= 0.01 %: Carc. 1B, H350i; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	<=100%

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas, Cobalt/cobalt oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

8. Exposure controls/personal protection

8.1 Control parameters

None

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses

Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards.

Control of environmental exposure

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

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: solid

Colour: violet

b) Odour

Odourless

c) Odour Threshold

No data available

d) pH

4.9 at 20 g/l at 25 °C

e) Melting point/freezing point
Melting point/range: 56 °C
f) Initial boiling point and boiling range
No data available
g) Flash point
No data available
h) Evaporation rate
No data available
i) Flammability (solid, gas)
No data available
j) Upper/lower flammability or explosive limits
No data available
k) Vapour pressure
No data available
l) Vapour density
No data available
m) Relative density
1.920 g/cm3 at 25 °C
n) Water solubility
79 g/l at 0 °C191 g/l at 100 °C
o) Partition coefficient: n-octanol/water
No data available
p) Auto-ignition temperature
No data available
q) Decomposition temperature
No data available
r) Viscosity
No data available
s) Explosive properties
No data available
t) Oxidizing properties
No data available
9.2 Other safety information
Bulk density ca.1,250 kg/m^3

10. Stability and reactivity
10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
Oxidizing agents, Alkali metals
10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions
Hydrogen chloride gas, cobalt/cobalt oxides
Other decomposition products
No data available

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 766 mg/kg

Remarks: Behavioural: Tremor. Diarrhoea Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

LD50 Dermal - Rat - > 2,000 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

In vitro tests showed mutagenic effects

Mouse

Mammary gland

Mutation in mammalian somatic cells.

Carcinogenicity

This product is or contains a component that has been reported to be proba EPA classification.

Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans

Reproductive toxicity

Presumed human reproductive toxicant

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: GG0200000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Cyprinus carpio (Carp) - 0.33 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates

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

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects
Very toxic to aquatic life with long lasting effects.

13. Disposal considerations
13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.
Contaminated packaging
Dispose of as unused product.

14. Transport Information Table

		ADR/RID – European packaging certification	**IMDG International Maritime Dangerous Goods Code**	**IATA – DGR International Air Travel Association – Dangerous Goods Regulations**
14.1	**UN Number**	3077	3077	3077
14.2	**UN Proper Shipping name**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)	Environmentally hazardous substance, solid, n.o.s. (Cobalt dichloride hexahydrate)
14.3	**Transport Hazard Class**	9	9	9
14.4	**Packaging group**	III	III	III
14.5	**Environmental Hazards**	Yes	No	Yes
14.6	**Special precautions for user**	EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.		

15. Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with requirements.
Authorisations and/or restrictions on use
15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out.

16. Disclaimer
The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The

user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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