

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

CHEMTREC:(800) 424-9300

ALL OTHER INQUIRIES:
(770) 904-7042 // www.ciscochem.com
266 Rue Cezzan Lavonia, GA 30553



1. IDENTIFICATION

PRODUCT NAME: Heptane

Synonym: Dipropyl methane; Heptyl hydride

Chemical Name: Heptane

Chemical Formula: C₇H₁₆

PRODUCT USE: Solvent

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Flammable liquid and vapor. Colorless liquid. Toxic by inhalation and ingestion.

POTENTIAL HEALTH HAZARDS

SKIN: Irritant. Prolonged contact may cause dermatitis. Can be absorbed through skin producing systemic effects similar to inhalation.

EYES: Irritant.

INHALATION: Irritating to the respiratory tract. Inhalation of fumes and vapors may cause headache, dizziness, drowsiness, unconsciousness, and other central nervous system effects including coma and death.

INGESTION: Ingestion can cause nausea, vomiting, diarrhea, stomach pain, headache, intoxication, and heart failure.

DELAYED EFFECTS: A gasoline taste may occur and persist for several hours after exposure. Ingredients found on one of the OSHA designated carcinogen lists are listed below.

INGREDIENT NAME	NTP STATUS	IARC STATUS	OSHA LIST
No ingredients listed in this section.			

3. COMPOSITION

Composition:

Name	CAS #	% by Weight
{n-}heptane	142-82-5	

Toxicological Data on Ingredients: n-heptane: VAPOR (LC50): Acute: 103000 mg/m 4 hours [Rat].100

4. FIRST AID MEASURES

SKIN: Rinse affected area with mild soap and water solution until no evidence of chemical remains. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

EYES: Rinse eye(s) immediately with large amounts of water. Consult a physician.

INHALATION: Remove from exposure area to fresh air. If victim is not breathing administer artificial respiration according to your level of training and obtain professional medical assistance immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

INGESTION: Do not induce vomiting unless advised to do so by a qualified medical professional. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.

ADVICE TO PHYSICIAN: No specific antidote. Treat supportively and symptomatically.

5. FIRE FIGHTING MEASURES

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 203.89°C (399°F) - 223 C (433 F)

Flash Points: CLOSED CUP: -4°C (24.8°F). (TAG) OPEN CUP: -1.1111°C (30°F).

Flammable Limits: LOWER: 1.05% UPPER: 6.7%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use water spray or fog.

Special Remarks on Fire Hazards:

Flaming occurs when liquid chlorine in n-Heptane is added to added to red phosphorous. Vapors may form explosive mixtures with air. Vapor may travel considerable distance to source of ignition and flash back.

Special Remarks on Explosion Hazards: Vapors may form explosive mixtures in air.

6. ACCIDENTAL RELEASE MEASURES

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Flammable liquid, insoluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Spills and releases may have to be reported to Federal and/or local authorities.

7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)

Protective Neoprene or natural rubber gloves and apron are recommended. Goggles and/or face shield should be worn to guard against splashing. Keep away from heat and open flame. Avoid contact with skin, eyes and clothing. Contaminated clothing should be decontaminated using dedicated spill clean-up containers, plenty of water, and detergent prior to conventional laundering in home laundry facilities.

STORAGE RECOMMENDATIONS:

Store in an area designed for storage of flammable liquids. (OSHA 29 CFR 1910.106)

Store full or partially full containers in an upright position, tightly closed in a cool, dry, well ventilated facility designed for flammable liquids. Store away (segregate) from acids, oxidizers, and explosives. Handle containers in a safe manner using proper equipment and avoiding damage to the containers.

Flammable liquid and vapor. Once liquid solvent has been completely dispensed, containers which appear “empty” should be handled in the same manner as when they were “full” of liquid solvent.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 500 (ppm) from OSHA (PEL) [United States] TWA: 2000 (mg/m³) from OSHA (PEL) [United States] TWA: 350 CEIL: 1800 (mg/m³) from NIOSH [United States] TWA: 85 CEIL: 440 (ppm) from NIOSH [United States] TWA: 400 STEL: 500 (ppm) from ACGIH (TLV) [United States] TWA: 500 (ppm) [United Kingdom (UK)] TWA: 400 STEL: 500 (ppm) [Canada] TWA: 1640 STEL: 2049 (mg/m³) [Canada] TWA: 400 STEL: 500 (ppm) [Belgium] TWA: 200 (ppm) [Norway] TWA: 300 STEL: 500 (ppm) [Finland] TWA: 500 (ppm) [Austria] Consult local authorities for acceptable exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Liquid.

