

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** COBALT CHLORIDE

**Other means of identification**

**Product No.:** 4532, 1670

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Details of the supplier of the safety data sheet**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:** 610-573-2610  
**Contact Person:** Environmental Health & Safety  
**E-mail:** info@avantormaterials.com

**Emergency telephone number:**

CHEMTREC: 1-800-424-9300 within US and Canada  
CHEMTREC: 1-703-527-3887 outside US and Canada

## 2. Hazard(s) identification

**Hazard Classification**

**Health Hazards**

Acute toxicity (Oral)	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Toxic to reproduction	Category 1B

**Environmental Hazards**

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

**Label Elements**

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement:** Toxic if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause cancer.  
Suspected of causing genetic defects.  
May damage fertility or the unborn child.  
Very toxic to aquatic life with long lasting effects.

**Precautionary Statement**

**Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Wash hands thoroughly after handling. Avoid release to the environment.

**Response:** If exposed or concerned: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Specific treatment (see this label). Collect spillage.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in GHS classification:** None.

### 3. Composition/information on ingredients

**Substances**

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
COBALT CHLORIDE (HYDRATED FORM)		7791-13-1	90 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

<b>General information:</b>	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Call a physician or poison control center immediately. Rinse mouth thoroughly.
<b>Inhalation:</b>	Move to fresh air. Get medical attention if symptoms persist.
<b>Skin Contact:</b>	Wash skin thoroughly with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

#### Most important symptoms/effects, acute and delayed

<b>Symptoms:</b>	Toxic if swallowed. May cause allergic skin reaction. May cause asthma type symptoms. Irritating to eyes, respiratory system and skin.
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#### Indication of immediate medical attention and special treatment needed

<b>Treatment:</b>	Treat symptomatically. Symptoms may be delayed.
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#### 5. Fire-fighting measures

<b>General Fire Hazards:</b>	No unusual fire or explosion hazards noted.
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#### Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media:</b>	Use fire-extinguishing media appropriate for surrounding materials.
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<b>Unsuitable extinguishing media:</b>	None known.
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<b>Specific hazards arising from the chemical:</b>	During fire, gases hazardous to health may be formed.
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#### Special protective equipment and precautions for firefighters

<b>Special fire fighting procedures:</b>	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
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<b>Special protective equipment for fire-fighters:</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
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#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures:</b>	Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment.
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<b>Methods and material for containment and cleaning up:</b>	Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. See Section 8 of the SDS for Personal Protective Equipment.
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**Notification Procedures:** Inform authorities if large amounts are involved.

**Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

**Precautions for safe handling:** Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe dust or vapor. Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
COBALT CHLORIDE (HYDRATED FORM) - as Co	TWA	0.02 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
COBALT CHLORIDE (HYDRATED FORM)	ST ESL	0.2 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	0.02 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	ST ESL	0.2 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)
	AN ESL	0.02 µg/m <sup>3</sup>	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)

#### Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
COBALT CHLORIDE (HYDRATED FORM) (Cobalt: Sampling time: End of shift at end of work week.)	15 µg/l (Urine)	ACGIH BEL (03 2015)

**Appropriate Engineering Controls** No data available.

### Individual protection measures, such as personal protective equipment

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

**Skin Protection**  
**Hand Protection:** Chemical resistant gloves

<b>Other:</b>	Wear suitable protective clothing.
<b>Respiratory Protection:</b>	In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
<b>Hygiene measures:</b>	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	solid
<b>Form:</b>	Crystals or powder
<b>Color:</b>	Rose red
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	4.6
<b>Melting point/freezing point:</b>	86 °C
<b>Initial boiling point and boiling range:</b>	110 °C
<b>Flash Point:</b>	not applicable
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.

### Upper/lower limit on flammability or explosive limits

<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.

<b>Vapor pressure:</b>	5.33 kPa (770 °C)
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	1.92 (20 °C)

### Solubility(ies)

<b>Solubility in water:</b>	767 g/l (0 °C)
<b>Solubility (other):</b>	No data available.

<b>Partition coefficient (n-octanol/water):</b>	No data available.
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<b>Auto-ignition temperature:</b>	No data available.
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<b>Decomposition temperature:</b>	No data available.
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<b>Viscosity:</b>	No data available.
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### Other information

<b>Molecular weight:</b>	237.93 g/mol (Cl <sub>2</sub> Co.6H <sub>2</sub> O)
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## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
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<b>Chemical Stability:</b>	Material is stable under normal conditions.
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<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
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<b>Conditions to avoid:</b>	Contact with incompatible materials.
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<b>Incompatible Materials:</b>	Strong mineral acids. Strong oxidizing agents. metal halides.
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**Hazardous Decomposition  
Products:**

Thermal decomposition emits toxic fumes of chlorine.

**11. Toxicological information****Information on likely routes of exposure**

<b>Ingestion:</b>	Toxic if swallowed.
<b>Inhalation:</b>	May cause irritation to the respiratory system.
<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.

**Information on toxicological effects****Acute toxicity (list all possible routes of exposure)****Oral**

<b>Product:</b>	LD 50 (Rat): 766 mg/kg LD 50 (Rat): 80 mg/kg
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**Dermal**

<b>Product:</b>	LD 50 (Rat): > 2,000 mg/kg
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No data available.

