



## Material Safety Data Sheet Hexane

### Section 1 - Chemical Product and Company Identification

**MSDS Name:**

Hexane

**Catalog Numbers:**

LC14920

**Synonyms:**

Hexyl hydride, dipropyl.

**Company Identification:**

LabChem, Inc.  
200 William Pitt Way  
Pittsburgh, PA 15238

**Company Phone Number:**

(412) 826-5230

**Emergency Phone Number:**

(800) 424-9300

**CHEMTREC Phone Number:**

(800) 424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
110-54-3	Hexane	100

### Section 3 - Hazards Identification

#### Emergency Overview

**Appearance:** *clear, colorless liquid*

**Danger!** Extremely flammable liquid and vapor. Vapor may cause flash fire. Breathing vapors may cause drowsiness and dizziness. Causes eye, skin, and respiratory tract irritation. May be harmful if absorbed through the skin. Aspiration hazard if swallowed. Can enter lungs and cause damage. Long-term exposure may cause damage to the nervous system of the extremities. Possible risk of impaired fertility. Dangerous for the environment.

**Target Organs:** Central nervous system, respiratory system, eyes, skin, peripheral nervous system, testes.

#### Potential Health Effects

**Eye:**

Causes mild eye irritation.

**Skin:**

Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. Causes irritation with burning pain, itching, and redness. Absorbed through the skin. There have been no reports of skin sensitization in people occupationally exposed to n-hexane. Skin sensitization was not observed in a maximization test using 25 volunteers.



## Material Safety Data Sheet Hexane

### **Ingestion:**

May cause irritation to the digestive tract with nausea, vomiting, and diarrhea. Aspiration of material into the lungs may cause chemical pneumonitis, which may lead to death. May cause central nervous system depression.

### **Inhalation:**

Causes irritation to the respiratory tract. Exposure produces central nervous system depression. Vapors may cause dizziness or suffocation. Hexane vapor concentration can become so high that oxygen is displaced, especially in confined spaces.

### **Chronic:**

Prolonged or repeated skin contact may cause defatting and dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. Chronic exposure may cause visual disturbances. Laboratory experiments have resulted in mutagenic effects. Peripheral neuropathy symptoms include: muscular weakness, paresthesia, numbing of the hands, feet, legs, and arms, unsteadiness, and difficulty in walking and standing. Repeated exposure may cause nervous system abnormalities with muscle weakness and damage, motor incoordination, and sensation disturbances. Chronic exposure produces peripheral neuropathy.

## Section 4 - First Aid Measures

### **Eyes:**

Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. Get medical aid at once.

### **Skin:**

Flush skin with plenty of water for 15 minutes. Remove contaminated clothing. Get medical aid at once.

### **Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Hexane may be aspirated. If vomiting occurs naturally, have victim lean forward. If victim is conscious, give 2-4 glasses of water. Get medical aid at once.

### **Inhalation:**

Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Get medical aid at once.

### **Notes to Physician:**

Treat symptomatically and supportively. For ingestion, the stomach should be intubated, aspirated, and lavaged with a slurry of activated charcoal. Protect the airway from aspiration of gastric contents. Monitor arterial blood gases in cases of severe aspiration.

## Section 5 - Fire Fighting Measures

### **General Information:**

Wear self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool. May accumulate static electrical charges, and may cause ignition of its own vapors. Extremely flammable liquid and vapors. Vapor may cause flash fire. Vapors are heavier than air and may travel to source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.



## Material Safety Data Sheet Hexane

**Extinguishing Media:**

carbon dioxide, dry chemical, or appropriate foam. Water may be ineffective because it will not cool material below its flash point.

**Autoignition Temperature:**

225°C (437 F)

**Flash Point:**

-7.6°C to -15°C

**NFPA Rating:**

H-1, F-3, R-0

**Explosion Limits:**

Lower: 1.2 Upper:

### Section 6 - Accidental Release Measures

**General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Absorb spill with inert material (vermiculite, sand, earth) and place in suitable container for disposal. Clean up spills immediately. Remove sources of ignition and heat. Avoid runoff into sewers and ditches. Provide ventilation and use non-sparking tools and equipment. A vapor suppressing foam may be used to reduce vapors.

### Section 7 - Handling and Storage

**Handling:**

Wash thoroughly after handling. Remove contaminated clothing. Ground and bond containers when dispensing. Keep container tightly closed. Keep away from heat and flames. Avoid breathing vapors. Use with adequate ventilation. Empty containers retain product residue and can be dangerous.

**Storage:**

Store in cool, dry, well ventilated area away from incompatible materials. Keep away from sources of ignition and oxidizing materials.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Use with adequate general ventilation or local explosion-proof ventilation to keep airborne levels within acceptable limits. An eye wash fountain and safety shower should be in the immediate work area.



## Material Safety Data Sheet Hexane

### Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Hexane	50 ppm TWA; Skin-potential significant contribution to overall exposure by the cutaneous route	50 ppm TWA; 180 mg/m <sup>3</sup> TWA 1100 ppm IDLH	500 ppm TWA 1800 mg/m <sup>3</sup> TWA
Other Hexanes, various	none listed	none listed	none listed

### OSHA Vacated PELs:

Hexane: 50 ppm TWA, 180 mg/m<sup>3</sup> TWA

Other hexanes: None listed.

