

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 29.01.2024

Version number 23 (replaces version 22)

Revision: 27.11.2023

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

1.1 Product identifier

Trade name: N-Propyl-N-methylpyrrolidinium bis(fluorosulfonyl)imide 99,9%

Article number: PYR1333A

CAS Number:

852620-97-4

EC number:

814-970-5

Registration number Reach : 01-2120888409-36-0000

1.2 Relevant identified uses of the substance or mixture and uses advised against No other important information available.

- Sector of Use

SU24 Scientific research and development

SU16 Manufacture of computer, electronic and optical products, electrical equipment

- Product category

PC21 Laboratory chemicals

PC42 Electrolytes for batteries

- Process category

PROC15 Use as laboratory reagent

PROC 1 - PROC 5- PROC 8b - PROC 9 - PROC 15.

Application of the substance / the mixture

Product intended for professional and industrial use as an electrolyte for batteries. It is also intended for use in scientific research and development.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Solvionic SA

11 chemin des Silos

31100 TOULOUSE

FRANCE

☎ : +33 (0)32.26.20.20

✉: contact@solvionic.com

Further information obtainable from: Department of Regulatory affairs

1.4 Emergency telephone number:

- United Kingdom: Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust, +44 20 7188 7188.

- Ireland: National Poisons Information Centre Beaumont Hospital, +353 1 809 2566 (Healthcare professionals 24/7), +353 1 809 2166 (public, 8am - 10pm, 7/7).

- France ORFILA (INRS): +33 (0)1.45.42.59.59.

- Belgique/ Belgie/Belgium: Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid

Rue Bruyn 1 - 1120 Bruxelles/Brussel. Toutes les questions urgentes concernant une intoxication: 070 245 245 (gratuit, 24/7), si pas accessible 02 264 96 30 (tarif normal). Alle dringende vragen over vergiftigingen: 070 245 245 (gratis, 24/7), of indien onbereikbaar tel. 02 264 96 30 (normaal tarief).

- Sverige/ Sweden: Giftinformationscentralen Box 60 500 : 112 – begär Giftinformation ,+46 10 456 6700 (Från utlandet)

- Ελλάδα/ Greece: Poisons Information Centre Children's Hospital P&A Kyriakou, +30 21 07 79 37 77.

- Italia/Italy: Centro Antiveleni di Roma CAV Policlinico "A. Gemelli", Dipartimento di Tossicologia Clinica Università Cattolica del Sacro Cuore, +39 06 305 4343.

- España/ Spain: Servicio de Información Toxicológica Instituto Nacional de Toxicología y Ciencias Forenses, Departamento de Madrid, +34 91 562 04 20 (solo emergencias toxicológicas), Información en español (24h/365 días).

- Nederland/ Netherlands (NVIC): Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen, +31 (0)88 755 8000.

- Norge/ Norway: Giftinformasjonen: +47 22 59 13 00.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms



GHS07

Signal word Warning

Hazard statements

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P264 Wash contaminated body parts thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.**vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

- CAS No. / Description

CAS: 852620-97-4 N-Propyl-N-methylpyrrolidinium bis(fluorosulfonyl)imide

- Identification number(s)

EC number: 814-970-5

Molecular formula: C₈ H₁₈ F₂ O₄ S₂ N₂**Molar mass:** 308,37 g/mol

SECTION 4: First aid measures

4.1 Description of first aid measures

- General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

. After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

. After skin contact: Immediately wash with water and soap and rinse thoroughly.

. After eye contact: Rinse opened eye for several minutes under running water.

. After swallowing: Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

. Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

. Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use individual protective gear.

6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

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6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling No special precautions are necessary if used correctly.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: None.

Maximum storage temperature: Store at room temperature, not exceeding 35°C.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- Ingredients with limit values that require monitoring at the workplace: Not required.

- Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

- General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

- Respiratory protection: Not required.

Hand protection



Protective gloves

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

Chloroprene rubber (Neopren)

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection Goggles recommended during refilling

- Body protection: Use protective suit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- General Information

Physical state

Liquid

Color:

Colorless

- Odor:

Not determined.

