

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.28.2018

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Pentane

SECTION 1: Identification

Product identifier

Product name: Pentane

Product code: S25457

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

Supplier:

AquaPhoenix Scientific
860 Gitts Run Road
Hanover
PA 17331
(717) 632-1291

Fisher Science Education
6771 Silver Crest Road
Nazareth
PA 18064
800 955-1177

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification:

Flammable liquids, category 2

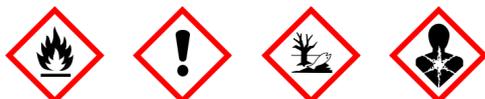
Specific target organ toxicity - single exposure, category 3, central nervous system

Chronic aquatic hazard, category 2

Aspiration hazard, category 1

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapor

H336 May cause drowsiness or dizziness

H304 May be fatal if swallowed and enters airways

H411 Toxic to aquatic life with long lasting effects

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking

P233 Keep container tightly closed

P240 Ground/bond container and receiving equipment

P241 Use explosion-proof electrical/ventilating/light/equipment

P242 Use only non-sparking tools

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P243 Take precautionary measures against static discharge
P280 Wear protective gloves/protective clothing/eye protection/face protection
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P271 Use only outdoors or in a well-ventilated area
P273 Avoid release to the environment
P303+P361+P353 If on skin (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower
P370+P378 In case of fire: Use agents recommended in section 5 for extinction
P304+P340+P312 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell
P391 Collect spillage
P331 Do not induce vomiting
P301+P310 If swallowed: Immediately call a poison center or doctor/physician
P405 Store locked up
P403+P233 Store in a well ventilated place. Keep container tightly closed
P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 109-66-0	n-Pentane	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Get medical advice/attention if you feel unwell

After skin contact:

Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention

After swallowing:

Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

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Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use Water (fog only), dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

Unsuitable extinguishing media:

Do not use a water stream as an extinguisher

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Vapors can flow to distant ignition sources and flashback

Liquid is volatile and may generate an explosive atmosphere

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

Beware of vapors accumulating to form explosive concentrations

Vapors can accumulate in low areas

Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

Use spark-proof tools and explosion-proof equipment

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)

Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.

Avoid breathing mist or vapor.

Do not eat, drink, smoke or use personal products when handling chemical substances.

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Take precautionary measures against electrostatic discharges.
Use only non-sparking tools.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Protect from freezing and physical damage.
Store in a cool, well-ventilated area.
Store away from all ignition sources (open flames, hot surfaces, direct sunlight, spark sources).

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	n-Pentane	109-66-0	8-Hour Exposure Limit (TLV-TWA): 1000 ppm
NIOSH	n-Pentane	109-66-0	NIOSH Recommended exposure limit (REL) [for up to a 10-hour workday during a 40-hour workweek]: 350 mg/m ³ (120 ppm)
	n-Pentane	109-66-0	NIOSH Ceiling 15-min. : 1800 mg/m ³ (610 ppm)
	n-Pentane	109-66-0	NIOSH Immediately dangerous to life or health (IDLH) concentration: 1500 ppm.
United States (OSHA)	n-Pentane	109-66-0	OSHA TWA: 1800 mg/m ³ (600 ppm)
	n-Pentane	109-66-0	OSHA STEL: 2250 mg/m ³ (750 ppm)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.
Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.
Use explosion-proof ventilation equipment.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.
Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

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General hygienic measures:

- Avoid contact with skin, eyes and clothing.
- Wash hands before breaks and at the end of work.
- Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Gasoline - like odor
Odor threshold	Not determined
pH	Not determined
Melting point/freezing point	130° C / - 202° F
Initial boiling point/range	36° C / 96.8° F
Flash point (closed cup)	- 49° C / - 56.2° F
Evaporation rate	28.6
Flammability (solid, gas)	Very flammable
Upper flammability/explosive limit	Not determined
Lower flammability/explosive limit	Not determined
Vapor pressure	573 mbar @ 20°C
Vapor density	2.5 (Air = 1)
Density	Not determined
Relative density	0.626
Solubilities	Material is slightly water soluble.
Partition coefficient (n-octanol/water)	Not determined
Auto/Self-ignition temperature	Not determined
Decomposition temperature	Not determined
Dynamic viscosity	Not determined
Kinematic viscosity	Not determined
Explosive properties	Not determined
Oxidizing properties	Not determined

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

Incompatible materials. Ignition sources. Excess heat.

Incompatible materials:

Strong oxidizing agents.

Hazardous decomposition products:

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Oxides of carbon.

SECTION 11: Toxicological information

Acute toxicity

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

Product data: No data available.

Substance data:

Name	Route	Result
n-Pentane	inhalation	LC50 Rat: 364 g/m ³

Skin corrosion/irritation

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

Product data: No data available.

Substance data: No data available.

Serious eye damage/irritation

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

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

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

Product data: No data available.

Substance data: No data available.

Carcinogenicity

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

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

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

Product data: No data available.

Substance data: No data available.

Reproductive toxicity

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

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: May cause drowsiness or dizziness

Product data: No data available.

Substance data:

Name	Result
n-Pentane	May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure)

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

Product data: No data available.

Substance data: No data available.

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Aspiration toxicity

Assessment: May be fatal if swallowed and enters airways

Product data: No data available.

Substance data:

Name	Result
n-Pentane	May be fatal if swallowed and enters airways.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

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

Product data: No data available.

Substance data:

Name	Result
n-Pentane	LL50 (4 days): 27.55 mg/L
	EL50 (48 h): 48.11 mg/L

Chronic (long-term) toxicity

Product data: No data available.

Substance data:

Name	Result
n-Pentane	NOELR (28 days): 6.165 mg/L

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	1265
UN proper shipping name	PENTANES

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UN transport hazard class(es)	3	
Packing group	II	
Environmental hazards	None	
Special precautions for user	None	
Excepted quantities	30g/30mL	
Passenger air/rail	5L	
Cargo aircraft only	60L	
Stowage category	E	

International Maritime Dangerous Goods (IMDG)

UN number	1265	
UN proper shipping name	PENTANES	
UN transport hazard class(es)	3	
Packing group	II	
Environmental hazards	None	
Special precautions for user	None	
Excepted quantities	30g/30mL	
Limited quantity	1L	

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	1265	
UN proper shipping name	PENTANES	
UN transport hazard class(es)	3	
Packing group	II	
Environmental hazards	None	
Special precautions for user	None	
Excepted quantities	30g/30mL	
Passenger and cargo	5L	
Cargo aircraft only	60L	
Limited quantity	1L	

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

109-66-0	n-Pentane	Listed
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Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
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Yes	No	Yes	No	No
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SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

109-66-0	n-Pentane	Not Listed
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CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA):

109-66-0	n-Pentane	Listed
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Massachusetts Right to Know:

109-66-0	n-Pentane	Listed
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New Jersey Right to Know:

109-66-0	n-Pentane	Listed
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New York Right to Know:

109-66-0	n-Pentane	Listed
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Pennsylvania Right to Know:

109-66-0	n-Pentane	Listed
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California Proposition 65: None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 1-0-0

HMIS: 1-0-0

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End of Safety Data Sheet