

HEPTANE

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HEPTANE**ALTERNATE TRADE NAME(S):** HEPTANE ACS**MANUFACTURER**

Summit Research Tech
103 Whispering Pines Dr.
Suite A
Scotts Valley, CA 95066

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (US Transportation) :(800) 424 - 9300
CANUTEC (Canadian Transportation) :(613) 996 - 6666

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS**Health:**

Skin Irritation, Category 2
Aspiration Hazard, Category 1
Target Organ Toxicity (Single exposure), Category 3

Environmental:

Acute Hazards to the Aquatic Environment, Category 1
Chronic Hazards to the Aquatic Environment, Category 1

Physical:

Flammable Liquids, Category 2

GHS LABEL

Flame

Health
hazardExclamation
mark

Environment

SIGNAL WORD: DANGER**HAZARD STATEMENTS**

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H332: Harmful if inhaled.
H305: May be harmful if swallowed and enters airways.
H410: Very toxic to aquatic life with long lasting effects.

HEPTANE**PRECAUTIONARY STATEMENT(S)****General:**

- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P240: Ground and bond container and receiving equipment.
- P241: Use explosion-proof [electrical/ventilating/lighting/...] equipment.
- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
- P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P312: Call a POISON CENTER/doctor/...if you feel unwell.
- P331: Do NOT induce vomiting.
- P403: Store in a well-ventilated place.
- P102: Keep out of reach of children.

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: DANGER! Highly flammable liquid and vapor. Harmful or fatal if swallowed. Vapor harmful. May cause central nervous system depression. May be irritating to eyes, skin, nose, throat and respiratory tract.

POTENTIAL HEALTH EFFECTS

EYES: Moderately irritating to the eyes.

SKIN: Liquid is mildly irritating to the skin. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INGESTION: POISONOUS, Contains methanol. May be fatal or cause blindness if swallowed. Ingestion may have a narcotic effect including signs of Central Nervous System (CNS) depression such as dizziness, light-headedness, headache, drowsiness, loss of coordination, and fatigue. This material may get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

INHALATION: May cause mild irritation to the nose, throat and respiratory tract and may result in central nervous system (CNS) depression.

MEDICAL CONDITIONS AGGRAVATED: Pre-existing disorders of the following organ(s) or organ system(s) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), liver, kidney.

ROUTES OF ENTRY: Inhalation, skin absorption, skin contact, eye contact, ingestion.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Vol. %	CAS
n-Heptane	≥ 99	142-82-5

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation occurs or persists.

SKIN: Remove contaminated clothing/shoes. Flush skin with water for at least 15 minutes. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

INGESTION: Call poison control center or get medical help immediately. Only induce vomiting as directed by

HEPTANE

medical personnel an only If patient is conscious and alert. Never give anything by mouth to an unconscious person.

INHALATION: Remove from exposure to fresh air. If not breathing, give artificial respiration or if breathing is difficult, oxygen should be administered by qualified personnel. Get medical aid if cough or other symptoms appear.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE EFFECTS: Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness, and nausea; in extreme cases, unconsciousness and death may occur. Aspiration pneumonitis may be evidenced by coughing, labored breathing and cyanosis. Repeated overexposure may cause damage to kidneys and liver.

ADDITIONAL INFORMATION: Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product. Impaired function from preexisting disorders may be aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: Class IB flammable liquid.

EXTINGUISHING MEDIA: Use water fog, "alcohol" foam, dry chemical, or CO₂.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide and unidentified organic compounds may be formed during combustion.

EXPLOSION HAZARDS: When heated above the flash point, this material emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

FIRE FIGHTING PROCEDURES: WARNING! Flammable Liquid. Clear fire area of unprotected personnel. Do not enter confined fire space without full bunker gear, including a positive pressure NIOSH approved SCBA. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Keep material out of storm sewers and ditches which lead to waterways.

GENERAL PROCEDURES: WARNING. Flammable. Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Only specially trained or qualified personnel should handle the emergency.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Keep away from heat, sparks, and flame. Surfaces that are hot may ignite even liquid product in the absence of sparks or flame. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapors are gone.

COMMENTS: KEEP OUT OF REACH OF CHILDREN!

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

HEPTANE**EXPOSURE GUIDELINES**

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)				
EXPOSURE LIMITS				
Chemical Name	Type		ppm	mg/m ³
n-Heptane	OSHA PEL	TWA	500 %	2000
	ACGIH TLV	TWA	400 %	
		STEL	500	

ENGINEERING CONTROLS: Provide exhaust ventilation sufficient to keep the airborne concentration of this product below its exposure limits. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use chemical safety goggles and/or full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work areas.

