

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## n-Pentane &gt; 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 1 of 12

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

n-Pentane &gt; 97 % pure

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**

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Uses advised against**

Do not use for private purposes (household).

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

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

**1.4. Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**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:**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 2 of 12

#### 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.

#### 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.

#### Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking.
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#### 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

#### Hazardous components

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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 3 of 12

#### 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

#### 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,

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 4 of 12

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

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.

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.

##### 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 5 of 12

#### 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.

#### 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

#### Occupational exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
109-66-0	n-Pentane	1000	3000		TWA (8 h)	

#### 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 6 of 12

#### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

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

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

#### 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 7 of 12

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
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.

###### Sustaining combustion:

Sustaining combustion

###### 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

###### 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**n-Pentane > 97 % pure**

Revision date: 23.08.2023

Product code: 23428

Page 8 of 12

**10.5. Incompatible materials**

Plastic articles  
Rubber articles

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**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

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**

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

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

**STOT-single exposure**

May cause drowsiness or dizziness. (pentane)

**STOT-repeated exposure**

Repeated exposure may cause skin dryness or cracking.

**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**



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**n-Pentane > 97 % pure**

Revision date: 23.08.2023

Product code: 23428

Page 9 of 12

**Endocrine disrupting properties**

No data available

**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**

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) OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	20,33	72 h	Pseudokirchneriella subcapitata	CONCAWE, Brussels, Belgium (2009) The aquatic toxicity was estimated by a
	Acute crustacea toxicity	EC50 mg/l	48,11	48 h	Daphnia magna	CONCAWE, Brussels, Belgium (2009) The aquatic toxicity was estimated by a
	Fish toxicity	NOEC mg/l	6,165	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2009) The aquatic toxicity was estimated by a
	Crustacea toxicity	NOEC mg/l	10,76	21 d	Daphnia magna	CONCAWE, Brussels, Belgium (2009) The aquatic toxicity was estimated by a

**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

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

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.  
This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**n-Pentane > 97 % pure**

Revision date: 23.08.2023

Product code: 23428

Page 10 of 12

**12.6. Endocrine disrupting properties**

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

No data available

**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
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### n-Pentane > 97 % pure

Revision date: 23.08.2023

Product code: 23428

Page 11 of 12

EmS: F-E, S-D

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

<b>14.1. UN number or ID number:</b>	UN 1265
<b>14.2. UN proper shipping name:</b>	PENTANES liquid
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	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 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

Additional information: P5c

##### National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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

### SECTION 16: Other information

#### Abbreviations and acronyms

Flam. Liq: Flammable liquid

Asp. Tox: Aspiration hazard

STOT SE: Specific target organ toxicity - single exposure

Aquatic Chronic: Chronic aquatic hazard

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

#### Further Information

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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### **n-Pentane > 97 % pure**

Revision date: 23.08.2023

Product code: 23428

Page 12 of 12

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.