

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

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

1.1 Product identifier

| | |
|--|---|
| Identification of the substance | 1-Ethyl-3-methylimidazolium trifluoromethansulfonate |
| Registration number (REACH) | 01-2120003107-75-xxxx |
| EC number | 680-002-1 |
| CAS number | 145022-44-2 |
| Alternative name(s) | EMIM-OTf, EMIM-triflate |
| Alternative number(s) | 00104.1000, 00104.2000, 00104.3000, 00104.4000 |

1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|---------------------------------|---|
| Relevant identified uses | Product and process orientated research and development Industrial use Chemical for synthesizing substances |
| Uses advised against | Do not use for products which come into contact with the food stuffs. Do not use for private purposes (household). |

1.3 Details of the supplier of the safety data sheet

Proionic GmbH
Parkring 18, Trakt H/1
A-8074 Grambach
Austria

Telephone: +43 (0) 316 4009-4200
Telefax: +43 (0) 316 4009-4228
e-mail: office@proionic.com
Website: www.proionic.com

1.4 Emergency telephone number

Poisoning information center Austria: +43 (0) 1 406 43 43

Emergency information service

Mo-fr 8am-4pm (CET): +43 (0) 316/ 4009- 4200

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Data on similar substances were used.

Classification according to Regulation (EC) No 1272/2008 (CLP)

This substance does not meet the criteria for classification.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

2.3 Other hazards

There is no additional information.

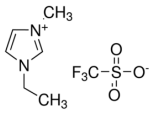
1-Ethyl-3-methylimidazolium trifluoromethanesulfonate

Version number: GHS 2.0

Revision: 27.03.2018

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|---------------------------|--|
| Name of substance | 1-Ethyl-3-methylimidazolium trifluoromethanesulfonate |
| IUPAC name | 3-Ethyl-1-methyl-1H-imidazolium 1,1,1-trifluoromethanesulfonate (1:1) |
| Identifiers | |
| REACH Reg. No | 01-2120003107-75-xxxx |
| CAS No | 145022-44-2 |
| EC No | 680-002-1 |
| Purity | 95 – 99,9 % |
| Molecular formula | C7H11F3N2O3S |
| Molar mass | 260,2 g/mol |
| Structural formula |  |

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water. If skin irritation occurs, consult a doctor.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides (SO_x)

5.3 Advice for firefighters

Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For removal of spilled product always wear personal protective equipment.

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Use water for subsequent cleaning.

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Use local and general ventilation. Use only in well-ventilated areas. Keep away from oxidizing substances.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store upright. Keep only in the original container in a cool, well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

The product must be used only for the purposes specified by the manufacturer (see above).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

These information are not available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation. General industrial hygiene practice. Take precautions, which are usual when handling chemicals.

Individual protection measures (personal protective equipment)

The type of protective equipment must be selected according to the concentration and amount of the used substance at the specific workplace.

Eye/face protection

Wear eye/face protection.

Skin protection

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use.

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

Respiratory protection not required.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|-----------------------|---------------------|
| Physical state | liquid |
| Colour | colourless to amber |
| Odour | nearly odourless |

Other safety parameters

| | |
|--|--|
| pH (value) | 7,18 (20 °C) (Methode pH50) |
| Melting point/freezing point | -9,16 °C at 1.013 Pa |
| Initial boiling point and boiling range | not determined |
| Flash point | 344 °C at 1.013 hPa |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Explosive limits | not determined |
| Vapour pressure | <0 hPa at 20 °C |
| Density | 1,387 g/cm ³ at 20 °C 1,385 g/cm ³ at 25 °C 1,375 g/cm ³ at 40 °C |
| Vapour density | this information is not available |

Solubility(ies)

| | |
|---------------------------|----------------------------|
| - water solubility | miscible in any proportion |
|---------------------------|----------------------------|

Partition coefficient

| | |
|------------------------------------|------------------------------------|
| - n-octanol/water (log KOW) | -2,5 (pH value: 6,8, 23 °C) (ECHA) |
|------------------------------------|------------------------------------|

| | |
|----------------------------------|----------------|
| Auto-ignition temperature | not determined |
|----------------------------------|----------------|

Viscosity

| | |
|----------------------------|-------------------|
| - dynamic viscosity | 50 mPa s at 20 °C |
|----------------------------|-------------------|

| | |
|-----------------------------|------|
| Explosive properties | none |
|-----------------------------|------|

| | |
|-----------------------------|------|
| Oxidising properties | none |
|-----------------------------|------|

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

9.2 Other information

| | |
|---|---|
| Refractive index | 1,43 – 1,44 (20 °C) |
| Temperature class (EU, acc. to ATEX) | T1 (maximum permissible surface temperature on the equipment: 450 °C) |

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification according to GHS (1272/2008/EC, CLP)

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

Specific target organ toxicity - single exposure

No data available.

Specific target organ toxicity - repeated exposure

No data available.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Readily biodegradable.

| Process of degradability | | |
|---------------------------|------------------|------|
| Process | Degradation rate | Time |
| carbon dioxide generation | 0 % | 28 d |

12.3 Bioaccumulative potential

Data are not available.

| | |
|---------------------------|------------------------------------|
| n-octanol/water (log KOW) | -2,5 (pH value: 6,8, 23 °C) (ECHA) |
|---------------------------|------------------------------------|

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents to recovery or disposal facilities.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

SECTION 14: Transport information

- 14.1 UN number**
- 14.2 UN proper shipping name** not relevant
- 14.3 Transport hazard class(es)** none
- 14.4 Packing group** not relevant
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**
There is no additional information.
- 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**
No data available.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

Not relevant.

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR | Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |

1-Ethyl-3-methylimidazolium trifluoromethansulfonate

Version number: GHS 2.0

Revision: 27.03.2018

| Abbr. | Descriptions of used abbreviations |
|----------|---|
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| IUPAC | International Union of Pure and Applied Chemistry |
| MARPOL | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant") |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

Disclaimer

The data contained in this safety data sheet are based on the current knowledge and experience of proionic GmbH and do not purport to be all inclusive. The safety data sheet shall be used only as a guide. The data do not describe the products properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose, except as mentioned, be deduced from the data contained in this safety data sheet. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Proionic GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.

This safety data sheet has been compiled and is solely intended for this product – it may not be valid for this product used in combination with any material or any process