



# n-Pentane

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Date of Issue: 11/07/2022

Version: 1.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Substance

**Product Name:** n-Pentane

**CAS-No.:** 109-66-0

**Synonyms:** Normal-Pentane, 1-Pentane, Pentane, Amyl Hydride

#### 1.2. Intended Use of the Product

**Use of the Substance/Mixture:** General industrial, synthetic and analytical chemistry.

#### 1.3. Name, Address, and Telephone of the Responsible Party

##### Company

Delek Logistics

Libby Gas Plant

674 Marathon Road #5581

Hobbs, NM 88241

Phone #: 575-552-3997

SDS Contact: David Hiscott 214-970-7997

#### 1.4. Emergency Telephone Number

**Emergency Number** : 800-424-9300

CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### GHS-US Classification

Flammable liquids Category 2 H225

Specific target organ toxicity — Single exposure, Category 3, H336

Narcosis

Hazardous to the aquatic environment - Acute Hazard Category 2 H401

Hazardous to the aquatic environment - Chronic Hazard Category 2 H411

#### 2.2. Label Elements

##### GHS-US Labeling

##### Hazard Pictograms (GHS-US)



##### Signal Word (GHS-US)

: Danger

##### Hazard Statements (GHS-US)

: H225 - Highly flammable liquid and vapor.

H336 - May cause drowsiness or dizziness.

H401 - Toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

##### Precautionary Statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 - Keep container tightly closed.

P240 - Ground/Bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating, and lighting equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P261 - Avoid breathing vapors, mist, or spray.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection.

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P312 - Call a poison center or doctor if you feel unwell.

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.

P391 - Collect spillage.

P403+P235 - Store in a well-ventilated place. Keep cool.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

### 2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substance

Name : n-Pentane

CAS-No. : 109-66-0

Name	Synonyms	Product Identifier	%	GHS US classification
n-Pentane	Pentane / Normal pentane / PENTANE / Pentane, n-	(CAS-No.) 109-66-0	100	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First-aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). First aid personnel should wear appropriate protective equipment during any rescue.

**First-aid Measures After Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact:** Immediately remove contaminated clothing. Drench affected area with water for at least 15 minutes. After rinsing with water, then wash with plenty of soap and water. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

**First-aid Measures After Ingestion:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**Symptoms/Injuries:** May cause drowsiness and dizziness.

**Symptoms/Injuries After Inhalation:** High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

**Symptoms/Injuries After Skin Contact:** Prolonged exposure may cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause slight irritation to eyes.

**Symptoms/Injuries After Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** Repeated exposure may cause skin dryness or cracking.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Water may be ineffective but water should be used to keep fire-exposed container cool.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Highly flammable liquid and vapor. Vapors may travel to source of ignition and flash back. Will float and can be reignited on water surface.

**Explosion Hazard:** May form flammable or explosive vapor-air mixture.

**Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>).

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Do not get in eyes, on skin, or on clothing. Avoid breathing (vapor, mist, spray).

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel. Stop leak if safe to do so.

#### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Eliminate ignition sources first, then ventilate the area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** As an immediate precautionary measure, isolate spill or leak area in all directions. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Use only non-sparking tools. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Handle empty containers with care because residual vapors are flammable.

**Precautions for Safe Handling:** Use only non-sparking tools. Take precautionary measures against static discharge. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

**Storage Conditions:** Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Attacks some forms of plastics, rubber, and coatings.

### 7.3. Specific End Use(s)

General industrial, synthetic and analytical chemistry.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

n-Pentane (109-66-0)		
USA ACGIH	ACGIH OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
USA NIOSH	NIOSH REL (TWA)	350 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL TWA [ppm]	120 ppm

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA NIOSH	NIOSH REL (Ceiling)	1800 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL C [ppm]	610 ppm
USA IDLH	IDLH [ppm]	1500 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) [1]	2950 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) [2]	1000 ppm

### 8.2. Exposure Controls

#### Appropriate Engineering Controls

: Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure all national/local regulations are observed.

#### Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles or glasses. Insufficient ventilation: wear respiratory protection.



#### Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flamm resistant/retardant clothing.

