

**SAFETY DATA SHEET**

according to the Global Harmonized System (and with all of the information required by the HPR)

Revision Date 06/14/2018

Version 1.6

**SECTION 1. Identification****Product identifier**

Product number	102536
Product name	Cobalt(II) nitrate hexahydrate for analysis EMSURE®
CAS-No.	10026-22-9

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

Identified uses	Reagent for analysis
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**Details of the supplier of the safety data sheet**

Company	Millipore (Canada) Ltd   109 Woodbine Downs Blvd. Unit 5   Etobicoke   Ontario M9W 6Y1   Canada   General Inquiries: +1 800-645-5476   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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<b>Emergency telephone</b>	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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**SECTION 2. Hazards identification****GHS Classification**

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, H360

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

**GHS-Labeling***Hazard pictograms*

*Signal Word*  
Danger

*Hazard Statements*

H350i May cause cancer by inhalation.  
H360 May damage fertility or the unborn child.

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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.

### *Precautionary Statements*

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272 Contaminated work clothing must not be allowed out of the workplace.

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 person to fresh air and keep comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P321 Specific treatment (see supplemental first aid instructions on this label).

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

### **Other hazards**

None known.

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

Formula	$\text{Co}(\text{NO}_3)_2 \cdot 6 \text{H}_2\text{O}$	$\text{CoN}_2\text{O}_6 \cdot 6 \text{H}_2\text{O}$ $\text{CoN}_2\text{O}_6 \cdot 6 \text{H}_2\text{O}$ (Hill)
Molar mass	291.04 g/mol	

### **Hazardous ingredients**

*Chemical name (Concentration)*

CAS-No.

*Cobalt(II) nitrate hexahydrate (>= 90 % - <= 100 % )*

10026-22-9

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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.

*Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

*Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

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## *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**

agitation, Convulsions

The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.

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.

Allergic reactions

## **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:

nitrogen oxides

### **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*

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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

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

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

Advice for emergency responders:

Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter drains.

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## 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 carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture.

### 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 +5°C to +30°C (+41°F to +86°F).

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>Cobalt(II) nitrate hexahydrate 10026-22-9</i>			
CAD AB OEL	Time Weighted Average (TWA):	0.02 mg/m <sup>3</sup>	Expressed as: as Co
CAD BC OEL	Time Weighted Average (TWA):	0.02 mg/m <sup>3</sup>	Expressed as: as Co
CAD MB OEL	Time Weighted Average (TWA):	0.02 mg/m <sup>3</sup>	Expressed as: as Co
CAD ON OEL	Time Weighted Average (TWAEV):	0.02 mg/m <sup>3</sup>	Expressed as: as Co
CAD SK OEL	8 hour average contamination limit:	0.02 mg/m <sup>3</sup>	Expressed as: as Co
	15 minute average contamination limit:	0.06 mg/m <sup>3</sup>	Expressed as: as Co
OEL (QUE)	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

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## *Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## *Other protective equipment:*

protective clothing

## *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

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## SECTION 9. Physical and chemical properties

Physical state	solid
Color	red brown
Odor	weak
Odor Threshold	No information available.
pH	ca. 4.0 at 100 g/l 68 °F (20 °C)
Melting point	135 °F (57 °C)
Boiling point	No information available.
Flash point	Not applicable

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Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.87 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	2,170 g/l at 212 °F (100 °C)  1,330 g/l at 32 °F (0 °C)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	> 165 °F (> 74 °C) Elimination of water of crystallization
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	ca.800 kg/m <sup>3</sup>

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

sensitive to moisture

### Possibility of hazardous reactions

Risk of explosion with:

ammonium compounds, carbon/soot, oxidizable substances

### Conditions to avoid

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no information available

## 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*

Eye contact, Skin contact, Ingestion

#### *Sensitization*

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

May cause an allergic skin reaction.

#### *CMR effects*

Mutagenicity: Suspected of causing genetic defects.

Carcinogenicity: May cause cancer by inhalation.

Teratogenicity / Reproductive toxicity: May damage fertility or the unborn child.

#### *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) nitrate hexahydrate 10026-22-9

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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) nitrate hexahydrate 10026-22-9

### Further information

After absorption:

Systemic effects:  
agitation, Convulsions

Other information

The following applies to nitrites/nitrates in general: methemoglobinemia after the uptake of large quantities.

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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.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

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## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

LC50 Carassius auratus (goldfish): 66.8 mg/l; 96 h (anhydrous substance) (ECOTOX Database)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 3.4 mg/l; 48 h (anhydrous substance) (ECOTOX Database)

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

#### *Additional ecological information*

Hazard for drinking water supplies.

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.

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 NITRATE)

Class

9

Packing group

III

Environmentally hazardous

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### Air transport (IATA)

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**UN number**

UN 3077

**Proper shipping name**

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

**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 NITRATE)

**Class**

9

**Packing group**

III

**Environmentally hazardous**

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**Special precautions for user**

yes

EmS

F-A S-F

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## SECTION 15. Regulatory information

**United States of America**

**Canada**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

**Notification status**

TSCA:

All components of the product are listed in the 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.

**Labeling**

*Hazard pictograms*



*Signal Word*

Danger

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### *Hazard Statements*

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.

H360 May damage fertility or the unborn child.

H410 Very toxic to aquatic life with long lasting effects.

### *Precautionary Statements*

Prevention

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

P280 Wear protective gloves.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Restricted to professional users.

### **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).

Revision Date 06/14/2018

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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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