

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Revision date: 06.04.2016

1422249 Cobalt Chloride Solution

Product code: 1422249

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

1422249 Cobalt Chloride Solution

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Water analysis

1.3. Details of the supplier of the safety data sheet

Company name: HACH LANGE GmbH
Street: Willstätterstr. 11
Place: D-40549 Düsseldorf
Telephone: +49 (0)211 5288-383
e-mail: SDS@hach.com
Internet: www.de.hach.com
Responsible Department: HACH LANGE Ltd.
5, Pacific Way
Salford Manchester M50 1DL - United Kingdom
Tel. +44 (0) 161 872 1487 * Fax +44 (0) 161 848 7324
e-Mail: info-uk@hach.com

HACH LANGE Ltd.
Unit 1, Chestnut Road Western Industrial Estate
IRL-Dublin 12
Tel. +353 (0)1 4602522
e-Mail: info-ie@hach.com

1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

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

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Corr. 1A
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitisation: Resp. Sens. 1
Respiratory or skin sensitisation: Skin Sens. 1
Germ cell mutagenicity: Muta. 2
Carcinogenicity: Carc. 1B
Reproductive toxicity: Repr. 1B
Hazardous to the aquatic environment: Aquatic Acute 1
Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

May be corrosive to metals.
Harmful if swallowed.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer by inhalation.
May damage fertility. May damage the unborn child.

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Toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

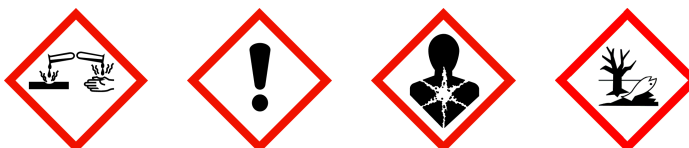
Hazard components for labelling

hydrogen chloride
cobalt dichloride

Signal word:

Danger

Pictograms:



Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360FD	May damage fertility. May damage the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P501	Dispose of contents/container to Disposal.

Additional advice on labelling

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7732-18-5	Water			80 - 90 %
	231-791-2			
	hydrochloric acid ... %			10 - 15 %
	231-595-7	017-002-01-X		
	Met. Corr. 1, Skin Corr. 1B, STOT SE 3; H290 H314 H335			
7646-79-9	cobalt dichloride			1-5 %
	231-589-4	027-004-00-5		
	Carc. 1B, Muta. 2, Repr. 1B, Acute Tox. 4, Resp. Sens. 1, Skin Sens. 1, Aquatic Acute 1 (M-Factor = 10), Aquatic Chronic 1 (M-Factor = 10); H350i H341 H360F H302 H334 H317 H400 H410			

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

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

Take off contaminated clothing and shoes immediately.
Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air.
If symptoms persist, call a physician.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
Take off all contaminated clothing immediately.
If skin irritation persists, call a physician.

After contact with eyes

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

After ingestion

Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Irritation and corrosion
Allergic reactions

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures
5.1. Extinguishing media
Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
The product itself does not burn.

Unsuitable extinguishing media

No Limit

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5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.

5.3. Advice for firefighters

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

In the event of fire, wear self-contained breathing apparatus.

Additional information

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.

Do not breathe vapours, mist or gas. Ensure adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations (see section 13).

6.4. Reference to other sections

13. Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas.

Avoid contact with skin and eyes.

Do not breathe vapours/dust.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in a dry, cool place.

Hints on joint storage

None known.

Further information on storage conditions

Keep locked up or in an area accessible only to qualified or authorised persons.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Cobalt and cobalt compounds (as Co)	-	0.1		TWA (8 h)	WEL

Additional advice on limit values

None known.

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Protective and hygiene measures

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

Wash hands before breaks and after work.

Eye/face protection

Safety glasses with side-shields

Hand protection

Use barrier skin cream.

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

In case of full contact:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: > 480 min

In case of contact through splashing:

Glove material : Nitrile rubber

Layer thickness: 0,11 mm

Break through time: >480 min

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.

