

SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 1

Compilation date: 07/03/2016

Revision No: 1

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

1.1. Product identifier

Product name: TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

CAS number: 67969-82-8

EINECS number: 267-983-8

Product code: PC450290

Synonyms: FLUOROBORIC ACID DIETHYL ETHER COMPLEX

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 CLP: Skin Corr. 1B: H314; Water-react. 3: H261; -: EUH014

Most important adverse effects: In contact with water releases flammable gases. Causes severe skin burns and eye damage. Reacts violently with water.

2.2. Label elements

Label elements:

Hazard statements: H261: In contact with water releases flammable gases.

H314: Causes severe skin burns and eye damage.

EUH014: Reacts violently with water.

Signal words: Danger

Hazard pictograms: GHS02: Flame

GHS05: Corrosion



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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 2

Precautionary statements: P231+232: Handle under inert gas. Protect from moisture.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P310: Immediately call a POISON CENTER/doctor/.

2.3. Other hazards

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

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

CAS number: 67969-82-8

EINECS number: 267-983-8

Section 4: First aid measures

4.1. Description of first aid measures

- Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin.
Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.
- Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.
- Ingestion:** Wash out mouth with water. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.
- Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. 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:** Blistering may occur. Progressive ulceration will occur if treatment is not immediate.
- Eye contact:** Corneal burns may occur. May cause permanent damage.
- Ingestion:** Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.
- Inhalation:** There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.

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

Section 5: Fire-fighting measures

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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 3

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. In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Hydrogen fluoride (HF). Borane/boron 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: 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. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

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. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of mists in the air. Only use in fume hood.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed. Product reacts with water. Take precautions to avoid contact with atmospheric moisture. Moisture sensitive. Store under Argon. Recommended storage temp 2-8 °C.

Suitable packaging: Must only be kept in original packaging. Do not use glass.

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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 4

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: No data available.

DNEL/PNEC Values

DNEL / PNEC No data available.

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.

Hand protection: Impermeable gloves. Breakthrough time of the glove material > 8 hours. the selected protective gloves have to satisfy the specs of EU directive 89/686/EEC & the standard EN 374.

Eye protection: Tightly fitting safety goggles. Ensure eye bath is to hand.

Skin protection: Impermeable protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: colourless - yellow

Solubility in water: Reacts with water.

Flash point °C: 129

Relative density: 1.19

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions. Reacts violently with water

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.

10.4. Conditions to avoid

Conditions to avoid: Heat. Moisture. Reacts violently with water, liberating toxic and highly flammable gases

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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 5

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Boron Oxides.
Hydrogen fluoride (HF).

Section 11: Toxicological information

11.1. Information on toxicological effects

Relevant hazards for substance:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact: Corneal burns may occur. May cause permanent damage.

Ingestion: Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.

Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: No data available.

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 product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: No data available.

Section 13: Disposal considerations

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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 6

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company. 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: UN3129

14.2. UN proper shipping name

Shipping name: WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.

14.3. Transport hazard class(es)

Transport class: 4.3 (8)

14.4. Packing group

Packing group: II

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: D/E

Transport category: 0

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

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?>

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SAFETY DATA SHEET

TETRAFLUOROBORIC ACID DIETHYL ETHER COMPLEX

Page: 7

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~ 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/

Phrases used in s.2 and s.3: EUH014: Reacts violently with water.

H261: In contact with water releases flammable gases.

H314: Causes severe skin burns and eye damage.

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.