

## SAFETY DATA SHEET

COBALT(III)FLUORIDE

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Compilation date: 18/11/2002

Revision date: 25/11/2011

Revision No: 2

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

#### 1.1. Product identifier

**Product name:** COBALT(III)FLUORIDE

**CAS number:** 10026-18-3

**EINECS number:** 233-062-4

**Product code:** PC5678

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

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

**Company name:** Apollo Scientific Ltd

Units 3 & 4

Parkway

Denton

Manchester

M34 3SG

UK

**Tel:** 0161 337 9971

**Fax:** 0161 336 6932

**Email:** david.tideswell@apolloscientific.co.uk

#### 1.4. Emergency telephone number

### Section 2: Hazards identification

#### 2.1. Classification of the substance or mixture

**Classification under CHIP:** O: R8; Xn: R20/21/22; C: R34; Xn: R40; Sens.: R43

**Classification under CLP:** Acute Tox. 4: H302+312+332; Carc. 2: H351; Skin Corr. 1B: H314; Skin Sens. 1: H317;  
Ox. Sol. 3: H272

**Most important adverse effects:** Contact with combustible material may cause fire. Harmful by inhalation, in contact with skin and if swallowed. Causes burns. Limited evidence of a carcinogenic effect. May cause sensitisation by skin contact.

#### 2.2. Label elements

##### Label elements under CLP:

**Hazard statements:** H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H272: May intensify fire; oxidiser.

H351: Suspected of causing cancer.

[cont...]

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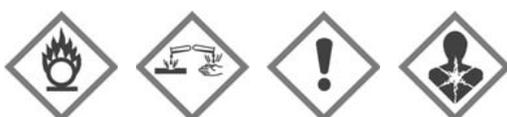
**Signal words:** Danger

**Hazard pictograms:** GHS03: Flame over circle

GHS05: Corrosion

GHS07: Exclamation mark

GHS08: Health hazard



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

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Label elements under CHIP:**

**Hazard symbols:** Oxidising.

Corrosive.



**Risk phrases:** R8: Contact with combustible material may cause fire.

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

R34: Causes burns.

R40: Limited evidence of a carcinogenic effect.

R43: May cause sensitisation by skin contact.

**Safety phrases:** S17: Keep away from combustible material.

S24/25: Avoid contact with skin and eyes.

S36/37/39: Wear suitable protective clothing, gloves and eye / face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 2.3. Other hazards

**PBT:** This substance is not identified as a PBT substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** COBALT(III)FLUORIDE

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Wash immediately with plenty of soap and water. Consult a doctor.

**Eye contact:** Bathe the eye with running water for 15 minutes. Consult a doctor.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

[cont...]

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

**Skin contact:** Causes burns Strong corrosive effect on skin and mucous membranes May cause sensitization by skin contact.

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

**Ingestion:** Swallowing will lead to strong caustic effect on mouth and throat, to the danger of perforation of esophagus and stomach

**Inhalation:** There may be a feeling of tightness in the chest with shortness of breath.

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

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

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Carbon dioxide, dry chemical powder, foam. Suitable extinguishing media for the surrounding fire should be used. Do not use water.

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

**Exposure hazards:** Corrosive. Oxidising. In combustion emits toxic fumes. Hydrogen fluoride (HF). Cobalt oxides.

### 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:** Remove all incompatible materials as outlined in section 10 of SDS.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers.

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

**Clean-up procedures:** 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 sufficient ventilation of the area. Avoid the formation or spread of dust in the air. Only use in fume hood.

[cont...]

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

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed. Avoid incompatible materials and conditions - see section 10 of SDS. Moisture sensitive. Air sensitive. Store under Argon.

**Suitable packaging:** Must only be kept in original packaging.

## 7.3. Specific end use(s)

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

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Workplace exposure limits:** Not applicable.

