

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 n-Hexane
Product Number PSR37828 / PSR38223 / PSR36670 / PSR47367/ PSR41110
Brand PureSynth research chemicals
CAS No. 110-54-3

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: Highly flammable liquid and vapor.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Reproductive toxicity, (Category 2)	H361f: Suspected of damaging fertility.
Specific target organ toxicity - single exposure, (Category 3), Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, (Category 1), Nervous system	H372: May cause damage to organs through prolonged or repeated exposure if inhaled.
Aspiration hazard, (Category 1)	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, (Category 2)	H411: Toxic to aquatic life with long lasting effects.

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.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H372	May cause damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.
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.
P273	Avoid release to the environment
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P331	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.

Ecological information: 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.

Toxicological information: 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.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
n-Hexane	C ₆ H ₁₄	110-54-3
Component	Classification	Concentration
n-Hexane	specific concentration limit STOT RE 2; H373 >= 5 % STOT SE 3; H336 >= 20 %	>= 90 - <= 100

SECTION 4: First aid measures

Description of first aid measures

General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. 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: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.
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 suitable extinguishing media Unsuitable extinguishing media	Carbon dioxide (CO ₂) Foam Dry powder For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours 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. 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, 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	Ingredients with workplace control parameters
Appropriate engineering controls	
Personal protective equipment:	
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Skin protection	Flame retardant antistatic protective clothing.
Body Protection	Flame retardant antistatic protective clothing.
Respiratory protection	required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. 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: Liquid Colour: Colourless
Odour	hydrocarbon-like
pH - Value	7.0
Density	0.659 g/mL at 25 °C
Boiling Point	69 °C
Melting Point	-95 °C
Solubility in water	0.01 g/l at 25 °C - slightly soluble
Flash point	-22 °C - closed cup
Vapour pressure	175.98 hPa at 20,0 °C
Auto -ignition temperature	225 °C at 1.013 hPa
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	15.8
Partition coefficient: n- octanol / water	log Pow: ca.4 at 20 °C - (Lit.), Potential bioaccumulation
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0.3 mPa.s at 25 °C
Explosive properties	Not classified as explosive.
Upper / lower flammability or explosive limits	Upper explosion limit: 8.1 %(V) Lower explosion limit: 1.0 %(V)
Oxidizing properties	None

Other safety information:
Self-ignition: 225 °C 1.013 hPa

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	Risk of explosion with: Violent reactions possible with: Strong oxidizing agents nitrogen oxides halogens rubber various plastics Risk of ignition or formation of inflammable gases or vapours with: Peroxides (sodium salt)
Condition to avoid	Warming
Incompatible materials	No data available
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - male and female - 16.000 mg/kg LC50 Inhalation - Rat - 4 h - 172 mg/l - vapor LD50 Dermal - Rabbit - male - > 2.000 mg/kg
Skin corrosion/irritation	Skin - Rabbit Result: Skin irritation - 24 h
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation - 72 h
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse Result: negative
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative 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: dominant lethal test Species: Mouse Application Route: inhalation (vapor) Result: negative Test Type: Chromosome aberration test Species: Rat Cell type: Bone marrow Application Route: Gavage

Carcinogenicity	Result: negative
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	Suspected of damaging fertility.
Specific target organ toxicity - repeated exposure	May cause drowsiness or dizziness. - Central nervous system
Aspiration hazard	Inhalation - May cause damage to organs through prolonged or repeated exposure. - Nervous system
Additional Information	Aspiration may cause pulmonary edema and pneumonitis.
Endocrine disrupting properties	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. Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - No observed adverse effect level - 40 mg/kg - Lowest observed adverse effect level - 200 mg/kg RTECS: MN9275000 Drowsiness, irritant effects, somnolence narcosis, Nausea, Tiredness, CNS disorders, paralysis symptoms Risk of corneal clouding. It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis. 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	LC50 - Pimephales promelas (fathead minnow) – 2.5 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) – 2.1 mg/l - 48 h
Persistence and degradability	
Biodegradability	aerobic - Exposure time 28 d Result: 98 % - Readily biodegradable.
Bio accumulative potential	log Pow: ca. 4 (20 °C) Method: (experimental) Potential bioaccumulation
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	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	No data available

SECTION 13: Disposal considerations

Waste treatment methods	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste.
Products	Handle uncleaned containers like the product itself.
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	1208	HEXANES	3	II	Yes
IMDG	1208	HEXANES	3	II	Yes
IATA	1208	Hexanes	3	II	Yes

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.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: Number on list 3

Number on list 40: n-Hexane

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

Not applicable

REACH - List of substances subject to authorisation (Annex XIV)

Not applicable

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

E1 ENVIRONMENTAL HAZARDS
P5c 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.