

SAFETY DATA SHEET

Z-1,2,3,3,3-PENTAFLUOROPROPENE (MIXTURE OF CIS/TRANS ISOMERS)

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Issued: 07/12/2005

Revision No: 2

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

Product name: Z-1,2,3,3,3-PENTAFLUOROPROPENE (MIXTURE OF CIS/TRANS ISOMERS)

CAS number: 2252-83-7

Product code: PC0752

Use / description of product: Irritant. Liquified gas

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

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients: Z-1,2,3,3,3-PENTAFLUOROPROPENE (MIXTURE OF CIS/TRANS ISOMERS) >90%

3. HAZARDS IDENTIFICATION

Main hazards: Irritating to eyes, respiratory system and skin.

4. FIRST AID MEASURES (SYMPTOMS)

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

4. FIRST AID MEASURES (ACTION)

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water.

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

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

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

5. FIRE-FIGHTING MEASURES

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

Exposure hazards: In combustion emits toxic fumes.

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: Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

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

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Clean-up procedures: Absorb into dry earth or sand. 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 mists 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.

Hand protection: Protective gloves.

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

Skin protection: Protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

State: Gas

Colour: Colourless

Odour: Odourless

Solubility in water: negligible

Boiling point/range°C: -18

Vapour pressure: 760mmHg@-18C

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to avoid: Store protected from moisture and heat

Materials to avoid: Strong oxidising agents. Strong acids. Alkali metals.

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide. In combustion emits toxic fumes of hydrogen fluoride.

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: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

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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: 3163

ADR Class: 2

Classification code: 2A

Shipping name: LIQUEFIED GAS, N.O.S. (1,2,3,3,3-PENTAFLUOROPROPENE (MIXTURE OF CIS/TRANS ISOMERS))

Labelling: 2.2

Hazard ID no: 20



IMDG / IMO

UN no: 3163

Class: 2.2

EmS: F-C,S-V

Marine pollutant: .

Labelling: 2.2

IATA / ICAO

UN no: 3163

Class: 2

Packing instructions: 200

Labelling: 2.2

15. REGULATORY INFORMATION

Hazard symbols: Irritant.



Risk phrases: R36/37/38: Irritating to eyes, respiratory system and skin.

Safety phrases: S3/7: Keep container tightly closed in a cool place.

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

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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.