

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: n-Hexane
CAS number: 110-54-3
Synonyms: Hexanes, Normal Hexane, Hexyl Hydride, n-Hexane, 3-Methyl Pentane

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Lab Alley, LLC
22111 Highway 71 West, Suite 601
Spicewood, Texas 78669
U.S.A.

Telephone : 512-668-9918
Fax : 512-886-4008

1.4 Emergency telephone

Emergency Phone # : US & Canada: 1-800-535-5053 INFOTRAC
International 1-352-323-3500 INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2)
Skin irritation (Category 2)
Reproductive toxicity (Category 2)
Specific target organ toxicity - single exposure (Category 3), Central nervous system
Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Nervous system
Aspiration hazard (Category 1)
Short-term (acute) aquatic hazard (Category 2)
Long-term (chronic) aquatic hazard (Category 2)

2.2 GHS Label elements, including precautionary statements

Pictogram:



Signal Word:

Danger

Hazard statement(s):

Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs (Nervous system) through prolonged or repeated exposure if inhaled. Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention - Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe the mist or vapors. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response** - IF SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. IF exposed or concerned: Get medical advice/ attention. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Collect spillage.

Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	CAS-No	Weight %
Naphtha (petroleum), hydrotreated light	64742-49-0	30-40
Cyclohexane	110-82-7	5-10
n-hexane	110-54-3	40-50

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice:

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

If inhaled:

Remove source of contamination or move to fresh air. If affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact:	If irritation is experienced, flush with water. If irritation persists, get medical attention.
In case of eye contact:	Rinse with plenty of water for at least 15 minutes, seek medical attention.
In case of ingestion:	Do NOT induce vomiting. If material is swallowed, get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable (and unsuitable) extinguishing media

Small Fire: Use dry chemical, CO₂, water spray or regular foam. Large Fire: Use water spray, foam or regular foam. DO NOT use straight streams. Consider containers in the area. Cool containers with flooding amounts of water until well after the fire is out.

5.2 Specific hazards arising from the substance or mixture

Carbon oxides. Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Special protective equipment and precautions for firefighters

Wear protective clothing and equipment, including self-contained breathing apparatus, protective clothing, including eye protection and boots.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For large spills wear gloves, Tyvek suits, safety glasses, and appropriate NIOSH approved respiratory protection. Keep unnecessary personnel away. Eliminate all sources of ignition or flammables.

6.2 Environmental precautions

Prevent discharge to open bodies of water, municipal sewers, and watercourses. Any release into the environment may be subject to federal/national or local reporting requirements.

6.3 Methods and materials for containment and cleaning up

Ventilate area of leak or spill. Absorb spill with non-combustible material, then place in a suitable container for disposal. Only use spark-proof tools to sweep or scrape up. Clean surfaces thoroughly with water to remove residual contaminations. Dispose of all waste and clean up materials in accordance with regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep away from heat, sparks and flames. Use only with adequate ventilation. Avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Ground all equipment container this material. Avoid all possible sources of ignition (spark or flame).

SECTION 8. Exposure controls/personal protection

8.1 Occupational exposure limits

Control parameters

Exposure Guidelines

Ingredients with workplace control parameters.

No.	Component	OSHA		ACGIH	
		TWA	STEL	TWA	STEL
1	Hexanes	500 ppm	Not Avail	50 ppm	Not Avail

8.2 Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eye wash stations and safety showers are proximal to the workstation.

Personal protective equipment

Eye/face protection

Face shield and safety glasses or goggles. Facilities storing or utilizing this material should be equipped with eyewash and safety shower facilities.

Skin and body protection

Wear gloves that are appropriate for the task. Personal protective equipment for the body should be selected based on the task being performed and the risks and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Respiratory protection

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. If exposure levels are excessive, use an approved respirator.