#### Hand Protection

: Wear protective gloves.

#### Eye and Face Protection

: Chemical safety goggles or safety glasses with side shields. Wear face shield where splash hazard exists.

#### Skin and Body Protection

: Wear suitable protective clothing.

#### Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

#### Other Information

: When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear
Molecular mass	: 72.149 g/mol
Odor	: Sweet, gasoline-like
Odor Threshold	: 2.2 – 5000 ppm
pH	: No data available
Evaporation Rate	: 28.6 (N-Butyl Acetate = 1)
Melting Point	: 129.7 °C (265.5 °F)
Freezing Point	: No data available
Boiling Point	: 36.07 °C (96.9 °F)
Flash Point	: -49.4 °C (-56.9 °F) (Closed cup)
Auto-ignition Temperature	: 309 °C (588.2 °F)
Decomposition Temperature	: No data available
Flammability	: Not applicable
Vapor Pressure	: 434.3 mm Hg @ 20 °C (68 °F)
Relative Vapor Density at 20°C	: 2.5 (Air = 1)
Relative Density	: No data available
Specific Gravity	: 0.626
Density	: 0.631 g/cc @ 20 °C (68 °F)
Solubility	: Water: Insoluble
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: < 1.5 cP
Lower Flammable Limit	: 1.4 %
Upper Flammable Limit	: 7.8 %

### 9.2. Other Information

VOC Content	: 100 %
-------------	---------

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1. Reactivity

Reacts violently with strong oxidizers. Increased risk of fire or explosion.

#### 10.2. Chemical Stability

Highly flammable liquid and vapor. May form flammable or explosive vapor-air mixture.

#### 10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

#### 10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers. Attacks some forms of plastics, rubber, and coatings.

#### 10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO<sub>2</sub>).

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information on Toxicological Effects

**Acute Toxicity (Oral):** Not classified

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Not classified

n-Pentane (109-66-0)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	364 g/m <sup>3</sup> (Exposure time: 4 h)

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness or dizziness.

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

**Symptoms/Injuries After Skin Contact:** Prolonged exposure may cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause slight irritation to eyes.

**Symptoms/Injuries After Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** Repeated exposure may cause skin dryness or cracking.

### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

**Ecology - General** : Toxic to aquatic life with long lasting effects.

n-Pentane (109-66-0)	
LC50 Fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
NOEC Chronic Algae	2 mg/l

#### 12.2. Persistence and Degradability

n-Pentane (109-66-0)	
Persistence and Degradability	May cause long-term adverse effects in the environment.

#### 12.3. Bioaccumulative Potential

n-Pentane (109-66-0)	
Bioaccumulative Potential	Not established.
n-Pentane (109-66-0)	

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Partition coefficient n-octanol/water (Log Pow)	3.45 (at 25 °C (at pH 7)
---	--------------------------

### 12.4. Mobility in Soil

No additional information available

### 12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste Treatment Methods

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, and international regulations.

**Additional Information:** Handle empty containers with care because residual vapors are flammable. Hazardous waste (ignitable) due to flash point.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

Proper Shipping Name : PENTANES  
Hazard Class : 3  
Identification Number : UN1265  
Label Codes : 3  
Packing Group : II  
Marine Pollutant : Marine pollutant  
ERG Number : 128



### 14.2. In Accordance with IMDG

Proper Shipping Name : PENTANES  
Hazard Class : 3  
Identification Number : UN1265  
Packing Group : II  
Label Codes : 3  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-D  
Marine Pollutant : Marine pollutant



### 14.3. In Accordance with IATA

Proper Shipping Name : PENTANES  
Packing Group : II  
Identification Number : UN1265  
Hazard Class : 3  
Label Codes : 3  
ERG Code (IATA) : 3H



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

n-Pentane (109-66-0)	
SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Physical hazard - Flammable (gases, aerosols, liquids, or solids)
n-Pentane (109-66-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

### 15.2. US State Regulations

n-Pentane (109-66-0)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

# n-Pentane

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest Revision** : 11/07/2022

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

#### GHS Full Text Phrases:

H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)