

SAFETY DATA SHEET
PERFLUOROBUT-2-ENE (FC-1318MY) 97%

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Compilation date: 20/06/2005
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Revision No: 5

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

1.1. Product identifier

Product name: PERFLUOROBUT-2-ENE (FC-1318MY) 97%
CAS number: 360-89-4
EINECS number: 206-640-9
Product code: PC5904
Synonyms: OCTAFLUOROBUT-2-ENE

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: Press. Gas: H280; Acute Tox. 4: H332; -: EUH044
Most important adverse effects: Contains gas under pressure; may explode if heated. Harmful if inhaled. Risk of explosion if heated under confinement.

2.2. Label elements

Label elements:
Hazard statements: H280: Contains gas under pressure; may explode if heated.
H332: Harmful if inhaled.
EUH044: Risk of explosion if heated under confinement.
Signal words: Warning
Hazard pictograms: GHS04: Gas cylinder
GHS07: Exclamation mark

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Precautionary statements: P251: Do not pierce or burn, even after use.
P260: Do not breathe vapours.
P271: Use only outdoors or in a well-ventilated area.

2.3. Other hazards

Other hazards: Risk of explosion if heated under confinement.
PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: PERFLUOROBUT-2-ENE (FC-1318MY) 97%
CAS number: 360-89-4
EINECS number: 206-640-9

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: Not applicable.
Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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: It is unlikely that this substance will be swallowed due to its physical properties.
Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing. Drowsiness or mental confusion may occur. Convulsions may occur. There may be loss of consciousness.

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

Immediate / special treatment: Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

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. Use water spray to cool containers.

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5.2. Special hazards arising from the substance or mixture

Exposure hazards: Harmful. In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
Hydrogen fluoride (HF).

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. Cylinder may explode under conditions of fire.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Evacuate the area 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.

6.2. Environmental precautions

Environmental precautions: Alert the neighbourhood to the presence of fumes or gas.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Ventilate area.

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. Ensure there is exhaust ventilation of the area. Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Fire or intense heat may cause violent rupture.

7.2. Conditions for safe storage, including any incompatibilities

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

Suitable packaging: Must only be kept in original packaging. Contents under pressure.

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.

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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.

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: Pressurised gas

Colour: Colourless

Boiling point/range°C: 1.2

Melting point/range°C: -136 to -134

Vapour pressure: 15psia/21°C

Relative density: 1.5297

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.

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. Hot surfaces. Flames.

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 of carbon dioxide / carbon monoxide. Hydrogen fluoride (HF).

Section 11: Toxicological information

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11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
GASES	RAT	4H LCLo	6100	ppmV

Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	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: It is unlikely that this substance will be swallowed due to its physical properties.

Inhalation: There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing. Drowsiness or mental confusion may occur. Convulsions may occur. There may be loss of consciousness.

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

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.

[cont...]

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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: UN2422

14.2. UN proper shipping name

Shipping name: OCTAFLUOROBUT-2-ENE (R 1318)

14.3. Transport hazard class(es)

Transport class: 2

14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: C/E

Transport category: 3

Section 15: Regulatory information

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. The OECD QSAR-Toolbox for grouping chemicals into categories. Developed by LMC bulgaria.

<http://echa.europa.eu/support/oecd-qsar-toolbox>

~ 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: EUH044: Risk of explosion if heated under confinement.

H280: Contains gas under pressure; may explode if heated.

H332: Harmful if inhaled.

[cont...]

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