

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 Pentane
Product Number PSR43188 / PSR44829 / PSR44960
Brand PureSynth research chemicals
CAS No. 109-66-0

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

Identified uses : Solvent for analytical purpose

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

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Aspiration hazard (Category 1), H304

Long-term (chronic) aquatic hazard (Category 2), H411

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor

H304 May be fatal if swallowed and enters airways

H336 May cause drowsiness or dizziness

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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

P233	Keep container tightly closed.
P273	Avoid release to the environment.
P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.
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
n-Pentane	C ₅ H ₁₂	109-66-0
Component	Classification	Concentration
pentane	Flam. Liq. 2; STOT SE 3; Asp. Tox. 1; Aquatic Chronic 2; H225, H336, H304, H411 Concentration limits: 20 %: STOT SE 3, H336;	<= 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	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash off with soap and plenty of water. Consult a physician
In case of eye contact	Flush eyes with water as a precaution.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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	Dry powder Dry sand
Suitable extinguishing media	
Special hazards arising from the substance or mixture	Carbon oxides Combustible.

Advice for fire-fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Handle in accordance with good industrial hygiene and safety practice. Wash hands before Breaks and at the end of workday. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as

NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

Appearance	Form: Liquid
Odour	Colour: Colourless benzine-like
pH - Value	No data available.
Density	No data available
Boiling Point	36.1 °C
Melting Point	-129.7 °C
Solubility in water	0.038 g/l at 20 °C - partly soluble
Flash point	-40 °C
Vapour pressure	585.9 hPa at 21,13 °C
Auto-ignition temperature	260.0 °C
Vapour density	2.49 - (refers to pure substance)
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	Log Pow: 3.45 at 25 °C - Bioaccumulation is not expected.
Viscosity	No data available
Explosive properties	No data available
Upper / lower flammability or explosive limits	Upper explosion limit: 8 %(V) Lower explosion limit: 1.4 %(V)
Oxidizing properties	No data available
Other safety information: No data available	
Surface tension	ca.15.49 mN/m at 25 °C
Relative vapor density	2.49

SECTION 10: Stability and reactivity

Reactivity	No data available
Chemical stability	Stable under recommended storage conditions
Possibility of hazardous reactions	No data available
Condition to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - male and female - > 2.000 mg/kg LC50 Inhalation - Rat - male and female - 4 h - > 25.3 mg/l Remarks: (in analogy to similar products)The value is given in analogy to the following substances: cyclopentane
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Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation
Respiratory or skin sensitization	Buehler Test - Guinea pig Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Test Type: Ames test Test system: Salmonella typhimurium
Germ cell mutagenicity	Metabolic activation: with and without metabolic activation Result: negative Test Type: In vivo micronucleus test Species: Rat Cell type: Bone marrow Application Route: inhalation (vapor) Method: Mutagenicity (micronucleus test) Result: negative
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness. - Central nervous system
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	May be fatal if swallowed and enters airways. Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis. RTECS: RZ9450000 Contact with eyes can cause: Redness, Blurred vision, Provokes tears. Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Central nervous system depression, Damage to the lungs.
Additional Information	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Stomach - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

Toxicity	
Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) – 4.26 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) – 2.7 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test ErC50 - Selenastrum capricornutum (green algae) – 10.7 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test NOEC - Selenastrum capricornutum (green algae) – 7.51 mg/l - 72 h (OECD Test Guideline 201)
Persistence and degradability	aerobic - Exposure time 28 d Result: 87 % - Readily biodegradable. (OECD Test Guideline 301F)

Biodegradability	No data available
Bio accumulative potential	No data available
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.
Other adverse effects	Toxic to aquatic life with long lasting effects. Avoid release to the environment. Do not empty into drains.

SECTION 13: Disposal considerations

Waste treatment methods	Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleansed containers like the product itself.
Products	
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	1265	PENTANES	3	II	No
IMDG	1265	PENTANES	3	II	No
IATA	1265	Pentanes	3	II	No

SECTION 15: Regulatory information

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. : ENVIRONMENTAL HAZARDS
: FLAMMABLE LIQUIDS

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.