### Personal Protective Equipment

#### Eyes:

Wear chemical splash goggles

#### Skin:

Wear appropriate gloves to protect hands.

#### Clothing:

Wear proper clothing and safety shoes to protect skin.

#### Respirators:

Follow OSHA respirator regulations found in 29 CFR 1910.134. Use NIOSH/MSHA approved respirator whenever workplace conditions are exceeded.

## Section 9 - Physical and Chemical Properties

<b>Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Gasoline-like
<b>pH:</b>	Not available.
<b>Vapor Pressure:</b>	151 mm Hg @ 25°C
<b>Vapor Density:</b>	2.97 (air=1)
<b>Evaporation Rate:</b>	Not available.
<b>Viscosity:</b>	0.31 mPas at 20°C
<b>Boiling Point:</b>	62-69°C at 760 mm Hg
<b>Freezing/Melting Point:</b>	-95°C
<b>Decomposition Temperature:</b>	Not available.
<b>Solubility in water:</b>	Insoluble
<b>Specific Gravity/Density:</b>	0.678
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>14</sub>
<b>Molecular Weight:</b>	86.18

## Section 10 - Stability and Reactivity

### Chemical Stability:

Stable under normal temperatures and pressures.



## Material Safety Data Sheet Hexane

### Conditions to Avoid:

Ignition sources, excess heat, electrical sparks, confined spaces.

### Incompatibilities with Other Materials:

Strong oxidizing agents.

### Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide.

### Hazardous Polymerization:

Not known to occur.

## Section 11 - Toxicological Information

### RTECS:

CAS # 110-54-3: MN9275000

### LD50/LC50:

CAS # 110-54-3:

Draize test, rabbit, eye: 10 mg mild

Inhalation, mouse: LC50 = 150000 mg/m<sup>3</sup>/2H

Inhalation, rat: LC50 = 48000 ppm/4H

Inhalation, rat: LC50 = 627000 mg/m<sup>3</sup>/3M

Oral, rat: LD50 = 25 g/kg

### Carcinogenicity:

CAS # 110-54-3: Not listed by IARC, NTP, ACGIH, or CA Prop 65

### Epidemiology:

Occupational polyneuropathy has resulted from hexane exposures as low as 500 ppm, but the minimum levels of n-hexane that are neurotoxic in humans have not been established. Nearly continuous exposure of animals at 250 ppm has caused neurotoxic effects.

### Teratogenicity:

No evidence of teratogenicity or embryotoxicity in animal studies with hexane has been found. Fetotoxicity has been observed in the presence of maternal toxicity.

### Reproductive:

Severe testicular damage has been observed in rats exposed to hexane at concentrations that have produced other significant toxicity. Although subneurotoxic doses of its principal toxic metabolite, 2,5-hexanedione, can induce progressive testicular toxicity in rats, there have been no reports of human sterility or other reproductive toxicity associated with n-hexane exposures.

### Mutagenicity:

Positive results (chromosomal damage in the bone marrow cells) obtained for rats exposed by inhalation to n-hexane.

### Neurotoxicity:

n-Hexane is a mild irritant and CNS depressant in acute exposure, but its principal effects are damage to the sensory and motor peripheral nerves, particularly in chronic exposure.

## Section 12 - Ecological Information

### Ecotoxicity:

No data available. Estimated BCF values = 2.24 and 2.89. These values suggest that hexane will show low bioconcentration in aquatic organisms. Estimate Koc value = 4.11. This product will show slight soil mobility and is expected to rapidly volatilize from moist surface soils.



## Material Safety Data Sheet Hexane

### Environmental:

Terrestrial: Volatilization and adsorption are expected to be the most important fate processes.  
Aquatic: Photolysis or hydrolysis is not expected to be important. Atmospheric fate: Expected to exist entirely in the vapor phase in ambient air. Expected half-life: 2.8 days. Expected to biodegrade but not to bioconcentrate.

### Physical:

No information available.

### Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

### Section 14 - Transport Information

#### US DOT

**Shipping Name:** Hexanes  
**Hazard Class:** 3  
**UN Number:** UN1208  
**Packing Group:** PG II

### Section 15 - Regulatory Information

#### US Federal

##### TSCA:

CAS # 110-54-3 is listed on the TSCA inventory. It does not have a Significant New Use Rule.

##### CERCLA Reportable Quantities (RQ):

CAS # 110-54-3: 5000 lb. final RQ; 2270 Kg final RQ

##### CERCLA/SARA Section 313:

CAS # 110-54-3 is subject to the reporting requirements.

##### OSHA - Highly Hazardous:

Not considered to be highly hazardous by OSHA.

#### US State

##### State Right to Know:

CAS # 110-54-3 is found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, Massachusetts

##### California Regulations:

Not listed.



## Material Safety Data Sheet Hexane

### Section 16 - Other Information

MSDS Creation Date: July 26, 2006

Revision Date: None

*Information in this MSDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc. assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application.*

*"n/a" means unknown or non-applicable.*