

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 13.09.2012

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifiers**

Product name : Cobalt

Product Number : 266671

Brand : Aldrich

Index-No. : 027-001-00-9

CAS-No. : 7440-48-4

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

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Israel Ltd.  
3 PARK RABIN, PLAUT  
7670603 REHOVOT  
ISRAEL

Telephone : +972 8948-4222

Fax : +972 8948-4200

**1.4 Emergency telephone number**

Emergency Phone # : +972 (8) 948-4222

**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Respiratory sensitization (Category 1)

Skin sensitization (Category 1)

Chronic aquatic toxicity (Category 4)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

May cause sensitization by inhalation and skin contact. May cause long-term adverse effects in the aquatic environment.

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008 [CLP]**

Pictogram



Signal word

Danger

Hazard statement(s)

H317

May cause an allergic skin reaction.

H334

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

H413

May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P261

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280

Wear protective gloves.

P342 + P311

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.

Supplemental Hazard

none

Statements

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R42/43

May cause sensitization by inhalation and skin contact.

R53

May cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S22

Do not breathe dust.

S24

Avoid contact with skin.

S37

Wear suitable gloves.

S61

Avoid release to the environment. Refer to special instructions/ Safety data sheets.

**2.3 Other hazards** - none

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

Formula : Co  
Molecular Weight : 58,93 g/mol

Component	Concentration
<b>Cobalt</b>	
CAS-No.	7440-48-4
EC-No.	231-158-0
Index-No.	027-001-00-9
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**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Kidney injury may occur., Damage to the eyes., Lung irritation, Throat., Rash, Vomiting, Diarrhoea

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

no data available

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**5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

## 5.2 Special hazards arising from the substance or mixture

Cobalt/cobalt oxides

## 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 5.4 Further information

no data available

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## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end uses

no data available

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested:Dermatril® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 30 min

Material tested:Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de,  
test method: EN374

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. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges.

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

a) Appearance	Form: Foil Colour: light grey
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: 1.493 - 1.495 °C
f) Initial boiling point and boiling range	2.900 °C - lit.
g) Flash point	not applicable
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	8,9 g/mL at 25 °C
n) Water solubility	insoluble
o) Partition coefficient: n-octanol/water	log Pow: 5
p) Autoignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available

- s) Explosive properties no data available
- t) Oxidizing properties no data available

**9.2 Other safety information**  
no data available

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**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**  
no data available

**10.2 Chemical stability**  
no data available

**10.3 Possibility of hazardous reactions**  
no data available

**10.4 Conditions to avoid**  
Air

**10.5 Incompatible materials**  
Oxidizing agents, Mineral acidsAcetylene, Hydrazinium nitrate, Strong oxidizing agents, Material readily reacts with acids generating flammable and/or explosive hydrogen gas.

**10.6 Hazardous decomposition products**  
Other decomposition products - no data available

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**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity**

LD50 Oral - rat - 6.171 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Ataxia. Diarrhoea

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

May cause allergic respiratory reaction.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt)

2A - Group 2A: Probably carcinogenic to humans (Cobalt)

2B - Group 2B: Possibly carcinogenic to humans (Cobalt)

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt)

2A - Group 2A: Probably carcinogenic to humans (Cobalt)

2B - Group 2B: Possibly carcinogenic to humans (Cobalt)

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

**Signs and Symptoms of Exposure**

Kidney injury may occur., Damage to the eyes., Lung irritation, Throat., Rash, Vomiting, Diarrhoea

**Additional Information**

RTECS: GF8750000

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to algae IC50 - Pseudokirchneriella subcapitata (green algae) - 0,05 mg/l - 72 h

**12.2 Persistence and degradability****12.3 Bioaccumulative potential**Bioaccumulation Rudarius ercodes - 8 Weeks -990 µg/l  
Bioconcentration factor (BCF): 2,16**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Very toxic to aquatic life.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 3077 IMDG: 3077 IATA: 3077

**14.2 UN proper shipping name**ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt)  
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cobalt)  
IATA: Environmentally hazardous substance, solid, n.o.s. (Cobalt)**14.3 Transport hazard class(es)**

ADR/RID: 9 IMDG: 9 IATA: 9

**14.4 Packaging group**

ADR/RID: III IMDG: III IATA: III

**14.5 Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

## 14.6 Special precautions for user

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

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## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

### 15.2 Chemical Safety Assessment

no data available

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## 16. OTHER INFORMATION

### Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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