

SAFETY DATA SHEET
BIS(2,2,2-TRIFLUOROETHYL)AMINE

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Compilation date: 28/01/2008
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Revision No: 2

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

1.1. Product identifier

Product name: BIS(2,2,2-TRIFLUOROETHYL)AMINE
CAS number: 407-01-2
EINECS number: 206-978-7
Product code: PC1253
Synonyms: 1,1,1,5,5,5-HEXAFLUORO-3-AZAPENTANE

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 CHIP: -: R10; Xn: R20/21/22; C: R34

Classification under CLP: Skin Corr. 1B: H314; Acute Tox. 4: H302+312+332; Flam. Liq. 3: H226

Most important adverse effects: Flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

2.2. Label elements

Label elements under CLP:

Hazard statements: H226: Flammable liquid and vapour.
H302+312+332: Harmful if swallowed, in contact with skin or if inhaled.
H314: Causes severe skin burns and eye damage.

Signal words: Danger

Hazard pictograms: GHS02: Flame
GHS05: Corrosion
GHS07: Exclamation mark

[cont...]

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Precautionary statements: P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260: Do not breathe vapours.
P280: Wear protective gloves/protective clothing/eye protection.

Label elements under CHIP:

Hazard symbols: Corrosive.



Risk phrases: R10: Flammable.
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
R34: Causes burns.

Safety phrases: S16: Keep away from sources of ignition - No smoking.
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).

2.3. Other hazards

Other hazards: In use, may form flammable / explosive vapour-air mixture.

PBT: This substance is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: BIS(2,2,2-TRIFLUOROETHYL)AMINE

CAS number: 407-01-2

EINECS number: 206-978-7

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. Transfer to hospital as soon as possible.

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

[cont...]

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4.2. Most important symptoms and effects, both acute and delayed

- Skin contact:** Blistering may occur. Severe burns may occur. Progressive ulceration will occur if treatment is not immediate.
- Eye contact:** There may be severe pain. The eyes may water profusely. Corneal burns may occur. May cause permanent damage.
- Ingestion:** Corrosive burns may appear around the lips. Nausea and stomach pain may occur. Blood may be vomited.
- Inhalation:** There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing. There may be tightness of the chest.

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

Immediate / special treatment: Eye bathing equipment should be available on the premises.

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.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Flammable. Corrosive. Forms explosive air-vapour mixture. In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Nitrogen oxides (NOx). 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.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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. Eliminate all sources of ignition.

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: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Do not use equipment in clean-up procedure which may produce sparks.

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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.
Smoking is forbidden. Use non-sparking tools. Only use in fume hood.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed. Keep away from sources of ignition. Prevent the build up of electrostatic charge in the immediate area.
Ensure lighting and electrical equipment are not a source of ignition.

Suitable packaging: Must only be kept in original packaging.

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 No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. Ensure lighting and electrical equipment are not a source of ignition.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Impermeable gloves.

Eye protection: Safety glasses. 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

Boiling point/range °C: 70-71

Relative density: >1.1

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

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10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions. Stable at room temperature.

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. Hot surfaces. Sources of ignition. 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. Nitrogen oxides (NOx). Hydrogen fluoride (HF).

Section 11: Toxicological information

11.1. Information on toxicological effects

Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	INH DRM ING	Based on test data
Skin corrosion/irritation	DRM	Based on test data
Serious eye damage/irritation	OPT	Based on test data

Symptoms / routes of exposure

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

Eye contact: There may be severe pain. The eyes may water profusely. Corneal burns may occur. May cause permanent damage.

Ingestion: Corrosive burns may appear around the lips. Nausea and stomach pain may occur. Blood may be vomited.

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

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

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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 substance is not identified as a PBT 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.

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: UN2924

14.2. UN proper shipping name

Shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(Bis(2,2,2-trifluoroethyl)amine)

14.3. Transport hazard class(es)

Transport class: 3 (8)

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: D/E

Transport category: 3

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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. Toxtree - Toxic Hazard Estimation by decision tree approach. <http://ecb.jrc.ec.europa.eu/qsar/qsar-tools/index.php?c=TOXTREE>

~ 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/

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R10: Flammable.
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R34: Causes burns.

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