

**Pentane-(-n)**

Revision: 25.09.2025

Product code: AC18.13450

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Pentane-(-n)

REACH Registration Number: 01-2119459286-30-XXXX  
CAS No: 109-66-0  
Index No: 601-006-00-1  
EC No: 203-692-4

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet****Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: N-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

**Supplier or manufacturer details**

Company name: AnalytiChem Belgium NV  
Street: Industriezone "De Arend" 2  
Place: B-8210 Zedelgem  
Telephone: +32 50 28 83 20  
E-mail: info.be@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Responsible Department: AnalytiChem:  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333  
+44 20 3807 3798 (CHEMTREC)

**1.4. Emergency telephone number:**

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**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Flam. Liq. 2; H225

STOT SE 3; H336

Asp. Tox. 1; H304

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:****Hazard statements**

H225

Highly flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H336

May cause drowsiness or dizziness.

H411

Toxic to aquatic life with long lasting effects.

EUH066

Repeated exposure may cause skin dryness or cracking.

**Precautionary statements**

P210

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

P240

Ground and bond container and receiving equipment.

P273

Avoid release to the environment.

P301+P330+P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.1. Substances**

Sum formula:

CH<sub>3</sub>(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>

Molecular weight:

72,15 g/mol

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## Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
109-66-0	pentane			100 %
	203-692-4	601-006-00-1	01-2119459286-30-XXXX	
	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066			

Full text of H and EUH statements: see section 16.

## Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
109-66-0	203-692-4	pentane	100 %
	inhalation: LC50 = > 25,3 mg/l (vapours); oral: LD50 = > 5000 mg/kg		

## Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

## General information

No data available

## After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

Call a physician immediately.

## After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

## After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

## After ingestion

Observe risk of aspiration if vomiting occurs.

Call a physician immediately.

## 4.2. Most important symptoms and effects, both acute and delayed

Irritant

Respiratory complaints

Spasms

Vapours may cause drowsiness and dizziness.

Narcotic effects

Gastrointestinal complaints

Repeated exposure may cause skin dryness or cracking.

## 4.3. Indication of any immediate medical attention and special treatment needed

No data available

## SECTION 5: Firefighting measures

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**5.1. Extinguishing media****Suitable extinguishing media**Carbon dioxide (CO<sub>2</sub>)

Foam

Extinguishing powder

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Combustible liquids

Hazardous combustion products

In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Heating causes rise in pressure with risk of bursting.

Beware of reignition.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

**6.3. Methods and material for containment and cleaning up****For containment**

Cover drains.

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Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Provide adequate ventilation. Do not breathe vapour.

**Advice on protection against fire and explosion**

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

**Further information on handling**

Take off immediately all contaminated clothing and wash it before reuse.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.

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

**Hints on joint storage**

Take national regulations into account.

**Further information on storage conditions**

Keep container tightly closed and dry.

Keep cool. Protect from sunlight.

storage temperature +5°C - +30°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

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## Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
109-66-0	Pentane	600	1800		TWA (8 h)	WEL

## DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
109-66-0	pentane			
Worker DNEL, long-term		inhalation	systemic	3000 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	432 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	643 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	214 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	214 mg/kg bw/day

## PNEC values

CAS No	Substance	Value
109-66-0	pentane	
Freshwater		0,23 mg/l
Freshwater (intermittent releases)		0,88 mg/l
Marine water		0,23 mg/l
Freshwater sediment		1,2 mg/kg
Marine sediment		1,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,6 mg/l
Soil		0,55 mg/kg

## 8.2. Exposure controls

## Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

## Individual protection measures, such as personal protective equipment

## Eye/face protection

goggles

Face protection umbrella

## Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 730 Camatril® Velours

Suitable material: NBR (Nitrile rubber) 0,4 mm

Wearing time with permanent contact: > 480 min

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By short-term hand contact  
Trade name/designation: KCL 890 Vitoject®  
Suitable material: FKM (fluoro rubber) 0,7 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Take off immediately all contaminated clothing and wash it before reuse.  
Wear fire resistant or flame retardant clothing.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation  
Filtering device with filter or ventilator filtering device of type: AX  
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.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.  
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.  
Danger of explosion