Skin protection

Remove and wash contaminated clothing before re-use.

Respiratory protection

Breathing apparatus only if aerosol or dust is formed. Recommended Filter type: respirator with E-(P2) filter

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

Prevent further leakage or spillage if safe to do so.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: liquid
Colour: red
Odour: odourless
pH-Value (at 20 °C): 1,3

Changes in the physical state

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Melting point:	0 °C
Initial boiling point and boiling range:	100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available
Flammability	
Solid:	not applicable
Gas:	not applicable
Explosive properties	
not applicable	
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	no data available
Auto-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	no data available
Oxidizing properties	
not applicable	
Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	1,025 g/cm ³
Bulk density:	not applicable
Water solubility:	soluble
Solubility in other solvents	
no data available	
Partition coefficient:	no data available
Viscosity / dynamic:	no data available
Viscosity / kinematic:	no data available
Flow time:	no data available
Vapour density:	no data available
Evaporation rate:	no data available
Solvent separation test:	no data available
Solvent content:	no data available

9.2. Other information

Solid content:	not applicable
Corrosive in contact with metals	
Aluminium : 8,02 mm/a	
Mild steel : 2,62 mm/a	

SECTION 10: Stability and reactivity

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10.1. Reactivity

Corrosive to metals

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts with the following substances: Strong acids Metals

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

woven fabric, Organic materials, Metals

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

Further information

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

No data is available on the product itself.

ATEmix calculated

ATE (inhalation aerosol) 4,435 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7646-79-9	cobalt dichloride				
	oral	LD50 80 mg/kg	Rat	GESTIS	

Irritation and corrosivity

Causes skin and eye burns.

Sensitising effects

May cause allergic skin reaction. (cobalt dichloride)

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. (cobalt dichloride)

Carcinogenic/mutagenic/toxic effects for reproduction

H340 - May cause genetic defects. (cobalt dichloride)

May cause cancer by inhalation. (cobalt dichloride)

May cause harm to the unborn child.

Effects on fertility

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

Specific effects in experiment on an animal

No data is available on the product itself.

Additional information on tests

no data available

Practical experience

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Observations relevant to classification

no data available

Other observations

no data available

Further information

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7646-79-9	cobalt dichloride					
	Acute fish toxicity	LC50 mg/l	0,33	96 h	Cyprinus carpio (Carp)	GESTIS
	Acute algae toxicity	ErC50	0,5 mg/l	96 h	Chlorella vulgaris (Fresh water algae)	Gestis

12.2. Persistence and degradability

No data is available on the product itself.

12.3. Bioaccumulative potential

The methods for determining biodegradability are not applicable to inorganic substances.

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

no data available

12.6. Other adverse effects

No known effect.

Further information

no data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In accordance with local and national regulations.

Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

Waste disposal number of contaminated packaging

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

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Contaminated packaging

Dispose of as unused product.

The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1789
14.2. UN proper shipping name: HYDROCHLORIC ACID solution
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Classification code: C1
Limited quantity: LQ7
Hazard No: 80

Other applicable information (land transport)

: 520
Transport Category.: 3
: E

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

14.1. UN number: UN 1789
14.2. UN proper shipping name: HYDROCHLORIC ACID solution
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Limited quantity: 5 L
EmS: F-A, S-B

Other applicable information (marine transport)

: 223

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1789
14.2. UN proper shipping name: HYDROCHLORIC ACID solution
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8



Limited quantity Passenger: 1 L

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IATA-packing instructions - Passenger:	819
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	821
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: cobalt dichloride

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

Other applicable information

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
cobalt dichloride

Restrictions on use (REACH, annex XVII):

Entry 28: cobalt dichloride

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

Revision: 06.04.2016

Safety datasheet sections which have been updated: 1-16

Relevant H and EUH statements (number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360F	May damage fertility.
H360FD	May damage fertility. May damage the unborn child.
H400	Very toxic to aquatic life.

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H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)