

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Fire Extinguisher

Product number: BA24320#-1

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

Identified uses: Extinguisher

1.3 Details of the supplier of the safety data sheet

Manufacturer: FFE Ltd
9 Hunting Gate
Hitchin
Hertfordshire
SG4 0TJ
01462 444 740
www.ffeuk.com

1.4 Emergency telephone number

+44-(0)8456-006.640

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance of mixture

Gases under pressure, Liquefied gas Specific target organ toxicity - single exposure, Category 3

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

H336: May cause drowsiness or dizziness. (Central nervous system)

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

2.2 Label elements



H280 Contains gas under pressure; may explode if heated.

H336 May cause drowsiness or dizziness.

2.3 Special labelling of certain substances and mixtures;

Contains: 1,1,1,3,3,3-Hexafluoropropane / Contains fluorinated greenhouse gas covered by the Kyoto Protocol.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P233 Keep container tightly closed.

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

2.4 Other Hazards

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB). Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Rapid evaporation of the liquid may cause frostbite. May cause cardiac arrhythmia.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

COMPONENTS	CAS NUMBER	AMOUNT (approx. %)
1,1,1,3,3,3-Hexafluoropropane	690-39-1	>= 99 %

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Eye: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin: Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.

Ingestion: Is not considered a potential route of exposure.

Inhalation: Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact may provoke the following symptoms: Frostbite, Inhalation may provoke the following symptoms: Shortness of breath, Dizziness, Weakness, Nausea, Headache, narcosis, Irregular cardiac activity

4.3 Indication of an immediate medical attention and special treatment needed

Do not give adrenaline or similar drugs.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

This material is a fire extinguishing agent., Use extinguishing measures that are appropriate to local circumstances and the surrounding environment., such as, Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Fire or intense heat may cause violent rupture of packages.

Hazardous thermal decomposition products: Carbon oxides Hydrogen fluoride Carbonyl fluoride Fluorocarbons

Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Wear neoprene gloves during cleaning up work after a fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Ventilate area, especially low or enclosed places where heavy vapours might collect. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and material for containment and cleaning up

Evaporates.

6.4 Reference to other sections

For disposal instructions see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8.

No special protective measures against fire required.

7.2 Conditions for safe storage, including any incompatibilities

Do not drag, slide or roll cylinders. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Keep at temperature not exceeding 52°C. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Protect from contamination.

Storage Temperature: < 52 °C

7.3 Specific end use(s)

No information available at present.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

If sub-section is empty then no values are applicable.

Type of Application (Use): Workers Exposure routes: Inhalation Health Effect: Acute - systemic effects Value: 61147 mg/m³ : Type of Application (Use): Consumer use Exposure routes: Inhalation Health Effect: Chronic effects, Systemic effects Value: 1240 mg/m³ : Type of Application (Use): Workers Exposure routes: Inhalation Health Effect: Chronic effects, Systemic effects Value: 4984 mg/m³

8.2 Exposure controls

Eye/Face Protection: Safety glasses with side-shields, additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.

Skin Protection: Impervious clothing. Heat insulating gloves

Respiratory Protection: For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form : Liquefied gas

Colour : colourless

Odour : slight, ether-like

Freezing point : -103 °C at 1 013 hPa

Boiling point : -2 °C at 1 013 hPa

Explosive properties : Not explosive

Lower explosion limit/ lower flammability limit : not applicable

Upper explosion limit/ upper flammability limit : not applicable

Vapour pressure : 2 490 hPa at 22 °C

Density : 0,0061 - 0,0062 g/cm³ at 22,4 °C

Water solubility : 0,724 g/l at 20 °C

Partition coefficient: noctanol/water : log Pow: 1,12 at: 20 °C, (calculated)

Relative vapour density : 6,18 at 20 °C

9.2 Other information

No other information available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Decomposes on heating.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Stable at normal temperatures and storage conditions.

10.4 Conditions to avoid

The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.

10.5 Incompatible materials

Alkali metals Alkaline earth metals Powdered metals Powdered metal salts

10.6 Hazardous decomposition products

Hazardous thermal decomposition products may include:

Carbon oxides, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity

- 1,1,1,3,3,3-Hexafluoropropane
not applicable

Acute inhalation toxicity

- 1,1,1,3,3,3-Hexafluoropropane
LC50 / 4 h rat :> 457000 ppm
LC50 / 4 h rat :> 189000 ppm
Narcotic effects Central nervous system effects
/ dog
Cardiac sensitization

Acute dermal toxicity

- 1,1,1,3,3,3-Hexafluoropropane

not applicable

Skin irritation

- 1,1,1,3,3,3-Hexafluoropropane

Not tested on animals

Classification: Not classified as irritant

Result: No skin irritation

Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation

- 1,1,1,3,3,3-Hexafluoropropane

Not tested on animals

Classification: Not classified as irritant

Result: No eye irritation

Not expected to cause eye irritation based on expert review of the properties of the substance.

Sensitisation

- 1,1,1,3,3,3-Hexafluoropropane

Not tested on animals

Classification: Not a skin sensitizer.

Result: Does not cause skin sensitization.

Not expected to cause sensitization based on expert review of the properties of the substance.

There are no reports of human respiratory sensitization.

Repeated dose toxicity

- 1,1,1,3,3,3-Hexafluoropropane

Inhalation rat

No toxicologically significant effects were found.

Mutagenicity assessment

- 1,1,1,3,3,3-Hexafluoropropane

Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity assessment

- 1,1,1,3,3,3-Hexafluoropropane

Carcinogenicity classification not possible from current data.

Toxicity to reproduction assessment

- 1,1,1,3,3,3-Hexafluoropropane

No toxicity to reproduction

Assessment teratogenicity

- 1,1,1,3,3,3-Hexafluoropropane

No toxicity to reproduction

Human experience

Excessive exposures may affect human health, as follows:

Inhalation

Severe shortness of breath, narcosis, Irregular cardiac activity

Further information

Rapid evaporation of the liquid may cause frostbite. Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish

- 1,1,1,3,3,3-Hexafluoropropane
LC50 / 96 h / Zebra fish: 292 mg/l

Toxicity to aquatic plants

- 1,1,1,3,3,3-Hexafluoropropane
ErC50 / 96 h / Pseudokirchneriella subcapitata: > 186 mg/l

Toxicity to aquatic invertebrates

- 1,1,1,3,3,3-Hexafluoropropane
EC50 / 48 h / Daphnia magna (Water flea): 299 mg/l

12.2 Persistence and degradability

Biodegradability

/ 28 d

Biodegradation: 16 %

According to the results of tests of biodegradability this product is not readily biodegradable.

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). / This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

Ozone depletion potential
0
Global warming potential (GWP)
9500

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Can be used after re-conditioning. In accordance with local and national regulations. Empty pressure vessels should be returned to the supplier.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

1044.

14.2 UN proper shipping name

Fire extinguishers containing compressed or liquefied gas.

14.3 Transport hazard class(es)

Class 2.2 non-flammable compressed or liquefied gas.

14.4 Packing Group

ICAO and IMDG - not applicable.

14.5 Other Information

ADR – Exempt Special Provision 594

SECTION 15: REGULATORY INFORMATION

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

no data available

SECTION 16: OTHER INFORMATION

Revision: 1

Safety Data Sheet Approved

Date: 24/09/2015