

SAFETY DATA SHEET
3,5-DIFLUOROBENZYLZINC BROMIDE

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Compilation date: 08/07/2013
Revision No: 1

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

1.1. Product identifier

Product name: 3,5-DIFLUOROBENZYLZINC BROMIDE
CAS number: 308796-30-7
EINECS number: 203-726-8
Product code: PC4445
Synonyms: BROMO(3,5-DIFLUOROBENZYL)ZINC

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: F: R11; -: R19; Xi: R36/37

Classification under CLP: STOT SE 3: H335; Eye Irrit. 2: H319; Flam. Liq. 2: H225; -: EUH019

Most important adverse effects: Highly flammable. May form explosive peroxides. Irritating to eyes and respiratory system.

2.2. Label elements

Label elements under CLP:

Hazard statements: H225: Highly flammable liquid and vapour.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
EUH019: May form explosive peroxides.

Signal words: Danger

Hazard pictograms: GHS02: Flame
GHS07: Exclamation mark

[cont...]

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Precautionary statements: P280: Wear protective gloves/protective clothing/eye protection/face protection.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Label elements under CHIP:

Hazard symbols: Highly flammable.
Irritant.



Risk phrases: R11: Highly flammable.
R19: May form explosive peroxides.
R36/37: Irritating to eyes and respiratory system.

Safety phrases: S2: Keep out of the reach of children.
S16: Keep away from sources of ignition - No smoking.
S29: Do not empty into drains.
S33: Take precautionary measures against static discharges.

2.3. Other hazards

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

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

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: TETRAHYDROFURAN

CAS number: 308796-30-7

EINECS number: 203-726-8

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. 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.

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

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

[cont...]

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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.

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

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Alcohol resistant foam. Water spray. Carbon dioxide. Dry chemical powder. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Highly flammable. In combustion emits toxic fumes. Forms explosive air-vapour mixture. Vapour may travel considerable distance to source of ignition and flash back. In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Hydrogen fluoride (HF). Hydrogen bromide (HBr). Zinc oxides.

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.

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.

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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. Light Sensitive. Air sensitive. Moisture sensitive. Store under Argon. Recommended storage temp 2-8 °C.

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

Hazardous ingredients:

TETRAHYDROFURAN

Workplace exposure limits:

Respirable dust

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	150 mg/m3	300 mg/m3	-	-

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: 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: Solution

Colour: Brown

Boiling point/range °C: 65-67

Flash point °C: -17

Relative density: 0.982

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. Air. Moist air. Humidity. Light.

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). Hydrogen bromide gas (HBr). Zinc oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

TETRAHYDROFURAN

IPR	MUS	LD50	1900	mg/kg
IPR	RAT	LD50	2900	mg/kg
ORL	RAT	LD50	1650	mg/kg

Relevant hazards for substance:

Hazard	Route	Basis
Serious eye damage/irritation	OPT	Based on test data
STOT-single exposure	INH	Based on test data

Symptoms / routes of exposure

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.

Section 12: Ecological information

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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 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: UN2056

14.2. UN proper shipping name

Shipping name: TETRAHYDROFURAN

14.3. Transport hazard class(es)

Transport class: 3

14.4. Packing group

Packing group: II

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: D/E

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Transport category: 2

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/

Phrases used in s.2 and 3: EUH019: May form explosive peroxides.

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

R11: Highly flammable.

R19: May form explosive peroxides.

R36/37: Irritating to eyes and respiratory system.

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