SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 30.03.2019
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SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifiers

Product name	Acetonitrile
Product Number	PSI041
Brand	PureSynth research chemicals
CAS No.	75-05-8

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

Identified uses : Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company	**PureSynth Research Chemicals GmbH** **64683 Einhausen Marie-Curie-StraBe. 3, Germany**

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2), H319

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and Other ignition sources. No smoking.

P280	Wear protective gloves/ protective clothing/ eye protection/ face Protection/ hearing protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated Clothing. Rinse skin with water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable For breathing. Call a POISON CENTER/ doctor if you feel unwell
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing.
Supplemental Hazard Statements	None

2.3 **Other hazards:**

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or Very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	**Mol. formula**	**CAS number**
Methyl cyanide	C_2H_3N	75-05-8
Component	**Classification**	**Concentration**
Acetonitrile	Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2; H225, H302, H332, H312, H319	<= 100 %

SECTION 4: First aid measures

Description of first aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Fire fighting measures

Extinguishing media	Water Foam Carbon dioxide (CO2) Dry powder
Suitable extinguishing media	
Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Combustible.

	Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapors possible in the event of fire.
Advice for fire-fighters	Forms explosive mixtures with air at ambient temperatures. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, and consult an expert. For personal protection see section 8
Environmental precautions	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Storage class (TRGS 510): 3: Flammable liquids .
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	No data available.
Exposure controls	
Appropriate engineering controls	No data available.
Personal protective equipment:	
Eye / face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves. Full contact Material: butyl-rubber Minimum layer thickness: 0.7 mm

	Break through time: 480 min Splash contact Material: Chloroprene Minimum layer thickness: 0.65 mm Break through time: 10 min
Body Protection	Flame retardant antistatic protective clothing.
Respiratory protection	Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Control of environmental exposure	Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

Appearance	Form: clear, liquid Colour: Colourless
Odour	Ether-like
pH - Value	No data available
Density	0.78 g/cm3 at 20 °C
Boiling Point	81.0 – 82.0 °C at 1.013.25 hPa
Melting Point	-45.7 °C at 1.013 hPa
Solubility in water	1.000 g/l at 25 °C completely soluble
Flash point	2.0 °C - closed cup
Vapour pressure	98.64 hPa at 20 °C
Auto -ignition temperature	524.0 °C
Vapour density	1.42 - (Air = 1.0)
Flammability (solid, gas)	No data available
Evaporation rate	5.8
Partition coefficient: n- octanol / water	No data available
Viscosity	Viscosity, dynamic: 0.350 Pas at 20.00 °C
Explosive properties	No data available
Upper / lower flammability or explosive limits	Upper explosion limit: 16 %(V) Lower explosion limit: 4,4 %(V)
Oxidizing properties	No data available

Other safety information:

Surface tension	29.0 mN/m at 20,0 °C
Relative vapour Density	1.42 - (Air = 1.0)

SECTION 10: Stability and reactivity

Reactivity	Vapors may form explosive mixture with air.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions	Violent reactions possible with: Strong bases strong reducing agents Risk of explosion with: nitrates perchlorates perchloric acid conc. sulphuric acid With Heat. Risk of ignition or formation of inflammable gases or vapours with: Oxidizing agents Nitric acid nitrogen dioxide with Catalyst Generates dangerous gases or fumes in contact with: Acids
Condition to avoid	Warming
Incompatible materials	rubber, various plastics, Strong oxidizing agents
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Mouse - male and female - 617 mg/kg LC50 Inhalation - Mouse - male and female - 4 h - 6,022 mg/l - vapour Acute toxicity estimates Dermal - 1.500 mg/kg Acute toxicity estimates Dermal - 1.500 mg/kg
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h
Serious eye damage/eye irritation	Eyes - Rabbit Result: Causes serious eye irritation.
Respiratory or skin sensitization	Buehler Test - Guinea pig Result: negative
Germ cell mutagenicity	Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: Positive results were obtained in some in vitro tests. Remarks: (National Toxicology Program) Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: Metabolic activation

	Result: negative Remarks: Sister chromatid exchange Test system: Saccharomyces cerevisiae Metabolic activation: without metabolic activation Result: positive Remarks: Cytogenetic analysis Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Result: negative Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal Result: negative
Carcinogenicity	No data available
Reproductive toxicity	Animal testing did not show any effects on fertility.
Specific target organ toxicity - single exposure	The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific target organ toxicity - repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeated exposure
Aspiration hazard	No data available
Additional Information	
Endocrine disrupting properties	
Product	Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Treat as cyanide poisoning., Always have on hand a cyanide first-aid kit, together with proper instructions., The onset of symptoms is generally delayed pending conversion to cyanide., Nausea, Vomiting, Diarrhea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 1.640 mg/l - 96 h
Toxicity to algae	static test NOEC - Phaeodactylum tricornutum - 400 mg/l - 72 h static test ErC50 - Phaeodactylum tricornutum - 9.696 mg/l - 72 h
Persistence and degradability	Result: 70 % - Readily biodegradable.
Bio accumulative potential	No bioaccumulation is to be expected (log Pow <= 4).
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at Levels of 0.1% or higher.

Endocrine disrupting properties

Product:	Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other adverse effects	Avoid release to the environment. Stability in water DT50 - > 9.999 d pH 7 at 25 °C Remarks: (calculated)Hydrolyzes slowly

SECTION 13: Disposal considerations

Waste treatment methods **Products**	No data available
Contaminated packaging	No data available

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	1648	ACETONITRILE	3	II	No
IMDG	1648	ACETONITRILE	3	II	No
IATA	1648	Acetonitrile	3	II	No

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 legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous Substances.	P5c FLAMMABLE LIQUIDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.