

PUROLYTE® 4510

00970-0036

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

Product identifier

PUROLYTE® 4510

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

Use of the substance/mixture

Electrolyte solution

Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

Classification of the substance or mixture

Indications of danger : Highly flammable, Harmful

R-phrases:

Highly flammable.

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to respiratory system and skin.

Risk of serious damage to eyes.

Label elements

Danger symbols:

F - Highly flammable; Xn - Harmful



F - Highly flammable



Xn - Harmful

Hazardous components which must be listed on the label

Acetonitrile

R phrases

11 Highly flammable.

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

37/38 Irritating to respiratory system and skin.

41 Risk of serious damage to eyes.

S phrases

16 Keep away from sources of ignition - No smoking.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

35 This material and its container must be disposed of in a safe way.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Other hazards

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

Mixtures

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Chemical characterization

Preparation in acetonitrile

Hazardous components

EC No.	CAS No.	Chemical name	Quantity	Classification
200-835-2	75-05-8	Acetonitrile	74,9 %	F, Xn, Xi R11-20/21/22-36
207-055-1	429-06-1	Tetraethylammonium tetrafluoroborate	< 30 %	Xi R37/38-41

Full text of each relevant R phrase can be found in heading 16.

SECTION 4: First aid measures**Description of first aid measures****General information**

Remove contaminated soaked clothing immediately.

Take away from danger area and lay down affected person.

After inhalation

Oxygen or artificial respiration if needed.

Move to fresh air in case of accidental inhalation of vapours.

Seek medical treatment immediately.

After contact with skin

Wash off immediately with soap and plenty of water.

Consult a physician.

Poisoning by resorption through skin possible.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Summon a doctor immediately.

After ingestion

Rinse out mouth and give plenty of water to drink.

Never give anything by mouth to an unconscious person.

Do not induce vomiting.

Summon a doctor immediately.

Induce vomiting only upon the advice of a physician.

Most important symptoms and effects, both acute and delayed

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to respiratory system and skin.

Risk of serious damage to eyes.

Indication of any immediate medical attention and special treatment needed

Specific therapy / antidote treatment, as in case of cyanide.

If swallowed, flush stomach.

SECTION 5: Firefighting measures**Extinguishing media****Suitable extinguishing media**Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.**Extinguishing media which must not be used for safety reasons**

Full water jet.

Special hazards arising from the substance or mixture

Fire may produce:

Hydrogen cyanide gas., Hydrogen fluoride., Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).**Advice for firefighters**

Wear self-contained breathing apparatus and protective suit.

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Additional information

Vapours are heavier than air and spread along ground.

The vapour/air mixture is explosive, even in empty, uncleaned receptacles.

Cool containers at risk with water spray jet.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

In case of vapour formation use respirator.

Use only explosion-proof equipment.

Ensure adequate ventilation.

Use personal protective clothing.

Keep away sources of ignition.

Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).

Shovel into suitable container for disposal.

Reference to other sections

Observe protective instructions (see Sections 7 and 8).

Information for disposal look up chapter 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Keep container tightly closed.

Do not breathe vapours.

In case of free handling thoroughly sucking off vapours is necessary.

Use only in well-ventilated areas.

Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion

Do not smoke - volatile.

Keep away from open flames, hot surfaces and sources of ignition.

Take measures against electrostatically charging.

Vapour/air mixture is explosive, even in empty uncleaned receptacles.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.

Advice on storage compatibility

Incompatible with:

Oxidizing agents., Acids and bases.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

Specific end use(s)

Electrolyte solution

SECTION 8: Exposure controls/personal protection

Control parameters

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Exposure limits (EH40)

CAS No.	Chemical name	ml/m ³	mg/m ³	F/ml	Category	Origin
75-05-8	Acetonitrile	40	68		TWA (8 h)	WEL
		60	102		STEL (15 min)	WEL
16984-48-8	Fluoride (as F) (OLD)	-	2.5		TWA (8 h)	OES
		-	-		STEL (15 min)	OES

Exposure controls**Occupational exposure controls**

Ensure adequate ventilation, especially in confined areas.

Pay attention to explosion protection guidelines.

