

# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<b>Name of the substance</b>	Cobalt (II) Chloride Hexahydrate
<b>Identification number</b>	027-004-00-5 (Index number)
<b>Registration number</b>	-
<b>Document number</b>	1VR
<b>Synonyms</b>	None.
<b>Materion Code</b>	1VR
<b>Issue date</b>	07-March-2017
<b>Version number</b>	02
<b>Revision date</b>	12-January-2018
<b>Supersedes date</b>	07-March-2017

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

<b>Identified uses</b>	Not available.
<b>Uses advised against</b>	None known.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Health hazards

Acute toxicity, oral	Category 4
Respiratory sensitisation	Category 1
Skin sensitisation	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity (inhalation)	Category 1B
Reproductive toxicity (fertility)	Category 1B

##### Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1 M-factor = 10.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1 M-factor = 10.

**Hazard summary** Not available.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

<b>Contains:</b>	Cobalt dichloride
<b>Hazard pictograms</b>	None.
<b>Signal word</b>	None.
<b>Hazard statements</b>	The substance does not meet the criteria for classification.

#### Precautionary statements

<b>Prevention</b>	Not available.
<b>Response</b>	Not available.
<b>Storage</b>	Not available.
<b>Disposal</b>	Not available.

**Supplemental label information** None.

**2.3. Other hazards** None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

**General information**

<b>Chemical name</b>	<b>%</b>	<b>CAS-No. / EC No.</b>	<b>REACH Registration No.</b>	<b>Index No.</b>	<b>Notes</b>
Cobalt dichloride	100	7791-13-1 231-589-4	-	027-004-00-5	
<b>Classification: -</b>					1

**SECTION 4: First aid measures**

**General information** Not available.

**4.1. Description of first aid measures**

**Inhalation** Not available.

**Skin contact** Not available.

**Eye contact** Not available.

**Ingestion** Not available.

**4.2. Most important symptoms and effects, both acute and delayed** Not available.

**4.3. Indication of any immediate medical attention and special treatment needed** Not available.

**SECTION 5: Firefighting measures**

**General fire hazards** Not available.

**5.1. Extinguishing media**

**Suitable extinguishing media** Not available.

**Unsuitable extinguishing media** Not available.

**5.2. Special hazards arising from the substance or mixture** Not available.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Not available.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Not available.

**For emergency responders** Not available.

**6.2. Environmental precautions** Not available.

**6.3. Methods and material for containment and cleaning up** Not available.

**6.4. Reference to other sections** Not available.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling** Not available.

**7.2. Conditions for safe storage, including any incompatibilities** Not available.

**7.3. Specific end use(s)** Not available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

## Occupational exposure limits

### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,1 mg/m <sup>3</sup>

### Czech Republic. OELs. Government Decree 361

Material	Type	Value	Form
Cobalt dichloride (CAS 7791-13-1)	Ceiling	0,1 mg/m <sup>3</sup>	Aerosol, inhalable.
	TWA	0,05 mg/m <sup>3</sup>	Aerosol, inhalable.

### Denmark. Exposure Limit Values

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TLV	0,01 mg/m <sup>3</sup>

### Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,05 mg/m <sup>3</sup>

### Finland. Workplace Exposure Limits

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

### Greece. OELs (Decree No. 90/1999, as amended)

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,1 mg/m <sup>3</sup>

### Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	STEL	0,4 mg/m <sup>3</sup>
	TWA	0,1 mg/m <sup>3</sup>

### Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Material	Type	Value	Form
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>	Dust and fume.

### Ireland. Occupational Exposure Limits

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

### Italy. Occupational Exposure Limits

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

### Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,05 mg/m <sup>3</sup>

### Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,05 mg/m <sup>3</sup>

**Spain. Carcinogens and Mutagens with Limit Values (Table 2)**

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,02 mg/m <sup>3</sup>

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Material	Type	Value	Form
Cobalt dichloride (CAS 7791-13-1)	TWA	0,05 mg/m <sup>3</sup>	Inhalable fraction.

**UK. EH40 Workplace Exposure Limits (WELs)**

Material	Type	Value
Cobalt dichloride (CAS 7791-13-1)	TWA	0,1 mg/m <sup>3</sup>

**Biological limit values****Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health**

Material	Value	Determinant	Specimen	Sampling Time
Cobalt dichloride (CAS 7791-13-1)	130 nmol/l	Cobalt	Urine	*

\* - For sampling details, please see the source document.

**France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)**

Material	Value	Determinant	Specimen	Sampling Time
Cobalt dichloride (CAS 7791-13-1)	15 µg/l	Cobalt	Urine	*
	1 µg/l	Cobalt	Blood	*

\* - For sampling details, please see the source document.

**Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices**

Material	Value	Determinant	Specimen	Sampling Time
Cobalt dichloride (CAS 7791-13-1)	0,03 mg/g	Cobalt	Creatinine in urine	*
	0,058 µmol/mmol	Cobalt	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4**

Material	Value	Determinant	Specimen	Sampling Time
Cobalt dichloride (CAS 7791-13-1)	15 µg/l	Cobalto	Urine	*
	1 µg/l	Cobalto	Blood	*

\* - For sampling details, please see the source document.

**Recommended monitoring procedures**

Not available.

**Derived no effect levels (DNELs)**

Not available.

**Predicted no effect concentrations (PNECs)**

Not available.

