

SAFETY DATA SHEET
4,4,4-TRIFLUOROBUTYRIC ACID

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Issued: 15/05/2007

Revision No: 1

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

Product name: 4,4,4-TRIFLUOROBUTYRIC ACID

CAS number: 406-93-9

Product code: PC7292

Use / description of product: Corrosive. Solid.

Company name: Apollo Scientific Ltd
Bredbury, Stockport, SK6 2QR, Tel 0161 406 0505

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients: 4,4,4-TRIFLUOROBUTYRIC ACID >90%

3. HAZARDS IDENTIFICATION

Main hazards: Causes burns.

4. FIRST AID MEASURES (SYMPTOMS)

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. FIRST AID MEASURES (ACTION)

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.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Carbon dioxide. Dry chemical powder.

Exposure hazards: Corrosive. In combustion emits toxic fumes.

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Protection of fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

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. Do not create dust.

Environmental precautions: Do not discharge into drains or rivers.

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.

7. HANDLING AND STORAGE

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 dust in the air. only use in fume hood

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

Suitable packaging: Must only be kept in original packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Skin protection: Protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

State: Solid

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to avoid: Heat.

Materials to avoid: Strong oxidising agents. Strong acids.

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

11. TOXICOLOGICAL INFORMATION

Chronic toxicity: MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

Routes of exposure: Refer to section 4 of SDS for routes of exposure and corresponding symptoms. MAY BE HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN

12. ECOLOGICAL INFORMATION**Mobility:** Data not yet known**Persistence and degradability:** No data available.**Bioaccumulative potential:** No data available.**Other adverse effects:** Data not known**13. DISPOSAL CONSIDERATIONS****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.**14. TRANSPORT INFORMATION****ADR / RID****UN no:** 1759**ADR Class:** 8**Packing group:** III**Classification code:** C10**Shipping name:** CORROSIVE SOLID, N.O.S.**Labelling:** 8**Hazard ID no:** 80**IMDG / IMO****UN no:** 1759**Class:** 8**Packing group:** III**EmS:** F-A,S-B**Marine pollutant:** .**Labelling:** 8**IATA / ICAO****UN no:** 1759**Class:** 8**Packing group:** III**Packing instructions:** 822(P&CA); 823(CAO)**Labelling:** 8**15. REGULATORY INFORMATION****Hazard symbols:** Corrosive.

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Risk phrases: R34: Causes burns.

Safety phrases: S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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).

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

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.