



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 02/05/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number 802540  
Product name Cobalt(II) chloride anhydrous for synthesis

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

Identified uses Chemical for synthesis

### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,  
United States of America | SDS Phone Support: +1-978-715-1335 |  
General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to  
4:00 PM Eastern Time (GMT-5)  
  
e-mail: mm\_sds@merckgroup.com

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

## SECTION 2. Hazards identification

### GHS Classification

Acute toxicity, Category 4, Oral, H302  
Respiratory sensitization, Category 1, H334  
Skin sensitization, Category 1, H317  
Germ cell mutagenicity, Category 2, H341  
Carcinogenicity, Category 1B, Inhalation, H350i  
Reproductive toxicity, Category 1B, H360F  
Acute aquatic toxicity, Category 1, H400  
Chronic aquatic toxicity, Category 1, H410

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*

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according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number  
Product name

802540  
Cobalt(II) chloride anhydrous for synthesis

Version 1.0

Danger

### *Hazard Statements*

H350i May cause cancer by inhalation.  
H360F May damage fertility.  
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.  
H410 Very toxic to aquatic life with long lasting effects.

### *Precautionary Statements*

P201 Obtain special instructions before use.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Restricted to professional users.

### **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Formula	CoCl <sub>2</sub>	Cl <sub>2</sub> Co (Hill)
CAS-No.	7646-79-9	
Molar mass	129.83 g/mol	

### **Hazardous ingredients**

*Chemical Name ( Concentration)*

CAS-No.

*Cobalt(II) chloride ( >= 90 % - <= 100 % )*  
7646-79-9

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

*General advice*

First aider needs to protect himself.

*Inhalation*

After inhalation: fresh air. Call in physician.

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

802540

Version 1.0

Product name

Cobalt(II) chloride anhydrous for synthesis

---

### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

### *Eye contact*

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

irritant effects, Allergic reactions

Symptoms of an acute cobalt intoxication: diarrhea, loss of appetite, drop in body temperature, drop in blood pressure. Toxic effect on kidneys (proteinuria, anuria), heart, and pancreas.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Not combustible.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of:

Hydrogen chloride gas

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Suppress (knock down) gases/vapors/mists with a water spray jet.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts in all circumstances. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

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according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

802540

Version 1.0

Product name

Cobalt(II) chloride anhydrous for synthesis

---

## Environmental precautions

Do not empty into drains.

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at +15°C to +25°C (+59°F to +77°F).

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>Cobalt(II) chloride 7646-79-9</i>			
ACGIH	Time Weighted Average (TWA):	0.02 mg/m <sup>3</sup>	Expressed as: as Co

### Engineering measures

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

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

### Eye/face protection

Safety glasses

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### Other protective equipment:

protective clothing

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# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

802540

Version 1.0

Product name

Cobalt(II) chloride anhydrous for synthesis

---

## *Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## **SECTION 9. Physical and chemical properties**

Physical state	powder
Color	blue
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	735 °C
Boiling point/boiling range	1,920 °F ( 1,049 °C) at 1,013 hPa
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	Does not sustain combustion.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	3.36 g/cm <sup>3</sup> at 77 °F ( 25 °C)
Water solubility	at 68 °F ( 20 °C) soluble
Partition coefficient: n-octanol/water	log Pow: 0.85 (calculated) (Lit.) Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	No information available.

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MATERIAL SAFETY DATA SHEET  
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 802540  
Product name Cobalt(II) chloride anhydrous for synthesis

---

Version 1.0

Viscosity, dynamic No information available.  
Explosive properties Not classified as explosive.  
Ignition temperature not applicable

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**SECTION 10. Stability and reactivity**

**Reactivity**

See below

**Chemical stability**

sublimable

**Possibility of hazardous reactions**

Risk of explosion with:

Alkali metals

Violent reactions possible with:

Oxidizing agents

**Conditions to avoid**

Exposure to moisture.

Exposure to air.

**Incompatible materials**

no information available

**Hazardous decomposition products**

in the event of fire: See section 5.

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**SECTION 11. Toxicological information**

**Information on toxicological effects**

*Likely route of exposure*

Inhalation, Eye contact, Skin contact, Ingestion

*Acute oral toxicity*

LD50 rat: 418 mg/kg (RTECS)

absorption

*Acute inhalation toxicity*

absorption

Symptoms: Irritation symptoms in the respiratory tract.

*Acute dermal toxicity*

LDLO rat: 2,000 mg/kg  
(RTECS)

absorption

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# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 802540  
Product name Cobalt(II) chloride anhydrous for synthesis

---

Version 1.0

### *Skin irritation*

Possible damages: slight irritation

### *Eye irritation*

Possible damages: slight irritation

### *Sensitization*

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

### *CMR effects*

Carcinogenicity:

May cause cancer by inhalation.

Mutagenicity:

Suspected of causing genetic defects.

Reproductive toxicity:

May damage fertility.

### *Specific target organ systemic toxicity - single exposure*

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

### *Specific target organ systemic toxicity - repeated exposure*

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

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	Group 2B: Possibly carcinogenic to humans Cobalt(II) chloride 7646-79-9
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	Confirmed animal carcinogen with unknown relevance to humans. Cobalt(II) chloride 7646-79-9

## **Further information**

Symptoms of an acute cobalt intoxication: diarrhea, loss of appetite, drop in body temperature, drop in blood pressure. Toxic effect on kidneys (proteinuria, anuria), heart, and pancreas.

Further data:

This substance should be handled with particular care.

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## **SECTION 12. Ecological information**

### **Ecotoxicity**

No information available.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

802540

Version 1.0

Product name

Cobalt(II) chloride anhydrous for synthesis

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## Persistence and degradability

No information available.

## Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 0.85

(calculated)

(Lit.) Bioaccumulation is not expected (log Pow <1).

## Mobility in soil

No information available.

## Other adverse effects

*Additional ecological information*

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. ( COBALT DICHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

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### Air transport (IATA)

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. ( COBALT DICHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

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Special precautions for user

no

### Sea transport (IMDG)

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. ( COBALT DICHLORIDE)

Class

9

Packing group

III

Environmentally hazardous

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Product number 802540  
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Version 1.0

Special precautions for user yes  
EmS F-A S-F

**SECTION 15. Regulatory information**

**United States of America**

**OSHA Hazards**

Toxic by ingestion  
Skin sensitizer  
Respiratory sensitizer  
Carcinogen  
Reproductive hazard  
Mutagen

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

**SARA 311/312 Hazards**

Acute Health Hazard  
Chronic Health Hazard

**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313:

*Ingredients*

Cobalt(II) chloride 7646-79-9

**SARA 302**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**Massachusetts Right To Know**

Remarks

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

*Ingredients*

Cobalt(II) chloride

**New Jersey Right To Know**

*Ingredients*

Cobalt(II) chloride

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Product number 802540  
Product name Cobalt(II) chloride anhydrous for synthesis

---

Version 1.0

## Notification status

TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL.

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

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

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.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Date of issue:02/05/2013

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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