



Safety Data Sheet

Pentane (n-), 99+%, Reagent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Pentane (n-), 99+%, Reagent, ACS

Synonyms/Generic Names: Pentane; Normal Pentane

Product Number: CP-C7238, CP-E7238, 3895

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: ChemPure Brand Chemicals
39103 Warren Road
Westland, MI 48185

For More Information Call: 734-729-1805 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable liquid, Target organ effect

Target Organs: Central nervous system, Heart, Lungs

Signal Words: Danger

Pictograms:



GHS Classification:

Flammable liquid	Category 1
Acute toxicity, Dermal	Category 5
Acute toxicity, Oral	Category 5
Specific target organ toxicity – single exposure	Category 3
Aspiration hazard	Category 1
Acute aquatic toxicity	Category 2

GHS Label Elements, including precautionary statements:

Hazard Statements:

H224	Extremely flammable liquid and vapor.
H303+H313	May be harmful if swallowed or in contact with skin.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H401	Toxic to aquatic life.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. –No Smoking.
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.

NFPA Ratings

Health	1
Flammability	4
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	1
Fire	4
Reactivity	0
Personal	H

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
n-Pentane	≥95	109-66-0	203-692-4	C ₅ H ₁₂	72.15 g/mol
Isopentane	<5	78-78-4	201-142-8	C ₅ H ₁₂	72.15 g/mol
Cyclopentane	<5	287-92-3	204-881-4	C ₅ H ₁₀	70.13 g/mol
Other Hexanes	<5	Various	Not Available	Not Available	Not Available

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Flammable liquid. For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected and unopened containers with flooding quantities of water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section) Vapors can travel to a source of ignition and flash back. Containers may explode in a fire. Cool containers from a distance using water spray. SENSITIVE TO STATIC DISCHARGE.
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage, including any incompatibilities

Store in tightly closed, original containers in a cool, dry, well ventilated area. Store between 55-80°F for product stability. Do not store with strong oxidizing agents. Avoid sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Pentane, all isomers	600 ppm 1770 mg/m ³	TLV	ACGIH
	1000 ppm 2950 mg/m ³	PEL	OSHA
	120 ppm 350 mg/m ³	REL	NIOSH
	610 ppm 1800 mg/m ³	CEIL (15 minutes)	NIOSH
Cyclopentane	600 ppm 1720 mg/m ³	TLV	ACGIH
	600 ppm 1720 mg/m ³	REL	NIOSH
Hexanes	500 ppm	PEL	OSHA
	500 ppm	TLV	ACGIH
	100 ppm	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.
 TLV: Threshold Limit Value over 8 hours of work.
 REL: Recommended Exposure Limit
 PEL: Permissible Exposure Limit
 STEL: Short Term Exposure Limit during x minutes.
 IDLH: Immediately Dangerous to Life or Health
 WEEL: Workplace Environmental Exposure Levels
 CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and full body covering. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid
Odor	Gasoline-like
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	-130°C (-202°F)
Initial boiling point and boiling range	35 - 36°C (95 - 97°F)
Flash point	-49.0°C (-56.2°F) – closed cup
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Upper: 8.3% Lower: 1.4%
Vapor pressure	579.0 hPa (434.3 mmHg) at 20°C (68°F) 1,859.7 hPa (1,394.9 mmHg) at 55°C (131°F)
Vapor density	2.48
Relative density	0.626 g/cm ³ at 25°C (77°F)
Solubility (ies)	Negligible
Partition coefficient: n-octanol/water	log Pow: 3.39
Auto-ignition temperature	260 °C (500 °F)
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Vapors may form explosive mixture with air
Conditions to Avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible Materials	Oxidizers, strong acids, halogens, chromates, perchlorates, peroxides
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

n-Pentane

Skin	LD50 Dermal - rabbit - 3,000 mg/kg
Eyes	Not Available
Respiratory	LC50 Inhalation - rat - 4 h - 364,000 mg/m ³
Ingestion	LD50 Oral - mouse - 5,000 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Eyes	Causes irritation. Symptoms include redness, excessive blinking and watering eyes.
Inhalation	Inhalation can cause irritation of mucous membranes and central nervous system depression. Symptoms include coughing, wheezing, headache, disorientation, blurred vision, dizziness, fatigue or nausea.
Skin	Contact may cause irritation. Symptoms include burning, itching, redness.
Ingestion	May be harmful if swallowed. Symptoms include nausea vomiting, may cause blindness and central nervous system depression.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	May cause drowsiness or dizziness.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 9.74 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Biotic/Aerobic, Result: 70 % - Readily biodegradable
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1265, Pentanes, 3, pg II
TDG	UN1265, PENTANES, 3, pg II
IMDG	UN1265, PENTANES, 3, pg II
Marine Pollutant	No
IATA/ICAO	UN1265, Pentanes, 3, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Chronic Health Hazard
SARA 312	Fire Hazard, Chronic Health Hazard
SARA 313	Not Listed
WHMIS Canada	Class B-2: Flammable and combustible material - Flammable liquid

16. OTHER INFORMATION

Revision	Date
Revision 1	08-18-2011
Revision 2	08/13/2013

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