SAFETY DATA SHEET

fluorochem.

1. Identification of Substance / Mixture

Product Identifier

1.1.2 Product Name Sodium butane-1-sulfonate

1.1.2 Other Names

1.1.1 Product Code F319167 1.1.3 CAS 2386-54-1

1.1.4 MDL MFCD00007540

1.1.5 EINECS N/A

1.1.6 REACH Registration Number

1.2.1 Relevant Uses For research and development purposes only.

1.2.2 Uses Advised Against No uses advised against.

1.3 Supplier Details

Fluorochem Ltd 1.3.1 Company

1.3.2 Address Unit 14, Graphite Way

Hadfield

Glossop Derbys. SK13 1QH

United Kingdom

1.3.3 Telephone 01457 860111

1.3.4 Email sds@fluorochem.co.uk 1.4.1 Emergency Telephone +44 20 3807 3798

2. Hazards Identification

2.1.1 Classification

Eye Irrit. 2A Skin Irrit. 2 STOT SE 3

2.2.1 Signal Word 2.2.2 Pictograms

Warning



GHS07

2.2.3 Hazards

H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.

2.2.4 Precautions

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

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280.4 Wear protective gloves/protective clothing and eye/face protection.

P302+P352.2 IF ON SKIN: Wash with plenty of water and soap. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P312.1 Call a POISON CENTER/doctor if you feel unwell.

P321 Specific treatment.

P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

2.2.5 Other Classification Hazards

Composition of Ingredients

SUBSTANCE

3.1.1 Name 3.1.2 CAS Einecs 3.1.3 Composition Hazards

Sodium butane-1-sulfonate 2386-54-1 N/A H315 Skin Irrit. 2
H319 Eve Irrit. 24

H319 Eye Irrit. 2A H335 STOT SE 3

4. First Aid Measures

4.1.1 Eye contact In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart.

Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing and seek medical

attention.

4.1.2 Ingestion Where Diphoterine is not available, rinse mouth with copious amounts of water. Seek urgent medical advice.

4.1.3 Inhalation Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory problems seek immediate

medical attention.

4.1.4 Skin Contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated clothing immediately.

In case of skin reactions, consult a physician.

4.1.5 General Advice No additional advice.

4.2.1 Most Important Symptoms and Effects No known symptoms or effects.

4.3.1 Immediate First Aid Measures No special immediate treatment required

5. Fire Fighting Measures

5.1.1 Suitable Fire Extinguishing Media Carbon dioxide, alcohol resistant foam or dry chemical powder. Use water to extinguish fire.

5.1.2 Unsuitable Fire Extinguishing Media No known unsuitable media

5.2.1 Special Hazards Thermal decomposition can lead to release of irritating gases and vapours.
 5.3.1 Advice for Fire Fighters As in any fire, wear self-contained breathing apparatus and full protective gear.

Accidental Release Measures

6.1.1 Personal PrecautionsUse personal protective equipment. Ensure Hexafluorine washing solution is to hand. Avoid dust formation. Avoid

breathing vapours, mist or gas. Ensure adequate ventilation. Keep personnel away from spill/leak.

6.2.1 Environmental PrecautionsPrevent further leakage if safe to do so. Prevent product from entering drains. Do not let product enter waterways or

sewer systems. Discharge into the environment must be avoided.

6.3.1 Containment - Methods and Materials Absorb the spilled material with an inert absorbent (e.g. sand, silica gel, rag, vermiculite) before transferring into an

airtight container. Remove all sources of ignition. Dispose of appropriately according to local regulations.

6.4.1 Referenced SDS Sections

7. Handling and Storage

Personal Precautions

7.1.1 Safe HandlingWear appropriate personal protective equipment. Use only under a chemical fume hood. Keep away from heat/

sparks/open flame/hot surfaces. Take measures to prevent the build-up of electrostatic charge. Ensure adequate exhaust ventilation, especially if dust, aerosol or fumes will be generated. Avoid contact with skin, eyes and clothing.

For precautions see section 2.2.

7.1.2 Protection Against Explosion and Fire Where possible, use anti static and spark proof equipment when handling.

7.1.3 General Occupational Hygiene Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use. Do not eat,

 $\label{lem:contaminated} \mbox{drink or smoke when using this product. Remove and wash contaminated clothing before re-use.}$

Conditions for Safe Storage and Incompatabilities

7.2.1 Managing Storage Risks Keep container tightly closed and upright. Store in a cool, dry and well-ventilated place.

7.2.2 Storage Controls
 Keep container tightly closed in a cool area away from sunlight or heat sources.
 7.2.3 Maintaining Integrity
 Keep container tightly closed in a cool area away from sunlight or heat sources.

7.2.4 Other AdviceNo other specific advice available.

7.3.1 Specific End Use(s)No specific end uses are advised. The products supplied are for research purposes only.

8. Exposure Controls / Personal Protection

8.1.1 Control Parameters

8.2.1 Engineering MeasuresUse only under a chemical fume hood ensuring adequate ventilation, especially in confined areas. Ensure

Hexafluorine washing solution is close to workstation. Use explosion-proof electrical/ventilating/lighting/equipment.

Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2 Face Protection Wear tightly fitting safety goggles which adhere to European standard EN 166. Ensure Hexafluorine eye wash is to

hand

8.2.3 Hand Protection Handle with impermeable gloves. Inspect gloves before use. Gloves must satisfy the specifications of EU Directive

89/686/EEC and the standard EN374 derived from it. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with

applicable laws and good laboratory practices. Wash and dry hands.

8.2.4 Skin Protection Wear appropriate protective clothing ensuring all skin is covered. Wear safety shoes that meet at least S1 standards.

Ensure Hexafluorine washing solution is to hand. The type of protective equipment must be selected according to the

concentration and amount of the dangerous substance at the specific workplace.

8.2.5 Respiratory Protection Product should be handled in a fume cupboard with adequate extraction. No respiratory equipment is needed under

normal use conditions.

8.2.6 Hygiene Protection Ensure hair or skin particles cannot enter the chemical container.

8.2.7 Environment Exposure ControlsAvoid discharge into the environment, see section 6.2.

9. Physical and Chemical Properties

9.1.1 StateSolid9.1.2 AppearanceSolid

9.1.3 Odour9.1.4 Odour ThresholdNo data available.

9.1.5 pH No data available.

9.1.6 Melting Point / Freezing Point >300°C

9.1.7 Initial Boiling Point

9.1.8 Boiling Range

9.1.9 Flash Point

9.1.10 Evaporation Rate

9.1.11 Flammability

9.1.12 Upper / Lower Flammability or No data available.

Explosion Limits

9.1.13 Vapour Pressure

9.1.14 Vapour Density

No data available.

No data available.

No data available.

No data available.

9.1.16 Solubility

 9.1.17 Partition Coefficient
 No data available.

 9.1.18 Auto Ignition Temperature
 No data available.

 9.1.19 Decomposition Temperature
 No data available.

 9.1.20 Viscosity
 No data available.

 9.1.21 Explosive Properties
 No data available.

 9.1.22 Oxidising Properties
 No data available.

9.2.1 Other information No additional information available.

10. Stability and Reactivity

10.1.1 Reactivity No known reactivity, based on information available.

10.2.1 Stability Stable under recommended storage conditions.

10.3.1 Possibility of Hazardous Reactions None under normal storage conditions.

10.4.1 Conditions To Avoid Heat, sparks, open flames, sources of ignition. Exposure to moisture.

10.5.1 Incompatible MaterialsStrong oxidising agents. **10.6.1 Hazardous Decomposition Products**No Data Available.

11. Toxicology Information

11.1.1 Acute ToxicityNo Toxicology data available for this product.11.1.2 Skin Corrosion / IrritationNo Toxicology data available for this product.11.1.3 Serious Eye Damage / IrritationNo Toxicology data available for this product.11.1.4 Respiratory or Skin SensitisationNo Toxicology data available for this product.

11.1.5 Germ Cell Mutagenicity
No Toxicology data available for this product.

11.1.6 Carcinogenicity
No Toxicology data available for this product.

11.1.7 Reproductive Toxicity
No Toxicology data available for this product.

11.1.8 STOT-single Exposure
No Toxicology data available for this product.

11.1.9 STOT-repeated Exposure
No Toxicology data available for this product.

11.1.10 Aspiration Hazard
No Toxicology data available for this product.

11.2.1 Additional Toxicology Information
No Toxicology data available for this product.

12. Ecological Information

 12.1.1 Toxicity
 No Ecological data available for this product.

 12.2.1 Persistence and Degradability
 No Ecological data available for this product.

 12.3.1 Bio-Accumulative Potential
 No Ecological data available for this product.

 12.4.1 Mobility in Soil
 No Ecological data available for this product.

 12.5.1 Results of PBT and vPvB assessment
 No Ecological data available for this product.

 12.7.1 Endocrine Disrupting Properties
 No Ecological data available for this product.

 12.6.1 Other Adverse Effects
 No Ecological data available for this product.

Disposal Considerations

13.1.1 Disposal Operations Ensure product is disposed of by licensed waste carriers.

13.1.2 Disposal of Packaging

Ensure INNER PACKAGING is disposed of by licensed waste carriers. Some OUTER PACKAGING MAY be

recyclable if not contaminated.

Transport Information

IATA UN Number ADR UN Number IMDG UN Number

14.1.2 IATA Proper(Sodium butane-1-Shipping NameADR Proper Shipping NameNon Hazardous For Transport (SodiumIMDG Proper Shipping (Sodium butane-1-Shipping Name

butane-1-sulfonate)

IATA Packing Group

ADR Packing Group

IMDG Packing Group

14.1.4 IATA Hazard Class

ADR Hazard Class

IMDG Hazard Class

14.1.5 IATA Sub Class

ADR Sub Class

IMDG Sub Class

15. Regulatory Information

15.1.1 Regulatory Information As far as Fluorochem is aware, there are no further regulations controlling this product.

15.2.1 Chemical Safety No Chemical Safety Assessment is available for this product.

Assessment

16.1.1 Disclaimer

16. Other Information

16.1.2 Information Not Covered in OtherADR: Accord Europeen sur le transport des merchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)

RID:Reglement International concernant le transport des merchandises dangereuses par chemin de fer (Regulations

concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association ICAO:International Civil

Aviation Organization

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS:Chemical Abstracts Service

Revision

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The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user. This SDS adheres to Regulation (EC) No 1907/2006, and as of 13th April 2023, also conforms to EU Regulation 2020/878.