

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Cobalt(II,III) oxide

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

According to Regulation (EC) No1272/2008

Skin sensitization (Category 1)

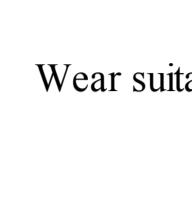
Carcinogenicity (Category 2)

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

Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

### Label elements

Pictogram



Signal word Warning

Hazard statement(s)

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

Precautionary statement(s)

P280 Wear protective gloves.

Hazard symbol(s)

Xn Harmful

R-phrase(s)

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitization by skin contact.

S-phrase(s)

S36/37 Wear suitable protective clothing and gloves.

Other hazards - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : Co<sub>3</sub>O<sub>4</sub>

Molecular Weight : 240,8 g/mol

CAS-No.	EC-No.	Classification	Concentration
<b>Tricobalt tetroxide</b>			
1308-06-1	215-157-2	-	-
		Skin Sens. 1; Carc. 2; H317, H351 Xn, R40 - R43	

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

## 4. 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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

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

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

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

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

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

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage

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

hygroscopic

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

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

Handle with gloves.

#### Eye protection

Face shield and safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form powder

### Safety data

pH no data available

Melting point 895 °C - dec.

Boiling point no data available

Flash point not applicable

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Density 6,11 g/mL at 25 °C

Water solubility insoluble

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

Avoid moisture.

### Materials to avoid

Reducing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Cobalt/cobalt oxides

### Thermal decomposition

> 900 °C

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - > 5.000 mg/kg

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LC50 Inhalation - rat - 4 h - > 4830 ppm

LD50 Dermal - rat - > 2.000 mg/kg

### Skin corrosion/irritation

Skin - rat - No skin irritation

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

May cause allergic skin reaction.

### Germ cell mutagenicity

no data available

### Carcinogenicity

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

Limited evidence of carcinogenicity in animal studies

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

### 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

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Ingestion** May be harmful if swallowed.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

### Signs and symptoms of exposure

Effects and symptoms of exposure: Burning pain in mouth, throat and stomach. Prolonged or repeated exposure may cause: Fatigue, Cardiac irregularities, Convulsions, Vomiting

### Additional Information

RTECS: GG2500000

## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish

LC50 - Danio rerio (zebra fish) - > 136 mg/l - 96 h

Toxicity to daphnia

EC50 - Daphnia magna (water flea) - > 136 mg/l - 48 h

and other aquatic

invertebrates

Toxicity to algae

EC50 - Pseudokirchneriella subcapitata (green algae) - 88 mg/l - 72 h

Toxicity to other

organisms

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste

disposal service if disposal of this material. Dissolve or mix with a combustible solvent and burn

in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### ADR/RID

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

## 15. REGULATORY INFORMATION

### Text of H-code(s) and R-phrase(s) mentioned in Section 3