**Inhalation**

<b>Product:</b>	No data available.
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**Repeated dose toxicity**

<b>Product:</b>	No data available.
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**Skin Corrosion/Irritation**

<b>Product:</b>	Irritating to skin.
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**Serious Eye Damage/Eye Irritation**

<b>Product:</b>	Irritating to eyes.
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**Respiratory or Skin Sensitization**

<b>Product:</b>	May cause sensitization by inhalation and skin contact.
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**Carcinogenicity**

<b>Product:</b>	May cause cancer.
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**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**COBALT  
CHLORIDE  
(HYDRATED  
FORM)Overall evaluation: 2B. Possibly carcinogenic to humans. Overall evaluation:  
2B. Possibly carcinogenic to humans.**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

## Germ Cell Mutagenicity

### In vitro

**Product:** Suspected of causing genetic defects.

### In vivo

**Product:** Suspected of causing genetic defects.

## Reproductive toxicity

**Product:** May damage fertility or the unborn child.

## Specific Target Organ Toxicity - Single Exposure

**Product:** None known.

## Specific Target Organ Toxicity - Repeated Exposure

**Product:** None known.

## Aspiration Hazard

**Product:** Not classified

**Other effects:** None known.

## 12. Ecological information

### Ecotoxicity:

#### Acute hazards to the aquatic environment:

##### Fish

**Product:** LC 50 (Carp (Cyprinus carpio), 96 h): 0.33 mg/l

##### Aquatic Invertebrates

**Product:** EC 50 (Water flea (Daphnia magna), 48 h): 1.4 mg/l

#### Chronic hazards to the aquatic environment:

##### Fish

**Product:** No data available.

##### Aquatic Invertebrates

**Product:** No data available.

##### Toxicity to Aquatic Plants

**Product:** No data available.

### Persistence and Degradability

#### Biodegradation

**Product:** There are no data on the degradability of this product.

#### BOD/COD Ratio

**Product:** No data available.

### Bioaccumulative Potential

#### Bioconcentration Factor (BCF)

**Product:** No data available on bioaccumulation.

#### Partition Coefficient n-octanol / water (log K<sub>ow</sub>)

**Product:** No data available.

**Mobility in Soil:** The product is water soluble and may spread in water systems.

**Other Adverse Effects:** Very toxic to aquatic life with long lasting effects.

### 13. Disposal considerations

**Disposal instructions:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated Packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

#### DOT

UN Number:	UN 3288
UN Proper Shipping Name:	Toxic solid, inorganic, n.o.s.(COBALT(II) CHLORIDE)
Transport Hazard Class(es)	
Class(es):	6.1
Label(s):	6.1
Packing Group:	III
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

#### IMDG

UN Number:	UN 3288
UN Proper Shipping Name:	TOXIC SOLID, INORGANIC, N.O.S.(COBALT(II) CHLORIDE)
Transport Hazard Class(es)	
Class(es):	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing Group:	III
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

#### IATA

UN Number:	UN 3288
Proper Shipping Name:	Toxic solid, inorganic, n.o.s.(COBALT(II) CHLORIDE)
Transport Hazard Class(es):	
Class(es):	6.1
Label(s):	6.1
Marine Pollutant:	Not a Marine Pollutant
Packing Group:	III
Special precautions for user:	—

### 15. Regulatory information

#### US Federal Regulations

##### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

##### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

##### CERCLA Hazardous Substance List (40 CFR 302.4):

##### Chemical Identity

##### Reportable quantity

##### Superfund Amendments and Reauthorization Act of 1986 (SARA)

##### Hazard categories

Acute (Immediate)

Chronic (Delayed)



**SARA 302 Extremely Hazardous Substance**

None present or none present in regulated quantities.

**SARA 304 Emergency Release Notification**

<u>Chemical Identity</u>	<u>Reportable quantity</u>
COBALT CHLORIDE (HYDRATED FORM)	

**SARA 311/312 Hazardous Chemical**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
COBALT CHLORIDE (HYDRATED FORM)	10000 lbs

**SARA 313 (TRI Reporting)**

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
COBALT CHLORIDE (HYDRATED FORM)	10000 lbs 10000 lbs	25000 lbs. 25000 lbs. 25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US State Regulations**
**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

<u>Chemical Identity</u>
COBALT CHLORIDE (HYDRATED FORM)

**US. Massachusetts RTK - Substance List**

No ingredient regulated by MA Right-to-Know Law present.

**US. Pennsylvania RTK - Hazardous Substances**

No ingredient regulated by PA Right-to-Know Law present.

**US. Rhode Island RTK**

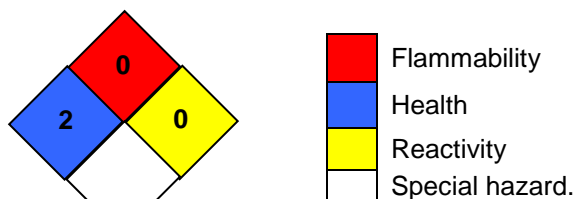
No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
Australia AICS:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

**Issue Date:** 02-11-2016

**Revision Date:** No data available.

**Version #:** 1.2

**Further Information:** No data available.

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