

# Safety Data Sheet

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

## 1-Ethyl-3-methylimidazolium methylcarbonate solution in methanol

Version number: GHS 5.0

Date of compilation: 03.10.2018

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

#### 1.1 Product identifier

Trade name	1-Ethyl-3-methylimidazolium methylcarbonate solution in methanol
Registration number (REACH)	not relevant (mixture)
CAS number	251102-25-7
Alternative name(s)	EMIM-MC solution in methanol
Alternative number(s)	00199.5000

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

Relevant identified uses	Product and process orientated research and development Scientific research and development
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#### 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

Emergency information service	Mo-fr 8am-4pm (CET): +43 (0) 316/ 4009- 4200
Official advisory body	Poisoning information center Austria: +43 (0) 1 406 43 43

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Substance not yet fully tested - the classification and labeling is based on the pivotal substance methanol as well as on analogy.

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.1O	acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319

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Section	Hazard class	Category	Hazard class and category	Hazard statement
3.8	specific target organ toxicity - single exposure	1	STOT SE 1	H370
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16.

### 2.2 Label elements

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

- signal word danger

- pictograms

GHS02, GHS06,  
GHS08



- hazard statements

**H225** Highly flammable liquid and vapour.  
**H301+H311+H331** Toxic if swallowed, in contact with skin or if inhaled.  
**H315** Causes skin irritation.  
**H319** Causes serious eye irritation.  
**H335** May cause respiratory irritation.  
**H370** Causes damage to organs.

- precautionary statements

**P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**P260** Do not breathe dust/fume/gas/mist/vapours/spray.  
**P280** Wear protective gloves/protective clothing/eye protection/face protection.  
**P301+P310** IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P308+P311** IF exposed or concerned: Call a POISON CENTER/doctor.  
**P370+P378** In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.  
**P403+P233** Store in a well-ventilated place. Keep container tightly closed.  
**P403+P235** Store in a well-ventilated place. Keep cool.

### 2.3 Other hazards

of no significance

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture



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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
methanol	CAS No 67-56-1  EC No 200-659-6	70	Fam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370	
1-ethyl-3-methylimidazolium methyl carbonate	CAS No 251102-25-7	30	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335	

For full text of abbreviations: see SECTION 16.

### 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. In case of respiratory tract irritation, consult a physician. 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 (CO<sub>2</sub>)

##### Unsuitable extinguishing media

Water jet

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### 5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

#### Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 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

Wear adequate personal 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.

### 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

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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Recommendations

##### - measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

##### - specific notes/details

Avoid contact with skin and eyes. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

##### - handling of incompatible substances or mixtures

Do not mix with acids. Reacts with acids under formation of carbon dioxide.

#### 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

#### Managing of associated risks

##### - explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

##### - flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

##### - ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

##### - 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

#### Occupational exposure limit values (Workplace Exposure Limits)

This data is based on the pivotal substance methanol.

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Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Source
AT	methanol	67-56-1		MAK	200	260	800	1,040			GKV
EU	methanol	67-56-1		IOEL V	200	260					2009/161/EU

### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

### Human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
DNEL	40 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	260 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

### Environmental values

Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	20.8 mg/cm <sup>3</sup>	aquatic organisms	freshwater	short-term (single instance)
PNEC	2.08 mg/cm <sup>3</sup>	aquatic organisms	marine water	short-term (single instance)
PNEC	100 mg/cm <sup>3</sup>	microorganisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	77 mg/kg	benthic organisms	sediments	short-term (single instance)
PNEC	7.7 mg/kg	pelagic organisms	sediments	short-term (single instance)
PNEC	3.18 mg/kg	terrestrial organisms	soil	short-term (single instance)
PNEC	1.54 mg/l	aquatic organisms	water	intermittent release

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation.

### Individual protection measures (personal protective equipment)

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

### Eye/face protection

Wear eye/face protection.

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### 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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### - other protection measures

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

### 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

All information on physical and chemical properties, except it is specially mentioned, relate to the pivotal substance methanol.

#### Appearance

Physical state	liquid
Colour	colorless to yellow
Odour	pungent

#### Other safety parameters

pH (value)	11 – 12, commonly used glas electrode for pH measurement (measured value)
Melting point/freezing point	-97.8 °C
Initial boiling point and boiling range	64.7 °C at 1,013 hPa
Flash point	9.7 °C at 1,013 hPa
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)

#### Explosive limits

- lower explosion limit (LEL)	6 vol% 80 g/m <sup>3</sup>
- upper explosion limit (UEL)	50 vol% 665 g/m <sup>3</sup>

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<b>Vapour pressure</b>	169.3 hPa at 25 °C
<b>Density</b>	0.91 g/cm <sup>3</sup> at 20 °C (measured value)
<b>Vapour density</b>	this information is not available
<b>Solubility(ies)</b>	not determined

### Partition coefficient

<b>- n-octanol/water (log KOW)</b>	-0.77 (ECHA)
<b>Auto-ignition temperature</b>	455 °C (ECHA)
<b>Viscosity</b>	
<b>Explosive properties</b>	none
<b>Oxidising properties</b>	none

### 9.2 Other information

<b>Temperature class (EU, acc. to ATEX)</b>	T1 (maximum permissible surface temperature on the equipment: 450 °C)
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibilities: see below "conditions to avoid".