### 8.2. Exposure controls

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

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

**Hand protection:** Protective gloves.

**Eye protection:** Safety goggles.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

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

**State:** Powder

**Colour:** Light Brown

**Odour:** Acrid

**Oxidising:** Oxidising (by EC criteria)

**Solubility in water:** Reacts with water.

**Relative density:** 3.88 g/cm<sup>3</sup>

### 9.2. Other information

**Other information:** Not applicable.

## Section 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions. Reacts with reducing agents.

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions. Stable at room temperature.

[cont...]

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## 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.  
Oxidiser: will readily oxidize other materials that come into contact with it. Reacts with water to liberate oxygen. Incandescens with silicon.

## 10.4. Conditions to avoid

**Conditions to avoid:** Heat. Flames. Sources of ignition. Air. Moist air. Humidity.

## 10.5. Incompatible materials

**Materials to avoid:** Organic materials. Combustible material Reducing agents. Finely powdered metals.  
Water. Strong acids.

## 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes. Hydrogen fluoride (HF). Oxides of Cobalt.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	INH DRM ING	Based on test data
Skin corrosion/irritation	DRM	Based on test data
Serious eye damage/irritation	OPT	Based on test data
Respiratory/skin sensitisation	DRM	Based on test data
Carcinogenicity	--	Based on test data

### Symptoms / routes of exposure

**Skin contact:** Causes burns Strong corrosive effect on skin and mucous membranes May cause sensitization by skin contact.

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

**Ingestion:** Swallowing will lead to strong caustic effect on mouth and throat, to the danger of perforation of esophagus and stomach

**Inhalation:** There may be a feeling of tightness in the chest with shortness of breath.

**Other information:** Carcinogenicity IARC=2B: possibly carcinogenic to humans ACGIH A3: Animal carcinogen.

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** Not applicable.

### 12.2. Persistence and degradability

**Persistence and degradability:** No data available.

[cont...]

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## 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No data available.

## 12.4. Mobility in soil

**Mobility:** No data available.

## 12.5. Results of PBT and vPvB assessment

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

## 12.6. Other adverse effects

**Other adverse effects:** No data available.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

**Disposal of packaging:** Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations.

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

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN3084

### 14.2. UN proper shipping name

**Shipping name:** CORROSIVE SOLID, OXIDIZING, N.O.S.

### 14.3. Transport hazard class(es)

**Transport class:** 8 (5.1)

### 14.4. Packing group

**Packing group:** II

### 14.5. Environmental hazards

**Environmentally hazardous:** No

**Marine pollutant:** No

### 14.6. Special precautions for user

**Special precautions:** No special precautions.

**Tunnel code:** E

**Transport category:** 2

## Section 15: Regulatory information

[cont...]

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

## 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

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

\* Data predicted using computational software. Toxtree - Toxic Hazard Estimation by decision tree approach. <http://ecb.jrc.ec.europa.eu/qsar/qsar-tools/index.php?c=TOXTREE>

~ Data predicted using computational software ACD/ToxSuite v 2.95.1 Copyright 1994-2009 ACD/labs, Copyright 2001-2009 Pharma Algorithms, Inc, Advanced Chemistry Development, Inc (ACD/Labs). [http://www.acdlabs.com/products/pc\\_admet/tox/tox/](http://www.acdlabs.com/products/pc_admet/tox/tox/)

**Phrases used in s.2 and 3:** H272: May intensify fire; oxidiser.  
H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H351: Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.  
R8: Contact with combustible material may cause fire.  
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.  
R34: Causes burns.  
R40: Limited evidence of a carcinogenic effect.  
R43: May cause sensitisation by skin contact.

**Legal disclaimer:** The material is intended for research purposes only and should be handled exclusively by those who have been fully trained in safety, laboratory and chemical handling procedures. The above information is believed to be correct to the best of our knowledge. The above information is believed to be correct to the best of our knowledge at the date of its publication, but should not be considered to be all inclusive. It should be used only as a guide for safe handling, storage, transportation and disposal. We cannot guarantee that the hazards detailed in this document are the only hazards that exist for this product. This is not a warranty and Apollo Scientific Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.