Odor: Hydrocarbon. Gasoline-like

Taste: Not available.

Molecular Weight: 100.21 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not applicable.

Boiling Point: 98.4 (209.1°F)

Melting Point: -90.7°C (-131.3°F)

Critical Temperature: Not available.

Specific Gravity: 0.6838 (Water = 1)

Vapor Pressure: 5.3 kPa (@ 20°C)

Vapor Density: 3.5 (Air = 1)

Volatility: Not available.

Odor Threshold: 150 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; $\log(\text{oil/water}) = 4.7$

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Soluble in diethyl ether, acetone. Insoluble in cold water. Soluble in alcohol. Solubility in Chloroform, Petroleum Ether, Ether, Acetone: >10% Floats on water.

10. STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks), incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Not considered to be corrosive for metals and glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin. Inhalation.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the vapor (LC50): 103000 mg/m³ 4 hours [Rat].

Chronic Effects on Humans:

May cause damage to the following organs: lungs, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS).

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation. It can be absorbed through the skin. Eyes: Contact with liquid may cause eye irritation. Contact with vapors is not expected to cause eye irritation. Inhalation: Inhalation of vapor or mist causes respiratory tract and mucous membrane irritation. It can affect behavior/central nervous system and cause central nervous system effects (mild excitement followed CNS depression which is characterized by headache, nausea, dizziness, hilarity, hallucinations, lightheadness, distorted perceptions, convulsions, weakness, loss of judgement and coordination, narcosis, semi-consciousness, coma and death at

higher doses). It may cause cardiac effects (irregular heartbeat/cardiac arrhythmias, or heart to stop beating), and pulmonary edema. It is readily absorbed by the inhalation route. Ingestion: Causes gastrointestinal tract irritation with nausea, vomiting, swelling of the abdomen. Aspiration into the lungs can produce chemical pneumonitis.

It can also affect behavior/central nervous system with symptoms paralleling those of inhalation. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact can defat the skin and produce irritation and dermatitis. Inhalation: Repeated or prolonged inhalation may affect behavior/central nervous system (symptoms similar to acute inhalation) and may produce minimal peripheral nerve damage (polyneuropathy) with numbness and tingling of the extremities in a stocking-and -glove pattern. Reversible of polyneuropathy as been reversible by a year following removal from exposure. It may also affect the brain, blood (anemia), and hearing (mild change in auditory threshold), and may also cause weight loss, Ingestion: Prolonged or repeated ingestion may affect the liver, urinary system, blood (changes in blood serum composition).

12. ECOLOGICAL INFORMATION

Goldfish LD50: 4 mg/L/24 hr.

Daphnia TLm: 4924 mg/L/24-96 hr.

LOG BCF = 2.53 - 3.31

Ecotoxicity: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? Yes

If yes, the RCRA ID number is: D001

OTHER DISPOSAL CONSIDERATIONS:

Observe all local, state and federal regulations when making disposition determinations for this material.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: Heptanes

US DOT ID NUMBER: UN 1206

US DOT HAZARD CLASS: 3, Flammable Liquid

PACKING GROUP: II

NA EMERGENCY RESPONSE GUIDE : 128

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Listed on TSCA inventory.
OTHER TSCA ISSUES: None

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

INGREDIENT NAME	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
No ingredients listed in this section.		

Federal and State Regulations:

Connecticut hazardous material survey.: n-heptane Illinois toxic substances disclosure to employee act: n-heptane Rhode Island RTK hazardous substances: n-heptane Pennsylvania RTK: n-heptane Minnesota: n-heptane Massachusetts RTK: n- heptane Massachusetts spill list: n-heptane New Jersey: n-heptane California Director's List of Hazardous Substances: n- heptane TSCA 8(b) inventory: n-heptane TSCA 4(a) proposed test rules: n-heptane TSCA 8(d) H and S data reporting: n- heptane: Effective date: 1/26/94; Sunset date: 6/30/98

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 3 Reactivity: 0

Personal Protection: g

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall CISCO liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if CISCO has been advised of the possibility of such damages.

Date Created: 6/2/2015

Date Updated: 6/11/2015