#### If heated:

Risk of ignition

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

Reacts with acids under formation of carbon dioxide.

### 10.4 Conditions to avoid

Please keep away from acids. Reacts with acids under formation of carbon dioxide. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

### 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.



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The classification is based on the pivotal substance methanol.

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

##### Acute toxicity

Toxic if swallowed.  
Toxic in contact with skin.  
Toxic if inhaled.

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### 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.

##### Specific target organ toxicity - single exposure

Causes damage to organs. May cause respiratory irritation.

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### 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.

##### Aquatic toxicity (acute)

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Endpoint	Value	Species	Exposure time
LC50	15,400 mg/l	fish	96 h
EC50	12,700 mg/l	fish	96 h
EC50	18,260 mg/l	aquatic invertebrates	96 h
ErC50	22,000 mg/l	algae	96 h

### 12.2 Persistence and degradability

Process	Degradation rate	Time
oxygen depletion	69 %	5 d

### 12.3 Bioaccumulative potential

#### Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
methanol	67-56-1		-0.74	

### 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

#### Waste treatment-relevant information

Solvent reclamation/regeneration. Incineration.

#### Sewage disposal-relevant information

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

#### Waste treatment of containers/packages

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.

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### SECTION 14: Transport information

<b>14.1 UN number</b>	1992
<b>14.2 Shipping name</b>	1-Ethyl-3-methylimidazolium methylcarbonate solution in methanol
<b>14.3 Transport hazard class(es)</b>	
<b>Class</b>	3 (flammable liquids)
<b>Subsidiary risk(s)</b>	6.1 (acute toxicity)
<b>14.4 Packing group</b>	II (substance presenting medium danger)
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	Provisions for dangerous goods (ADR) should be complied within the premises.
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	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)**

<b>UN number</b>	1992
<b>Proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Class</b>	3
<b>Classification code</b>	FT1
<b>Packing group</b>	II
<b>Danger label(s)</b>	3+6.1



<b>Special provisions (SP)</b>	274, 802(ADN)
<b>Excepted quantities (EQ)</b>	E2
<b>Limited quantities (LQ)</b>	1 L
<b>Transport category (TC)</b>	2
<b>Tunnel restriction code (TRC)</b>	D/E
<b>Hazard identification No</b>	336

##### **International Maritime Dangerous Goods Code (IMDG)**

<b>UN number</b>	1992
<b>Proper shipping name</b>	FLAMMABLE LIQUID, TOXIC, N.O.S.
<b>Class</b>	3
<b>Subsidiary risk(s)</b>	6.1
<b>Marine pollutant</b>	-
<b>Packing group</b>	II
<b>Danger label(s)</b>	3+6.1

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<b>Special provisions (SP)</b>	274
<b>Excepted quantities (EQ)</b>	E2
<b>Limited quantities (LQ)</b>	1 L
<b>EmS</b>	F-E, S-D
<b>Stowage category</b>	B
<b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>	
<b>UN number</b>	1992
<b>Proper shipping name</b>	Flammable liquid, toxic, n.o.s.
<b>Class</b>	3
<b>Subsidiary risk(s)</b>	6.1
<b>Packing group</b>	II
<b>Danger label(s)</b>	3+6.1



<b>Special provisions (SP)</b>	A3
<b>Excepted quantities (EQ)</b>	E2
<b>Limited quantities (LQ)</b>	1 L

### SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

##### National regulations (Austria)

##### Ordinance on combustible liquids (VbF)

- VbF (group and hazard class) A1 (combustible liquids of group A, hazard class I)

#### 15.2 Chemical Safety Assessment

For this substance NO chemical safety assesment has been carried out.

### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2009/161/EU	Comission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
Acute Tox.	Acute toxicity
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)

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Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
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
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
GKV	Grenzwerteverordnung
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
IOELV	Indicative occupational exposure limit value
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
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)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit

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Abbr.	Descriptions of used abbreviations
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
VbF	Ordinance on combustible liquids (Austria)
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).

### Classification procedure

*Physical and chemical properties* All information, except it is specially mentioned, relate to the pivotal substance methanol.

*Health hazards. Environmental hazards.* Data on methanol were used.

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

Code	Text
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H370	Causes damage to organs.

### 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