

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **3-(Trifluoromethyl)-3-hydroxybutyric acid**
Product Code 001246
CAS Number 338-03-4
Other Names
IUPAC
MFCD Number MFCD00039531
EC/EINECS
REACH Number

2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

H314 Skin Corr. 1B R34, R23/34/35

No Resource File

2. Label elements

Signal Word **Danger**



Hazard Statements

H314 Causes severe skin burns and eye damage.

Precautionary Phrases

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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.
P501	Dispose of contents/container to local regulations

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

3-(Trifluoromethyl)-3-hydroxybutyric acid

Assay:100% CAS Number :338-03-4

2. Mixtures

Not Relevant

4. First Aid Measures

1. Description of first aid measures

<i>Skin Contact</i>	P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
<i>Eye Contact</i>	P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<i>Ingestion</i>	P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
<i>Inhalation</i>	P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

2. Most important symptoms and effects

Severe burns may occur.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

Suitable Carbon dioxide.
Dry chemical powder.
sand

Unsuitable Do not use water.

2. Special Hazards arising from the substance or mixture

Corrosive.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Refer to section 8 of SDS for personal protection details.

2. Environmental Precautions

Do not discharge into drains or rivers.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

Safe Handling Ensure there is sufficient ventilation of the area.
Wash hands immediately after contamination.
P264: Wash hands thoroughly after handling.

Protection against explosions and fires P363: Wash contaminated clothing before reuse.

2. Conditions for safe storage, including any incompatibilities

<i>Managing Storage Risks</i>	Store in cool, well ventilated area. Keep container tightly closed. Avoid contact with water or humidity.
<i>Storage Controls</i>	No special requirements
<i>Maintaining Integrity</i>	Store away from oxidising agents Keep in tightly closed container in cool area away from direct sunlight or heat sources.
<i>Other advice</i>	no further information available

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

<i>General protective and hygiene measures</i>	P280: Wear protective gloves/protective clothing/eye protection/face protection.
<i>Engineering measures</i>	Ensure there is sufficient ventilation of the area.
<i>Eye / Face Protection</i>	Safety Glasses with side-shields.
<i>Hand protection</i>	Appropriate impermeable gloves.
<i>Respiratory protection</i>	P260: Do not breathe dust/fume/gas/mist/vapours/spray. Use breathing protection with high concentrations
<i>Skin protection</i>	Handle with appropriate gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice. Wash and dry hands. Protective clothing.
<i>Other personal protection advice</i>	no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Clear colourless liquid
Odour	stench
Odour threshold	No Data Available
PH	No Data Available
Melting point / Freezing point	No Data Available
Initial boiling point and boiling range	87-90°/0.5mm
Flash point	No Data Available
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative density	No Data Available
Solubility(ies):	No Data Available
Partition coefficient: n-octanol/water	No Data Available

Auto-ignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

no unusual reactivity

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

Moist Air.

5. Incompatible Materials

Oxidising agents.
Water.
Bases.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
In combustion emits toxic fumes of hydrogen fluoride.

11. Toxicology information

1. Information

<i>Acute Toxicity</i>	no data
<i>Skin corrosion/irritation</i>	strong corrosive effect on skin and mucous membranes
<i>Serious eye Damage/irritation</i>	strong corrosive effect.
<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	not known
<i>Carcinogenicity</i>	not known
<i>Reproductive toxicity</i>	not known
<i>STOT-single exposure</i>	not known
<i>STOT-repeated exposure</i>	not known
<i>Aspiration hazard</i>	not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC,NTP,OSHA or ACGIH

12. Ecological Information

1. Toxicity

not known

2. Persistence and degradability

not known

3. Bio-Accumulative Potential

not known

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

not known

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 3265
2. **Shipping Name:** Corrosive liquid, acidic, organic, n.o.s. «
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 3265
2. **Shipping Name:** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

1. **UN Number:** 3265
2. **Shipping Name:** Corrosive liquid, acidic, organic, n.o.s. «
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: IBC03
- UNTANKINS: T7
TANKPROV: TP1 TP28

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)
RID:Reglement International concernant le transport des marchandises 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

2. Associated risk phrases according to european directive 67/548/EEC

R34 Causes burns.



3. Disclaimer

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.