1. Identification

Product Name: 1-Butyl-3-methylimidazolium tetrafluoroborate

Cat No.: AC354210000; AC354210050; AC354210250; AC354211000

CAS No: 174501-65-6

Synonyms: No information available

Recommended Use: Laboratory chemicals.

Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US: 001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US: 001-800-424-9300 / Europe: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Toxic if swallowed
Causes skin irritation
Causes serious eye irritation
Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Storage
Store locked up
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)_
Harmful to aquatic life with long lasting effects

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Butyl-3-methylimidazolium tetrafluoroborate</td>
<td>174501-65-6</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion
Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects
None reasonably foreseeable.

Notes to Physician
Treat symptomatically
5. Fire-fighting measures

Suitable Extinguishing Media: Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media: No information available

Flash Point Method: No information available

Autoignition Temperature: No information available

Explosion Limits: No data available

Upper
Lower

Sensitivity to Mechanical Impact: No information available

Sensitivity to Static Discharge: No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

6. Accidental release measures

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions
Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

7. Handling and storage

Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Storage

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment
1-Butyl-3-methylimidazolium tetrafluoroborate

9. Physical and chemical properties

Physical State: Liquid
Appearance: No information available
Odor: No information available
Odor Threshold: No information available
pH: No information available
Melting Point/Range: -71 °C / -95.8 °F
Boiling Point/Range: No information available
Flash Point: No information available
Evaporation Rate: No information available
Flammability (solid,gas): Not applicable
Flammability or explosive limits: No data available
Upper
Lower
Vapor Pressure: No information available
Vapor Density: No information available
Specific Gravity: 1.2077
Solubility: No information available
Partition coefficient; n-octanol/water: No data available
Autoignition Temperature: No information available
Decomposition Temperature: No information available
Viscosity: No information available
Molecular Formula: C8H15N2.BF4
Molecular Weight: 226.02

10. Stability and reactivity

Reactive Hazard: None known, based on information available
Stability: Hygroscopic.
Conditions to Avoid: Incompatible products. Exposure to moist air or water.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition Products: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Oxides of boron, Hydrogen fluoride
Hazardous Polymerization: No information available.
Hazardous Reactions: None under normal processing.

11. Toxicological information

Acute Toxicity
Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
</table>

Eye/face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection: No protective equipment is needed under normal use conditions.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.
### Toxicologically Synergistic Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Butyl-3-methylimidazolium tetrafluoroborate</td>
<td>174501-65-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Irritation**

Irritating to eyes and skin

**Sensitization**

No information available

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>Mutagenic Effects</th>
<th>Reproductive Effects</th>
<th>Developmental Effects</th>
<th>Teratogenicity</th>
<th>STOT - single exposure</th>
<th>STOT - repeated exposure</th>
<th>Aspiration hazard</th>
<th>Symptoms / effects, both acute and delayed</th>
<th>Endocrine Disruptor Information</th>
<th>Other Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Butyl-3-methylimidazolium tetrafluoroborate</td>
<td>No information available</td>
<td>No information available.</td>
<td>No information available.</td>
<td>No information available.</td>
<td>None known</td>
<td>None known</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>The toxicological properties have not been fully investigated.</td>
</tr>
</tbody>
</table>

### 12. Ecological information

**Ecotoxicity**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Butyl-3-methylimidazolium tetrafluoroborate</td>
<td>Not listed</td>
<td>LC50 &lt; 99.0 mg/L/96.0h (Danio rerio)</td>
<td>Not listed</td>
<td>EC50 5.2 mg/L/48h (Daphnia magna)</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

Persistence is unlikely

**Bioaccumulation/ Accumulation**

No information available.

**Mobility**

No information available.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Butyl-3-methylimidazolium tetrafluoroborate</td>
<td>-0.31 @ 25°C</td>
</tr>
</tbody>
</table>

### 13. Disposal considerations

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information
1-Butyl-3-methylimidazolium tetrafluoroborate

DOT

- UN-No: UN2810
- Proper Shipping Name: TOXIC LIQUIDS, ORGANIC, N.O.S.
- Technical Name: 1-Butyl-3-methylimidazolium tetrafluoroborate
- Hazard Class: 6.1
- Packing Group: III

TDG

- UN-No: UN2810
- Proper Shipping Name: Toxic liquid, organic, n.o.s.
- Hazard Class: 6.1
- Packing Group: III

IATA

- UN-No: UN2810
- Proper Shipping Name: Toxic liquid, organic, n.o.s.
- Hazard Class: 6.1
- Packing Group: III

IMDG/IMO

- UN-No: UN2810
- Proper Shipping Name: Toxic liquid, organic, n.o.s.
- Hazard Class: 6.1
- Packing Group: III

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-</td>
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Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
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<th>KECL</th>
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</table>

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable
CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 04-Dec-2000
Revision Date 25-Dec-2021
Print Date 25-Dec-2021
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
End of SDS