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	like: Gasoline
Odour threshold:	No data available
Melting point/freezing point:	-130 °C
Boiling point or initial boiling point and boiling range:	36 °C
Flammability:	No data available
Lower explosion limits:	1,4 vol. %
Upper explosion limits:	8 vol. %
Flash point:	-48 °C
Auto-ignition temperature:	285 °C
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic:	No data available
Water solubility: (at 16 °C)	~0,4 g/l
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	log Pow:3,45

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Dispersion stability:	No data available
Vapour pressure: (at 20 °C)	570 hPa
Vapour pressure:	No data available
Density (at 20 °C):	0,63 g/cm <sup>3</sup>
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes****Explosive properties**

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustained combustibility: Sustained combustibility

**Self-ignition temperature**

Solid: No data available

Gas: No data available

**Oxidizing properties**

No data available

**Other safety characteristics**

Evaporation rate: No data available

Solvent separation test: No data available

Solvent content: 100%

Solid content: No data available

Sublimation point: No data available

Softening point: No data available

Pour point: No data available

No data available

Viscosity / dynamic: No data available

Flow time: No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent

Nitric acid

**10.4. Conditions to avoid**

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

**10.5. Incompatible materials**

Plastic articles

Rubber articles

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures



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**Further information**

No data available

**SECTION 11: Toxicological information****11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

May cause respiratory irritation.

Pulmonary oedema

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
109-66-0	pentane				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1982)	OECD Guideline 423
	inhalation (4 h) vapour	LC50 > 25,3 mg/l	Rat	Secondary source (1993)	OECD Guideline 403

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Repeated exposure may cause skin dryness or cracking.

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

May cause drowsiness or dizziness. (pentane)

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

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**Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Other information**

No data available

**Further information**

Irritant

Respiratory complaints

Spasms

Vapours may cause drowsiness and dizziness.

Narcotic effects

Gastrointestinal complaints

Repeated exposure may cause skin dryness or cracking.

**SECTION 12: Ecological information****12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
109-66-0	pentane					
	Acute fish toxicity	LC50 mg/l	4,26	96 h	Oncorhynchus mykiss	Study report (1997)
	Acute algae toxicity	ErC50 mg/l	20,33	72 h	Pseudokirchneriella subcapitata	CONCAWE, Brussels, Belgium (2009)
	Acute crustacea toxicity	EC50 mg/l	48,11	48 h	Daphnia magna	CONCAWE, Brussels, Belgium (2009)
	Fish toxicity	NOEC mg/l	6,165	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2009)
	Crustacea toxicity	NOEC mg/l	10,76	21 d	Daphnia magna	CONCAWE, Brussels, Belgium (2009)

**12.2. Persistence and degradability**

87 %; 28 d; aerob

OECD 301F

Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
109-66-0	pentane	3,45

**BCF**

CAS No	Chemical name	BCF	Species	Source
109-66-0	pentane	171	Pimephales promelas	QSAR in Environmenta

**12.4. Mobility in soil**

No data available

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**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of UK REACH.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

Avoid release to the environment.

**Further information**

No data available

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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

<b>14.1. UN number or ID number:</b>	UN 1265
<b>14.2. UN proper shipping name:</b>	Pentanes
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 1265
<b>14.2. UN proper shipping name:</b>	Pentanes
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Classification code:	F1
Limited quantity:	1 L
Excepted quantity:	E2

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 1265
<b>14.2. UN proper shipping name:</b>	Pentanes
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3

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Special Provisions: -  
Limited quantity: 1 L  
Excepted quantity: E2  
EmS: F-E, S-D

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 1265  
**14.2. UN proper shipping name:** PENTANES liquid  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II  
Hazard label: 3  
Limited quantity Passenger: 1 L  
Passenger LQ: Y341  
Excepted quantity: E2  
IATA-packing instructions - Passenger: 353  
IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 364  
IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes  
Danger releasing substance: pentane

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to Directive E2 Hazardous to the Aquatic Environment

2012/18/EU (SEVESO III):

Additional information: P5c

**Additional information**

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 8,11,12,15.

**Abbreviations and acronyms**

Flam. Liq. 2: Flammable liquids, hazard category 2

Asp. Tox. 1: Aspiration hazard, hazard category 1

STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2

**Relevant H and EUH statements (number and full text)**

H225 Highly flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H336 May cause drowsiness or dizziness.

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H411 Toxic to aquatic life with long lasting effects.  
EUH066 Repeated exposure may cause skin dryness or cracking.

**Further Information**

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.