Control of environmental exposure

Prevent discharge to open bodies of water, municipal sewers, and watercourses. Any release into the environment may be subject to federal/national or local reporting requirements.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid.
Appearance	Clear, Colorless.
Odor	Hydrocarbon (Gas like odor)
Odor Thresh	Not available.
pH	Not available.
Melting Point/Range	-139°F
Boiling Point/Range	62.8 to 73.9 °C (145 to 165°F)
Flash Point	-7 °F (-22 °C) Closed Cup.
Evaporation Rate	5.2
Flammability (solid, gas)	Flammable Liquid Class IB.
Flammability or explosive limit	
	Upper : 7.5%
	Lower : 1.1%
Vapor Pressure	124 mmHg
Vapor Density	3.0 - (Air = 1.0)
Density	NA
Solubility	(in water) negligible in water

Partition coefficient; n-octanol/water	3.90
Autoignition Temp	225°C
Decomposition Temp	Not available.
Viscosity	Not available.
Molecular Formula	C6H14
Molecular Weight	86.2
VOC Content(%)	Not available.
Oxidizing properties	None.

9.2 Other safety information

None.

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapors may form explosive mixture with air.

10.2 Chemical stability

This material is considered stable at ambient temperatures.

10.3 Possibility of hazardous reactions

This product will not undergo polymerization.

10.4 Conditions to avoid

Flames, sparks, electrostatic discharge, heat and other ignition sources.

10.5 Incompatible materials

This product reacts with strong acid, strong bases, and oxidizing agents.

10.6 Hazardous decomposition products

Upon decomposition, this product evolves carbon monoxide, carbon dioxide, and/or low weight hydrocarbons.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Toxicity

Component Analysis LD50)

n-hexane (CAS #110-54-3)

LC50 Inhalation Gas Rat 4800 ppm 4 hours,

LD50 Oral Rat 15840 mg/kg

Naphtha (petroleum) hyrotreated light (CAS #64742-49-0)

LD50 Dermal Rat >2000 mg/kg

LD50 Oral Rat >5000 mg/kg

Cyclohexane (CAS #110-82-7)
LD50 Dermal Rabbit >180000 mg/kg
LD50 Oral Rat 6240 mg/kg

Skin corrosion/irritation

Defatting, dermatitis, drying redness.

Serious eye damage/eye irritation

Redness, blurred vision, tearing.

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse Result: negative. Inhalation - Lung irritation, chest pain, pulmonary edema, giddiness, irritation, dizziness, drowsiness, headache, unconsciousness.

Germ cell mutagenicity

No data available.

Carcinogenicity

- IARC:** No component 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 component 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 component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
- OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - Central nervous system.

Specific target organ toxicity - repeated exposure

Inhalation - May cause damage to organs through prolonged or repeated exposure. - Nervous system.

Aspiration hazard

May be fatal if swallowed and enters airways. Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

Chronic effects

None known or reported by the manufacturer.

11.2 Additional information

Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - 6.6 mg/kg. Drowsiness, irritant effects, somnolence narcosis, Nausea, Tiredness, CNS disorders, paralysis symptoms. Risk of corneal clouding. It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. Ecological information

12.1 Toxicity

Ecotoxicity: n-hexane (CAS #110-54-3)

Acute LC50 2500 IJg/1 Fresh water Fish Pimephales promelas 96 hours

Ecotoxicity: Cyclohexane (CAS #110-82-7)

Acute LC50 4530 1-1911 Fresh water Fish - Plmephales promelas 96 hours

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 98 % - Readily biodegradable.
(OECD Test Guideline 301F)
Remarks: (in analogy to similar products)

12.3 Bio accumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vBvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13. Disposal considerations

13.1 Waste Disposal Methods

Dispose of contents/containers in accordance with local/regional/national/international regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT

UN-No	UN1208
Proper Shipping Name	Hexanes
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1208
Proper Shipping Name	Hexanes
Hazard Class	3
Packing Group	II

ICAO/IATA

UN-No	UN1208
Proper Shipping Name	Hexanes
Hazard Class	3
Packing Group	II

SECTION 15: Regulatory information

TSCA Inventory This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 No components were identified.

SARA 313: n-Hexane

CERCLA No components were identified.

SARA 311/312 Hazard: This material would be classified under the following hazard categories: Fire, Acute Health Hazard, Chronic Health Hazard.

California Proposition 65 This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): n-Hexane.

SECTION 16: Other information

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Disclaimer:

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.