- Odor threshold:

Not determined.

- Melting point/freezing point:

-9 °C (J. Phys. Chem. B 2008)

Boiling point or initial boiling point and boiling range

315 °C (OECD Guideline 103)

Flammability

Not applicable.

Lower and upper explosion limit

- Lower:

Not determined.

- Upper:

Not determined.

- Flash point:

300 °C (Pensky–Martens closed-cup)

- Decomposition temperature:

350 °C (OECD Guideline 103)

Not determined.

pH

5,5 (10%)

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. at 25°C:	
- Viscosity:	
Kinematic viscosity	Not determined.
Viscosity at 25 °C (77 °F)	52,7 mPas
. Dynamic:	Not determined.
Solubility	
. water at 20 °C:	18,9 g/l (OECD Guideline 105)
Partition coefficient n-octanol/water (log value)	1,09968–2,20003 (OECD Guideline 117 (HPLC))
- Vapour pressure at 20 °C:	0 hPa (OECD Guideline 104)
Density and/or relative density	
- Density at 20 °C:	1,343 g/cm ³
. Relative density at 20 °C	1,3433 g/cm ³ (EU Method A.3)
. Vapour density	Not determined.

9.2 Other information

. Appearance:	
Form:	Liquid
Important information on protection of health and environment, and on safety.	
- Auto-ignition temperature:	Not determined.
- Explosive properties:	Product does not present an explosion hazard.
- Change in condition	
. Crystallisation temperature / range:	- 30 °C
. Evaporation rate	Not determined.

Information with regard to physical hazard classes

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**10.3 Possibility of hazardous reactions** No dangerous reactions known.**10.4 Conditions to avoid** No further relevant information available.**10.5 Incompatible materials:** Strong oxidizer and strong acid and base.**10.6 Hazardous decomposition products:** No dangerous decomposition products known.**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Harmful if swallowed.**LD/LC50 values relevant for classification:**

Oral	LD50	500 mg/kg (rat) (Acute Oral toxicity)
		In accordance with OECD Guideline 423, the LD50 cut-off of the test item may be considered as 500mg/ kg bw/day by oral route in the rat

. Skin corrosion/irritation Based on available data, the classification criteria are not met.**. Serious eye damage/irritation** Based on available data, the classification criteria are not met.**- Respiratory or skin sensitisation** May cause an allergic skin reaction.**. Germ cell mutagenicity** Based on available data, the classification criteria are not met.**. Carcinogenicity** Based on available data, the classification criteria are not met.

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- Reproductive toxicity** Based on available data, the classification criteria are not met.
- Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.
- Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.
- Aspiration hazard** Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties Substance is not listed.

SECTION 12: Ecological information

12.1 Toxicity

Dermal	Skin irritation	95,2 % /tissue via (Skin irritation in vitro) OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis Test Method).
	Skin corrosion	88,72 % /tissue (In Vitro Skin Corrosion RHE) % tissue viability After 1 hour : 131.98 % tissue viability After 3 minutes : 88.72 Product not corrosif.
Irritation of eyes	Eye irritation	score (Isolated Chicken Eye Test) cornea opacity score : 0 fluorescein retention score: 0.5 percent corneal swelling: 6
Sensitisation	Skin sensitisation	% at mM (In Chemico Skin Sensitisation: DPRA) lysine depletion: 2.63% at 100 mM. cysteine depletion: 94.68 % at 100 mM overall average : 48.66%
		These results are reflecting a high reactivity and therefore a positive prediction of Direct Peptide Reactivity Assay DPRA.
	Skin sensitisation	813,77 µM (In Vitro Skin Sensitisation: KeratinoSens™) The result of the test KeratinoSens™ show that the product may be a potential skin sensitizer.
	Genetic toxicity in vitro	/5000, 1500, 50 (Bacterial Reverse Mutation Assay) The product do not induce any mutagenic change in Salmonella typhimurium TA 1535, 1537, TA 98, TA 100 strains and Escherichia coli WP2(uvr A) (pkm101) strain without or with metabolic activation, according to the OECD guideline 471.