Protective and hygiene measures

Do not inhale vapours.

Wash hands before breaks and immediately after handling the product.

When using, do not eat, drink or smoke.

Take off immediately all contaminated clothing.

Avoid contact with eyes and skin.

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

Hand protection

Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0,7 mm, permeation resistance (wear duration) approx. 480 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Eye protection

Safety goggles with side protection.

Eye wash bottle with pure water.

Skin protection

Chemical resistant apron

Long sleeved clothing.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	Colourless
Odour:	Aromatic

Test method**Changes in the physical state**

Melting point:	- 44 °C *)
Boiling point:	80 °C *)
Flash point:	8 °C Closed cup
Lower explosion limits:	3,0 vol. % *)
Upper explosion limits:	16 vol. % *)
Ignition temperature:	525 °C *)
Vapour pressure:	97 hPa *)
(at 20 °C)	
Density (at 20 °C):	< 1 g/cm ³
Water solubility:	Miscible
(at 20 °C)	

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Solvent content:

70 - 80 %

Other information

*) Acetonitrile

SECTION 10: Stability and reactivity

Reactivity

No decomposition if stored and applied as directed.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Reactions with acids, alkalies and oxidizing agents.

Conditions to avoid

To avoid thermal decomposition, do not overheat.

Vapours may form explosive mixture with air.

Incompatible materials

Acids and bases., Strong oxidizing agents.

Hazardous decomposition products

Hydrogen cyanide gas., Hydrogen fluoride., Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

No toxicological data available.

Harmful by inhalation, in contact with skin and if swallowed.

Irritation and corrosivity

Skin irritation: Irritant

Eye irritation: Severe irritant

Irritating to respiratory system.

Carcinogenic/mutagenic/toxic effects for reproduction

Carcinogenicity: Not classified.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Empirical data on effects on humans

Components of the products may be absorbed into the body through the skin (skin absorption).

May cause irritation of the mucous membranes.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Inhalation of high concentrations may cause injuries to liver, kidneys and central nervous system.

Indications of toxic effects are available from reproduction studies in animals.

SECTION 12: Ecological information

Toxicity

Ecological data are not available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

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Other adverse effects

Hazardous water pollutant.

Damage to fish and plankton is possible.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations**Waste treatment methods****Advice on disposal**

Can be incinerated, when in compliance with local regulations.

Where possible recycling is preferred to disposal.

Waste disposal number of waste from residues/unused products

070104 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals; other organic solvents, washing liquids and mother liquors
Classified as hazardous waste.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information**Land transport (ADR/RID)**

UN number: 1648
UN proper shipping name: ACETONITRILE, Solution
Transport hazard class(es): 3
Packing group: II
Hazard label: 3



Classification code: F1
Limited quantity: 1 L / 30 kg
Transport category: 2
Hazard-no.: 33
Tunnel restriction code: D/E

Inland waterways transport

UN number: 1648
UN proper shipping name: ACETONITRILE, Solution
Transport hazard class(es): 3
Packing group: II
Hazard label: 3



Classification code: F1
Limited quantity: 1 L / 30 kg

Marine transport

UN number: 1648
UN proper shipping name: ACETONITRILE, SOLUTION
Transport hazard class(es): 3

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Packing group: II

Hazard label: 3



Marine pollutant: No

Limited quantity: 1 L / 30 kg

EmS: F-E; S-D

Air transport**UN/ID number:** 1648**UN proper shipping name:** ACETONITRILE, SOLUTION**Transport hazard class(es):** 3**Packing group:** II

Hazard label: 3



Limited quantity Passenger: Y341 / 1 L

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

Environmental hazards

Dangerous for the environment: no

Special precautions for user

Handle in accordance with good industrial hygiene and safety practice.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

The transport takes place only in approved and appropriate packaging.

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

1999/13/EC (VOC): 70 - 80 %

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 2 - water contaminating

Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information**Full text of R-phrases referred to under sections 2 and 3**

11 Highly flammable.

20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

36 Irritating to eyes.

37/38 Irritating to respiratory system and skin.

41 Risk of serious damage to eyes.

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

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The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)