Safety Data Sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide

Version number: GHS 4.0 Date of compilation: 28.09.2023

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

1.1 Product identifier

Identification of the substance	**1-Ethyl-3-methylimidazolium bis(trifluoro-methylsulfonyl)imide**
Registration number (REACH)	01-2120825886-41-0000
EC number	700-235-5
CAS number	174899-82-2
Alternative name(s)	EMIM NTf2 EMIM TFSI
Alternative number(s)	00116.1000

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

Relevant identified uses	Battery fluid Product and process oriented research and develop-ment Laboratory chemical
Uses advised against	Do not use for private purposes (household)
HS code	29332990.

1.3 Details of the supplier of the safety data sheet

Proionic GmbH
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A-8074 Raaba-Grambach
Austria

Telephone: +43 (0) 316 4009-4200
e-mail: office@proionic.com
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1.4 Emergency telephone number

Emergency telephone number	Poisoning information center Austria: +43 (0) 1 406 43 43
Emergency information service	Austria This number is only available during office hours Mo-fr 8am-4pm (CET): +43 (0) 316/ 4009- 4200 United States This number is only available during the following of-fice hours: Mo - Fr 09.00 - 15.00 (PST): 1-401-741-2012

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This classification is based on tested substance.

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

Self-classification.

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.1O	acute toxicity (oral)	3	Acute Tox. 3	H301
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16.

Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- signal word danger

- pictograms

GHS06

- hazard statements

H301 Toxic if swallowed.
H412 Harmful to aquatic life with long lasting effects.

- precautionary statements

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330 Rinse mouth.
P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Not readily biodegradable.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance 1-Ethyl-3-methylimidazolium bis(trifluoromethylsulf-onyl)imide

Identifiers

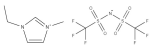
REACH Reg. No 01-2120825886-41-0000
CAS No 174899-82-2
EC No 700-235-5
Purity ≥98 %

Concentration limit, M-Factor, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	300 $^{mg}/_{kg}$	oral

Molecular formula C8H11F6N3O4S2
Molar mass 391,3 $^{g}/_{mol}$

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.

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.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

See SECTION 2.

4.3 Indication of any immediate medical attention and special treatment needed

None

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 (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Sulphur oxides (SOx), Hydrogen fluoride (HF)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. 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 non-emergency personnel

Remove persons to safety.

For emergency responders

Suitable protective equipment. 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. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Collect spillage. Wipe up with absorbent material (e.g. cloth, fleece). Sawdust. Kieselgur (diatomite). Sand. Universal binder.

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Use local and general ventilation. Use only in well-ventilated areas.

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 locked up. Keep container tightly closed and in a well-ventilated place. Keep away from other materials.

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

These information are not available.

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Use personal protective equipment as required.

Eye/face protection

Wear eye/face protection.

Skin protection

- protective clothing - protection against liquid chemicals

Wear suitable protective clothing. Chemical protective clothing.

- 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.

Body protection

Protective clothing against liquid chemicals.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic
Melting point/freezing point	-18 – -16 °C at 1.008 hPa (EU A.1; OECD 102)
Boiling point or initial boiling point and boiling range	no boilingpoint according to OECD103
Flammability	this material is combustible, but will not ignite readily

Lower and upper explosion limit	not determined
Flash point	337,5 °C at 100,8 kPa (EU A.9)
Auto-ignition temperature	not determined
Decomposition temperature	454 °C (TGA onset)
pH (value)	not determined
Kinematic viscosity	not determined

Solubility(ies)

Water solubility	21 $^{g}/_{l}$ at 25 °C, OECD 105

Partition coefficient

Partition coefficient n-octanol/water (log value)	-0,69 (pH value: 6,1, 25 °C) (OECD 117)

Vapour pressure	0,000000041 Pa at 20 °C (EU A.4; OECD 104)

Density and/or relative density

Density	1,52 $^{g}/_{cm^3}$ at 20 °C (OECD 109)
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Surface tension	38,9 $^{mN}/_{m}$ (20 °C) (EU A.5; OECD 115)

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Do not allow contact with air.

10.5 Incompatible materials

There is no additional information.

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 hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity

Toxic if swallowed.

- classification procedure

The classification for toxicity is based on tested substance. OECD 423.

Exposure route	Endpoint	Value	Species
oral	LD50	300 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

- classification procedure

Classification is based on tested substance. OECD 439.

Serious eye damage/eye irritation

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

- classification procedure

Classification is based on tested substance. OECD 492.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

- classification procedure

Classification is based on tested substance. OECD 442C; OECD 442D.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

- classification procedure

Classification is based on tested substance. OECD 471.

Carcinogenicity

Data are not available.

Reproductive toxicity

Data are not available.

Specific target organ toxicity - single exposure

Data are not available.

Specific target organ toxicity - repeated exposure

Data are not available.

Aspiration hazard

Data are not available.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Endpoint	Value	Species	Method	Exposure time
EC50	>110,1 $^{mg}/_{l}$	daphnia magna	EU C.2; OECD 202	48 h
EC50	13,17 $^{mg}/_{l}$	algae	EU C.3; OECD 201	72 h

12.2 Persistence and degradability

Process	Degradation rate	Time	Method
carbon dioxide generation	1 %	28 d	EU C.29; OECD 310

12.3 Bioaccumulative potential

Bioaccumulation is not expected.

n-octanol/water (log KOW)	-0,69 (pH value: 6,1, 25 °C) (OECD 117)

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Not carried out yet.

12.6 Endocrine disrupting properties

Information on this property is not available.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container to industrial combustion plant.

Waste treatment-relevant information

Incineration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. 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.

SECTION 14: Transport information

14.1	**UN number or ID number**	2810
	ADR/RID/ADN	UN 2810
	IMDG-Code	UN 2810
	ICAO-TI	UN 2810
14.2	**UN proper shipping name**	
	ADR/RID/ADN	TOXIC LIQUID, ORGANIC, N.O.S.
	IMDG-Code	TOXIC LIQUID, ORGANIC, N.O.S.
	ICAO-TI	Toxic liquid, organic, n.o.s.
	Technical name	1-Ethyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imide
14.3	**Transport hazard class(es)**	
	ADR/RID/ADN	6.1
	IMDG-Code	6.1
	ICAO-TI	6.1
14.4	**Packing group**	
	ADR/RID/ADN	II
	IMDG-Code	II
	ICAO-TI	II

14.5 Environmental hazards Non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

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

Classification code	T1
Danger label(s)	6.1

Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 ml
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	60

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	-
Danger label(s)	6.1

Special provisions (SP)	274
Excepted quantities (EQ)	E4
Limited quantities (LQ)	100 mL
EmS	F-A, S-A
Stowage category	B

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Danger label(s)	6.1

Special provisions (SP)	A3, A4, A137
Excepted quantities (EQ)	E4
Limited quantities (LQ)	1 L

SECTION 15: Regulatory information

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

Not relevant.

Additional information

Substance is listed in the following national inventories:
REACH (Europe)
TSCA (United States)
VNECI (Vietnam)

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 relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
ATE	Acute Toxicity Estimate
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
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
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
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HS	Harmonized Commodity Description and Coding System (Harmonized System, drawn up by the World Customs Organisation)
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air

Abbr.	Descriptions of used abbreviations
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
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 2020/878/EU.

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

Classification procedure

The classification for toxicity is based on tested substance.

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H301	Toxic if swallowed.
H412	Harmful to aquatic life with long lasting effects.

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.
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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
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