Aquatic toxicity:

EC50 freshwater algae and cyanobacteria (static)	100 mg/L (Freshwater Alga and Cyanobacteria test) The EC50 and EC10 above 100 mg/L on the growth of Pseudokirchneriella subcapitata over a period of 72 hours. NOEC (growth rate): 100 mg/L LOEC (growth rate): > 100 mg/L NOEC (yield): 100 mg/L LOEC (yield): > 100 mg/L 72h-ErC10: > 100 mg/L 72h-ErC20: > 100 mg/L 72h-ErC50: > 100 mg/L 72h-EyC10: > 100 mg/L 72h-EyC20: > 100 mg/L 72h-EyC50: > 100 mg/L
48h-EC50 (static)	95,04 mg/L (daphnia) (EC50 (daphnia)) Short-term toxicity to aquatic invertebrates: 48h-EC50 = 95.04 mg / L (Daphnia magna). The substance is not considered acutely toxic to aquatic species according to the CLP criteria.

12.2 Persistence and degradability

Biodegradation	0 % degradation /Not biodegrad (Biodegradation in water) the test of the product was found to be not readily biodegradable.
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12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Remark: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

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Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

HP6	Acute Toxicity
HP13	Sensitising
HP14	Ecotoxic

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN, ADN, IMDG, IATA not regulated

14.2 UN proper shipping name

ADR/RID/ADN, ADN, IMDG, IATA not regulated

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA
Class not regulated

14.4 Packing group

ADR/RID/ADN, IMDG, IATA not regulated

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

UN "Model Regulation":

not regulated

SECTION 15: Regulatory information

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

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07

Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P264 Wash contaminated body parts thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU

Named dangerous substances - ANNEX I Substance is not listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

Substance is not listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.

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Regulation (EC) No 273/2004 on drug precursors Substance is not listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

15.2 Chemical safety assessment:

For this product, no chemical safety assessment has been performed.

A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information 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.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

For research and development use only.

Department issuing SDS: Regulatory affairs department

Contact:

Email: hse@solvionic.com

Phone number: +33 (0)5.34.63.35.35

Date of previous version: 16.02.2023

Version number of previous version: 22

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods (Código Marítimo Internacional de Mercancías Peligrosas).

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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Annex: Exposure scenario

Short title of the exposure scenario

Sector of Use

SU24 Scientific research and development

SU16 Manufacture of computer, electronic and optical products, electrical equipment

Product category

PC21 Laboratory chemicals

PC42 Electrolytes for batteries

Process category

PROC15 Use as laboratory reagent

PROC 1 - PROC 5- PROC 8b - PROC 9 - PROC 15.

Description of the activities / processes covered in the Exposure Scenario See section 1 of the annex to the Safety Data Sheet.

Conditions of use

Duration and frequency 5 workdays/week.

Physical parameters

Physical state Liquid

Concentration of the substance in the mixture Raw material.

Used amount per time or activity Smaller than 100 g per application.

Other operational conditions

Other operational conditions affecting environmental exposure

No special measures required.

Use only on hard ground.

Other operational conditions affecting worker exposure

Avoid contact with the skin.

Avoid long-term or repeated skin contact.

Avoid contact with eyes.

Other operational conditions affecting consumer exposure No special measures required.

Other operational conditions affecting consumer exposure during the use of the product Not applicable.

Risk management measures

Worker protection

Organisational protective measures No special measures required.

Technical protective measures

Ensure that suitable extractors are available on processing machines

Use product only in enclosed systems.

Personal protective measures

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Protective gloves

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Avoid contact with the eyes.

Tightly sealed goggles

Measures for consumer protection Ensure adequate labelling.

Environmental protection measures

Water

No special measures required.

Do not allow to reach sewage system.

Soil Prevent contamination of soil.

Disposal measures Ensure that waste is collected and contained.

Disposal procedures Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Waste type Partially emptied and uncleaned packaging

Exposure estimation

Consumer Not relevant for this Exposure Scenario.

Guidance for downstream users No further relevant information available.