

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product Name : 1.0 M Cobalt(II) chloride hexahydrate
Product Number : HR2-713
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS Number : 7791-13-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the Safety Data Sheet

Company : Hampton Research
34 Journey
Aliso Viejo, CA 92656-3317
United States
Telephone : 949 425 1321
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.
Fax : 949 425 1611
Fax Technical Support is available 24 hours a day.
e-mail : tech@hrmail.com
e-mail Technical Support is available 24 hours a day.

1.4 Emergency telephone number

Emergency phone : 949 425 1321
For **CHEMTREC** Assistance : 800 424 9300
For **CHEMTREC** Assistance : 703 527 3887 (International)

SECTION 2: Hazards Identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Carcinogenicity, Inhalation (Category 1B), H350i

Acute toxicity, Oral (Category 4), H302

Respiratory sensitisation (Category 1), H334

Skin sensitisation (Category 1), H317

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

Germ cell mutagenicity (Category 2), H341

(CONTINUED) - SECTION 2: Hazards Identification

Reproductive toxicity (Category 1B), H360F

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi	Harmful	R49
		R22
		R42/43
N	Dangerous for the environment	R50/53
		R60
		R68

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

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.
P273	: Avoid release to the environment.
P280	: Wear protective gloves.
P308 + P313	: IF exposed or concerned: Get medical advice/ attention.
P501	: Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements

: none

2.3 Other hazards - none

SECTION 3: Composition/Information on Ingredients

3.1 Substances

Synonym	: Cobaltous chloride hexahydrate
Formula	: $\text{Cl}_2\text{Co} \cdot 6\text{H}_2\text{O}$
Molecular Weight	: 237.93
CAS Number	: 7791-13-1
EC Number	: 231-589-4
Index Number	: 027-004-00-5

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
GG0200000	14,2437	N/A	No	MFCD00149652	N/A

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Cobalt dichloride hexahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 7791-13-1 EC-No. 231-589-4 Index-No. 027-004-00-5	Acute Tox. 4; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1B; Repr. 1B; Aquatic Acute 1; Aquatic Chronic 1; H302, H317, H334, H341, H350i, H360F, H410	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
Cobalt dichloride hexahydrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 7791-13-1 EC-No. 231-589-4 Index-No. 231-589-4	T, N, Carc.Cat.2, Repr.Cat.2, Mut.Cat.3, R49 - R60 - R22 - R42/43 - R68 - R50/53	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 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

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

(CONTINUED) - SECTION 4: First Aid Measures

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Fire Fighting 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

Nature of decomposition products not known.

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further Information

no data available

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

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.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and Storage

7.1 Personal Precautions

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Avoid exposure - obtain special instructions before use. Normal measures for preventive fire protection.

For precautions see section 2.2. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

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 such as NIOSH (US) or EN 166(EU).

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

(CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, 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 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).

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.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Crystals	Color: Violet
b) Odor	no data available	
c) Odor Threshold	no data available	
d) pH	no data available	
e) Melting point/freezing point	184.0 - 186.0°C (lit.) 185.0 - 191.0°C	
f) Initial boiling point and boiling range	235°C (lit.)	
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) Vapor pressure	40 mm Hg (0°C)	
l) Vapor density	no data available	
m) Relative density	no data available	
n) Water solubility	no data available	
o) Partition coefficient: noctanol/water	no data available	
p) Autoignition temperature	no data available	
q) Decomposition temperature	no data available	

(CONTINUED) - SECTION 9: Physical and Chemical Properties

- | | |
|-------------------------|-------------------|
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

- | | |
|-------------------------|-------------------|
| Surface tension | no data available |
| Relative vapour density | no data available |

SECTION 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

Exposure to moisture.

10.5 Incompatible materials

Oxidizing agents, Alkali metals

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 766 mg/kg

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

LD50 Dermal - rat - > 2.000 mg/kg

Skin irritation / corrosion

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

(CONTINUED) - SECTION 11: Toxicological Information

Germ cell mutagenicity

no data available

Chronic exposure

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt dichloride hexahydrate)
2B - Group 2B: Possibly carcinogenic to humans (Cobalt dichloride hexahydrate)

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

Signs and Symptoms of Exposure

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

Additional information

RTECS: GG0200000

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

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological Information

12.1 Toxicity

Toxicity to fish	LC50 - Cyprinus carpio (Carp) - 0,33 mg/l - 96,0 h
Toxicity to daphnia and 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

(CONTINUED) - SECTION 12: Ecological Information

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

no data available

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transportation Information

14.1 UN number

ADR/RID: 3077

IMDG: 3077

IATA: 3077

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt dichloride hexahydrate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Cobalt dichloride hexahydrate)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

14.6 Special precautions for user

no data available

Further information

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 solid

SECTION 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Authorisations and/or restrictions on use

Cobalt dichloride hexahydrate CAS-No.: 7791-13-1
Candidate List of Substances of Very High Concern for Authorisation

Carcinogenic (article 57a)
ED/67/2008

Cobalt dichloride hexahydrate CAS-No.: 7791-13-1
Candidate List of Substances of Very High Concern for Authorisation
Toxic for reproduction (article 57c)
ED/31/2011

15.2 Chemical Safety Assessment

no data available

SECTION 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of R-phrases referred to under sections 2 and 3

N	Dangerous for the environment
T	Toxic
R22	Harmful if swallowed.
R42/43	May cause sensitisation by inhalation and skin contact.
R49	May cause cancer by inhalation.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60	May impair fertility.
R68	Possible risk of irreversible effects.
Repr.Cat.2	Toxic to Reproduction Category 2

(CONTINUED) - SECTION 16: Other Information

DISCLAIMER

For research use only. Not for drug, household, or other use.

WARRANTY

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