

## Section 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product name:** COBALT (II,III) OXIDE

**CAS number:** 1308-06-1

**EINECS number:** 215-157-2

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

**Use of substance / mixture:** PC21: Laboratory chemicals. PROC15: Use as laboratory reagent

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

**Company name:** Elemental Microanalysis Ltd  
1 Hameldown Road Okehampton  
Okehampton  
Devon  
EX20 1UB  
United Kingdom  
**Tel:** 44(0)183754446  
**Fax:** 44(0)183754544  
**Email:** [info@microanalysis.co.uk](mailto:info@microanalysis.co.uk)

### 1.4. Emergency telephone number

**Emergency tel:** +44 (0) 7990 767375  
(office hours only)

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification under CLP:** \* Acute Tox. 4: H312; Aquatic Chronic 3: H412; Resp. Sens. 1: H334

**Most important adverse effects:** Harmful in contact with skin. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

**Label elements:**

**Hazard statements:** \* H312: Harmful in contact with skin.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H412: Harmful to aquatic life with long lasting effects.

**Hazard pictograms:** GHS07: Exclamation mark

GHS08: Health hazard



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**Signal words:** Danger

**Precautionary statements:** \* P280: Wear protective gloves/protective clothing/eye protection/face protection.

P284: Wear respiratory protection.

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

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P321: Specific treatment (see instructions on this label)

P362+P364: Take off contaminated clothing and wash it before reuse.

## 2.3. Other hazards

**Other hazards:** Danger of serious damage to health by prolonged exposure.

**PBT:** This product is not identified as a PBT/vPvB substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** COBALT (II,III) OXIDE.

**CAS number:** 1308-06-1

**EINECS number:** 215-157-2

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** \* Wash immediately with plenty of soap and water.

**Eye contact:** \* Bathe the eye with running water for 15 minutes.

**Ingestion:** Wash out mouth with water. Consult a doctor.

**Inhalation:** \* Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** \* There may be irritation of the throat. There may be shortness of breath due to congestion of the lungs.

**Inhalation:** \* Exposure may cause coughing or wheezing. There may be congestion of the lungs causing severe shortness of breath.

**Delayed / immediate effects:** Delayed effects can be expected after long-term exposure.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Immediate / special treatment:** Not applicable.

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## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** In combustion emits toxic fumes.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

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

**Personal precautions:** \* If outside do not approach from downwind. Notify the police and fire brigade immediately. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Do not create dust.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers. Alert the neighbourhood to the presence of fumes or gas.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 6.4. Reference to other sections

**Reference to other sections:** Refer to section 8 of SDS.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** \* Ensure there is exhaust ventilation of the area. Avoid the formation or spread of dust in the air.

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

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed.

### 7.3. Specific end use(s)

**Specific end use(s):** No data available.

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## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Hazardous ingredients:**

COBALT (II,III) OXIDE.

**Workplace exposure limits:**

**Respirable dust:**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
EU	0.1 mg/m <sup>3</sup>	-	-	-

### DNEL/PNEC Values

**DNEL / PNEC** No data available.

### 8.2. Exposure controls

**Engineering measures:** Ensure there is exhaust ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be used in handling. Respiratory protective device with particle filter.

**Hand protection:** Protective gloves.

**Eye protection:** Safety glasses. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

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

**State:** Powder

**Colour:** Black

**Odour:** Odourless

**Evaporation rate:** No data available.

**Oxidising:** No data available.

**Solubility in water:** Insoluble

**Boiling point/range°C:** No data available.

**Melting point/range°C:** 895

**Flammability limits %: lower:** No data available.

**upper:** No data available.

**Flash point°C:** No data available.

**Part.coeff. n-octanol/water:** No data available.

**Autoflammability°C:** No data available.

**Vapour pressure:** No data available.

**Relative density:** 6.11

**pH:** No data available.

**VOC g/l:** No data available.

### 9.2. Other information

**Other information:** No data available.

## Section 10: Stability and reactivity

[cont...]

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## 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions.

## 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.  
Decomposition may occur on exposure to conditions or materials listed below.

## 10.4. Conditions to avoid

**Conditions to avoid:** Heat.

## 10.5. Incompatible materials

**Materials to avoid:** Strong oxidising agents. Strong acids.

## 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**Hazardous ingredients:**

**COBALT (II,III) OXIDE.**

DERMAL	RAT	LD50	2000	mg/kg
DUST/MIST	RAT	4H LC50	5.06	mg/kg
ORAL	RAT	LD50	5000	mg/kg

**Relevant hazards for product:**

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	DRM	Hazardous: calculated
Respiratory/skin sensitisation	INH	Hazardous: calculated

### Symptoms / routes of exposure

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** \* There may be irritation of the throat. There may be shortness of breath due to congestion of the lungs.

**Inhalation:** \* Exposure may cause coughing or wheezing. There may be congestion of the lungs causing severe shortness of breath.

**Delayed / immediate effects:** Delayed effects can be expected after long-term exposure.

[cont...]

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## Section 12: Ecological information

### 12.1. Toxicity

**Hazardous ingredients:**

**COBALT (II,III) OXIDE.**

ALGAE	72H IC50	88	mg/l
Daphnia magna	48H EC50	136	mg/l

### 12.2. Persistence and degradability

**Persistence and degradability:** Biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No bioaccumulation potential.

### 12.4. Mobility in soil

**Mobility:** No data available.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This product is not identified as a PBT/vPvB substance.

### 12.6. Other adverse effects

**Other adverse effects:** Negligible ecotoxicity.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Transfer to a suitable container and arrange for collection by specialised disposal company.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

**Transport class:** This product does not require a classification for transport.

## Section 15: Regulatory information

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

**Specific regulations:** Not applicable.

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16: Other information

[cont...]

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## Other information

**Other information:** according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

This safety data sheet is prepared in accordance with Commission Regulation (EC) No 1272/2008.

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:** H312: Harmful in contact with skin.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H412: Harmful to aquatic life with long lasting effects.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.