SKIN: Wear resistant gloves such as: Poly Vinyl Chloride (PVC) or consult your safety equipment supplier. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

RESPIRATORY: If exposure may or does exceed occupational exposure limits (Sec. 8) use a NIOSH approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors.

PROTECTIVE CLOTHING: Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required.

WORK HYGIENIC PRACTICES: Use good personal hygiene when handling this product. Wash hands after use, before eating, drinking, smoking, or using the toilet.

OTHER USE PRECAUTIONS: May be harmful or fatal if swallowed. May irritate body tissues. Use with adequate ventilation. Avoid breathing vapor. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

COMMENTS: Use this material only in well ventilated areas

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Pungent odor.

APPEARANCE: Clear

COLOR: Water-white.

pH: Not Applicable

PERCENT VOLATILE: 100

FLASHPOINT AND METHOD: ~ -7°C (20°F)

Notes: Acetone has the lowest flash point of any of the constituents at -15 deg F, Heptane next at 20 deg F, Methanol next at 52 deg F. The largest percentage of product is Heptane and combined with Acetone have the largest impact on the flash point. While the flash point will be between -15 deg F and 53 deg F, it will be much

HEPTANE

closer to the lower temperature than the higher.

FLAMMABLE LIMITS: 1 %Vol to 36 %Vol

VAPOR PRESSURE: No data available.

VAPOR DENSITY: Heavier than air.

BOILING POINT: (133°F) to (200°F)

FREEZING POINT: (-132.0°F) to (-140°F)

MELTING POINT: No data available.

SOLUBILITY IN WATER: Solubility negligible in water.

EVAPORATION RATE: Faster than Butyl Acetate.

DENSITY: 6.242

SPECIFIC GRAVITY: 0.6 to 0.8

(VOC): 4.914 LBS./gal.

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Avoid heat, flame, and other sources of ignition.

STABILITY: Stable.

CONDITIONS TO AVOID: Avoid heat, sparks, flame and contact with strong oxidizing agents. Do not store or handle in aluminum equipment at temperatures above 120 deg. F.

POSSIBILITY OF HAZARDOUS REACTIONS: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

INCOMPATIBLE MATERIALS: Acids and excessive heat.

11. TOXICOLOGICAL INFORMATION

COMMENTS: Poison. May be fatal or cause blindness, if swallowed. Cannot be made nonpoisonous.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Avoid uncontrolled releases of this material. Where spills are possible, a comprehensive spill response plan should be developed and implemented.

GENERAL COMMENTS: Keep out of waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: The preferred options for disposal are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

EMPTY CONTAINER: KEEP OUT OF REACH OF CHILDREN! Empty containers retain product residue and can be dangerous. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Do not pressurize, cut weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks static electricity, or other sources of ignition.

RCRA/EPA WASTE INFORMATION: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR.

HEPTANE

Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION**DOT (DEPARTMENT OF TRANSPORTATION)**

PROPER SHIPPING NAME: Heptanes

PRIMARY HAZARD CLASS/DIVISION: 3

UN/NA NUMBER: UN1206

PACKING GROUP: II

NAERG: 128

LABEL: Flammable liquid

15. REGULATORY INFORMATION**UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

311/312 HAZARD CATEGORIES: This product should be reported as an immediate (acute) health hazard, delayed (chronic) health hazard, and a fire hazard.

FIRE: Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

313 REPORTABLE INGREDIENTS: To the best of our knowledge, this product is not listed as a toxic chemical under Section 313 of SARA Title III.

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: To the best of our knowledge, this product is not listed as an extremely hazardous substance.

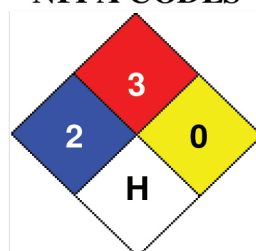
TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: Listed.

GENERAL COMMENTS: The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

16. OTHER INFORMATION**HMIS RATING**

HEALTH	<input type="checkbox"/>	2
FLAMMABILITY	<input type="checkbox"/>	3
PHYSICAL HAZARD	<input type="checkbox"/>	0
PERSONAL PROTECTION	<input type="checkbox"/>	H

NFPA CODES

HEPTANE

NFPA STORAGE CLASSIFICATION: These ratings are part of a specific hazard communication program and should be disregarded where individuals are not trained in the use of this hazard rating system. You should be familiar with the hazard communication programs applicable to your workplace.

HMIS RATINGS NOTES: The HMIS rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in the SDS must be considered.