

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY / UNDERTAKING

Product name	Cobalt powder
Product code	NM-0007
CAS	7440-48-4
REACH No.	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
Identified uses	Laboratory chemicals, Manufacture of substances
Supplier	IoLiTec Ionic Liquids Technologies GmbH Salzstrasse 184 D – 74076 Heilbronn Germany
Telephone	+49 (0)7131-89839-0
Fax	+49 (0)7131-89839-109
Emergency telephone	+49 (0)176-84850874
Email	msds@iolitec.de

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable solids, Category 1, H228

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

Respiratory sensitisation, Category 1; H334

Skin sensitisation, Category 1; H317

Hazardous to the aquatic environment, Chronic Category 4; H413

Classification (67/548/EEC or 1999/45/EC)

Flammable solid. Very toxic to aquatic organisms. May cause sensitization by skin contact.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008, GHS)

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317

May cause an allergic skin reaction

H413

May cause long lasting harmful effects to aquatic life

Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces . - No smoking.

P261

Avoid breathing dust/fume .

P273

Avoid release to the environment.

P280

Wear protectic gloves/ protective clothing/ eye protection/ face protection.

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

P285 In case of inadequate ventilation wear respiratory protection

P370 + P378 In case of fire: Use sand or fire extinguisher class D for extinction.

P422 Store contents under inert gas.

Caution - substance not yet tested completely.

Supplemental Hazard Statements none

Labelling (67/548/EEC or 1999/45/EC)

Hazard symbol(s)



R-phrases(s)

R11 Highly flammable.

R42/43 May cause sensitization by inhalation and skin contact.

R53 May cause long-term adverse effects in the aquatic environment.

S-phrases(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.

Caution - substance not yet tested completely.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient name	Contents	Health(Class)	Risk(R/No.)
Cobalt (partially passivated w/[O] ~10%)	99.8%		Substance not yet fully tested!

Formula	Molecular Weight
Co	58.93 g/mol

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

4 FIRST AID MEASURES

General	Contaminated clothing should be removed and washed before being reused.
Inhalation	Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/ oxygen.
Ingestion	Immediately rinse mouth and provide fresh air. Do not induce vomiting. Get medical attention immediately.
Skin	Wash the skin immediately with soap and water. Get medical attention immediately.
Eyes	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

5 FIRE FIGHTING MEASURES

Extinguishing media	Extinguishing powder. DO NOT USE WATER.
Unsuitable extinguishing agents	Water
Special fire fighting procedures	-
Unusual fire & explosion hazards	Toxic metal oxide fume can be released in case of fire
Protective measures in fire	Wear self-contained breathing apparatus as combustion may produce hazardous fumes.

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

6 ACCIDENTAL RELEASE MEASURES

Personal precautions during spill Wear protective clothing and avoid inhalation as well as skin or eye contact. Keep away from ignition sources.

Precautions to protect environment Do not wash into water courses. Do not allow this material to be released to the environment without proper governmental permits.

Spill cleanup methods Avoid contact with skin or inhalation of spillage, dust or vapor, Avoid dust formation. Collect and reclaim or dispose in sealed containers in license waste. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

7 HANDLING AND STORAGE

Usage precautions Keep away from heat, sparks and open flame. Do not use in confined spaces without adequate ventilation. Keep container tightly sealed.

Dust can combine with air to form an explosive mixture.

Storage precautions Store in a tightly closed container in a cool, dry, well ventilated area.

Storage criteria Chemical storage.

Do not store together with oxidizing and acidic materials.

Store under dry inert gas.

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 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.

Body Protection

Impervious clothing. 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).

Exposure Limits

<u>Cobalt</u>	<u>mg/m³</u>
ACGIH TLV	0.02; confirmed animal carcinogen
Austria	carcinogen
Belgium TWA	0.05
Denmark TWA	0.05
Finland TWA	0.05 (Skin)
Germany	Carcinogen
Hungary TWA	0.1; 0.2-STEL

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

Japan OEL	0.05; 2B-Carcinogen
Korea TLV	0.02 ; Confirmed animal carcinogen
Netherland MAC-TGG	0.05
Norway TWA	0.05
Poland TWA	0.05; 0.2-STEL
Russia	0.5-STEL
Sweden NGV	0.05
Switzerland MAK-W	0.1-Carcinogen
United Kingdom TWA	0.1
USA PEL	0.1 (dust and fume)

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Powder
Color	Black
Odor/taste	No characteristic odor.
Boiling Point	2900 °C
Melting Point	1495 °C
SG/Density	8.92 g/cm ³ at 20°C
Solubility in Water	Insoluble

10 STABILITY AND REACTIVITY

Stability	No particular stability concerns.
Conditions to avoid	Oxidizing materials, acids, air, Interhalogens.
Dangerous reactions	Powder may cause fire
Dangerous products of Decomposition	Toxic metal oxide fume

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

11 TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 ora-rat 6170 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

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

Ingestion

Harmful if swallowed.

Inhalation

Harmful to mucous membranes.

Skin

Irritating

Eyes

Irritating

Sensitization

Possible through inhalation or skin contact

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

Other information

Tumorigenic effects have been observed on tests with laboratory animals. Mutagenic effects have been observed on tests with human and/or animal DNA cells.

Additional Information

RTECS: Not available

Full Data on the toxicity of this product are not available. Hazardous properties cannot be excluded.

12 ECOLOGICAL INFORMATION

Environmental hazards

Do not allow material to be released to the environment without proper governmental permits.

13 DISPOSAL CONSIDERATIONS

Disposal method

Contact specialist disposal companies.
Dispose of in accordance with Local Authority requirements. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

UN number: UN 3089

UN proper shipping name

ADR/RID: METAL POWDER, FLAMMABLE, N.O.S.
(COBALT)

IMDG: METAL POWDER, FLAMMABLE, N.O.S.
(COBALT)

IATA: Metal powder, flammable, n.o.s. (cobalt)

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

Packaging group

ADR/RID: II

IMDG: II

IATA: II

15 REGULATORY INFORMATION

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

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

no data available

Chemical Safety Assessment

no data available

Country specific information:

Germany

Substance No: 8026

WGK 3 - severe hazard to waters

Classification of the Commission for the Evaluation of Substances Hazardous to Water (KBwS)

Material Safety Data Sheet

Cobalt powder

Revision Date: 8/14/2019

Date Issued: 8/14/2019

16 OTHER INFORMATION

DISCLAIMER

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPOSED TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. IOLITEC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

IN NO WAY SHALL IOLITEC BE LIABLE FOR ANY CLAIMS, LOSSES OR DAMAGES OF ANY THIRD PARTY OR FOR THE LOST PROFITS OR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES, HOWSOEVER ARISING, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.