**8.2. Exposure controls****Appropriate engineering controls**

Not available.

## Individual protection measures, such as personal protective equipment

<b>General information</b>	Not available.
<b>Eye/face protection</b>	Not available.
<b>Skin protection</b>	
- Hand protection	Not available.
- Other	Not available.
<b>Respiratory protection</b>	Not available.
<b>Thermal hazards</b>	Not available.
<b>Hygiene measures</b>	Not available.
<b>Environmental exposure controls</b>	Not available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Not available.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	735 °C (1355 °F)
<b>Initial boiling point and boiling range</b>	1049 °C (1920,2 °F)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	< 0,0000001 kPa (25 °C (77 °F))
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	400 °C (752 °F)
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not available.
<b>Oxidising properties</b>	Not available.

### 9.2. Other information

<b>Density</b>	3,36 g/cm <sup>3</sup> estimated at 25 °C
<b>Molecular formula</b>	Cl <sub>2</sub> -Co
<b>Molecular weight</b>	129,84 g/mol
<b>Specific gravity</b>	3,36 at 25 °C

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	Not available.
<b>10.3. Possibility of hazardous reactions</b>	Not available.
<b>10.4. Conditions to avoid</b>	Not available.

**10.5. Incompatible materials** Not available.

**10.6. Hazardous decomposition products** Not available.

## SECTION 11: Toxicological information

**General information** Not available.

### Information on likely routes of exposure

**Inhalation** Not available.

**Skin contact** Not available.

**Eye contact** Not available.

**Ingestion** Not available.

**Symptoms** Not available.

### 11.1. Information on toxicological effects

**Acute toxicity** No data available.

**Skin corrosion/irritation** Not available.

**Serious eye damage/eye irritation** Not available.

**Respiratory sensitisation** Not available.

**Skin sensitisation** Not available.

**Germ cell mutagenicity** Not available.

### Carcinogenicity

**Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)**

Cobalt dichloride (CAS 7791-13-1)

**Slovenia. CMR. Protection of workers from exposure to carcinogen and mutagen agents (ULRS 101/2005, as amended)**

Cobalt dichloride (CAS 7791-13-1)

Carcinogenic, Category 1B.

**Reproductive toxicity** Not available.

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Mixture versus substance information** Not available.

**Other information** Not available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Product		Species	Test Results
Cobalt dichloride (CAS 7791-13-1)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	1,11 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0,569 - 3,474 mg/l, 96 hours
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	1,11 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0,569 - 3,474 mg/l, 96 hours

**12.2. Persistence and degradability** Not available.

**12.3. Bioaccumulative potential** Not available.

**Partition coefficient n-octanol/water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

- 12.4. Mobility in soil** Not available.  
**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.  
**12.6. Other adverse effects** Not available.  
**12.7. Additional information**

**Estonia Dangerous substances in soil Data**

Cobalt dichloride (CAS 7791-13-1)

Cobalt (Co) 20 mg/kg  
Cobalt (Co) 300 mg/kg  
Cobalt (Co) 50 mg/kg

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

- Residual waste** Not available.  
**Contaminated packaging** Not available.  
**EU waste code** Not available.

**SECTION 14: Transport information**

**ADR**

- 14.1. UN number** UN3288  
**14.2. UN proper shipping name** TOXIC SOLID, INORGANIC, N.O.S. (Cobalt dichloride)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1  
**Hazard No. (ADR)** 60  
**Tunnel restriction code** E  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

**RID**

- 14.1. UN number** UN3288  
**14.2. UN proper shipping name** TOXIC SOLID, INORGANIC, N.O.S. (Cobalt dichloride)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

**ADN**

- 14.1. UN number** UN3288  
**14.2. UN proper shipping name** TOXIC SOLID, INORGANIC, N.O.S. (Cobalt dichloride)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

**IATA**

- 14.1. UN number** UN3288  
**14.2. UN proper shipping name** Toxic solid, inorganic, n.o.s. (cobalt dichloride)

### 14.3. Transport hazard class(es)

**Class** 6.1(PGIII)

**Subsidiary risk** -

**14.4. Packing group** III

**14.5. Environmental hazards** No.

**ERG Code** 6L

**14.6. Special precautions for user** Not available.

### Other information

**Passenger and cargo aircraft** Allowed with restrictions.

**Cargo aircraft only** Allowed with restrictions.

### IMDG

**14.1. UN number** UN3288

**14.2. UN proper shipping name** TOXIC SOLID, INORGANIC, N.O.S. (cobalt dichloride)

### 14.3. Transport hazard class(es)

**Class** 6.1(PGIII)

**Subsidiary risk** -

**14.4. Packing group** III

**14.5. Environmental hazards**

**Marine pollutant** No.

**EmS** F-A, S-A

**14.6. Special precautions for user** Not available.

### ADN; ADR; IATA; IMDG; RID



## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Cobalt dichloride (CAS 7791-13-1)

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Cobalt dichloride (CAS 7791-13-1)

#### Authorisations



**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Cobalt dichloride (CAS 7791-13-1)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Cobalt dichloride (CAS 7791-13-1)

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Cobalt dichloride (CAS 7791-13-1)

**National regulations** Not available.

**15.2. Chemical safety assessment** Not available.

**SECTION 16: Other information**

**List of abbreviations** Not available.

**References** Not available.

**Information on evaluation method leading to the classification of mixture** Not available.

**Training information** Not available.