

SAFETY DATA SHEET

HEPTANE

Product ID: AA1003

Revised: 05-31-2016

Replaces: 10-02-2013

**CHEMICAL DISTRIBUTION
SOLUTIONS**

1. IDENTIFICATION

Product Identifier: HEPTANE
Other Identifiers: Petroleum hydrocarbon solvent; Commercial heptane; C7-Rich solvent; Commercial Heptane, Ultra Low Aromatic; Naphtha, petroleum, hydrotreated light
CAS Number: VARIES
Recommended Use: For use as a solvent.
Restrictions on Use: No data available.

Chemical Distribution Solutions
1125 Oak St. Ste. 303
Conway, AR 72032
(501) 978-1111

EMERGENCY RESPONSE NUMBERS:
24 Hour Emergency: (800) 424-9300 CHEMTREC

2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Aspiration Hazard Category 1
Flammable Liquid Category 2
Skin Corrosion/Irritation Category 2
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

GHS Label Elements:

GHS Hazard Symbols:



Signal Word: Danger

Hazard Statements: Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary Statements:

Prevention: Keep away from heat, sparks, open flames and hot surfaces. – No smoking.
Ground and bond container and receiving equipment.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust, gas, mist, vapors or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor if you feel unwell.
Specific treatment (see First Aid on SDS or on this label).

Do NOT induce vomiting.
If skin irritation occurs: Get medical advice or attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use water fog, foam, dry chemical, carbon dioxide to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store in a secure manner.

Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards Not Otherwise Classified: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause a flash fire. Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Percentage of Components with Unknown Acute Toxicity:

Oral: 100 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

<u>Chemical or Common Name/Synonyms</u>	<u>CAS Number</u>	<u>% by Wt.</u>
N-Heptane	142-82-5*	100 %

Note: * This product may contain a mix of C7-C8 alkanes and C7-C8 cycloalkanes and cyclical/linear branch heptane which may include CAS# 64742-49-0, 589-34-4, 108-87-2, 591-76-4, 565-59-3, 617-78-7 and/or 562-49-2.

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lens if easy to do. Do not use eye ointment.

Skin Contact: If on skin: Flush skin with plenty of water while removing contaminated clothing and shoes. Do not reuse clothing or shoes until cleaned. If irritation develops or persists, get medical attention. If skin surface is not damaged, wash thoroughly with soap and water. Do not use ointments.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Do not leave victim unattended.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: May cause mild irritation. May cause: watering, redness.

Skin Contact: May cause mild irritation. Contact may cause: redness. Prolonged and repeated contact with skin can cause defatting and drying of the skin which may result in skin irritation and dermatitis. Prolonged or repeated exposure may cause: cracking, drying.

Skin Absorption: No data available.

Inhalation: Vapors or mists may irritate: nose, throat, eyes, lungs. May cause: central nervous system depression, nausea, vomiting, headache, dizziness, vertigo, fatigue, drowsiness, unconsciousness. Inhalation of high concentrations may cause: irregular heart beat, other central nervous system effects, including death.

HEPTANE

Product ID: AA1003

Ingestion: Minimal toxicity. May cause: nausea, vomiting. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Indication of Immediate Medical Attention and Special Treatment Needed: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. Exposure to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse) may be associated with cardiac arrhythmias. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. Other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical. Carbon dioxide. Foam. Inert gas (nitrogen). Water spray. Water fog. Water may be ineffective but should be used to cool fire-exposed structures and vessels. **DO NOT USE:** Direct water stream. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: HIGHLY FLAMMABLE LIQUID. Vapors are heavier than air. Vapors may settle in low or confined areas, or travel long distances along the ground or surface to an ignition source where they may ignite, flashback, or explode. Keep away from heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment). **PROCESS HAZARD:** Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Keep away from electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe. Liquid can release considerable vapor at temperatures below ambient which readily form flammable mixtures. Product can accumulate a static charge which may cause a fire or explosion. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame should be cooled with large quantities of water as needed to prevent weakening of container structure.

Hazardous Combustion Products: Carbon dioxide. Carbon monoxide. Smoke. Fumes. Hydrocarbons. Products of incomplete combustion.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. If a leak or spill has not ignited, use water spray to disperse the vapors. Avoid spreading burning liquid with water used for cooling. Run-off from fire control may cause pollution. Do not use direct water stream. May spread fire. If container is not properly cooled, it can rupture in the heat of a fire. Move containers from fire area if possible without hazard. Cover pooling liquid with foam. Burning liquid will float on water. **CAUTION:** Spilled material may be slippery.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: HIGHLY FLAMMABLE LIQUID. Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: Use non-sparking tools and equipment. Do not touch or walk through spilled material. Shut off source of leak if safe to do so. Prevent entry into basements, low areas, or confined areas. A vapor suppressing foam may be used to reduce vapors. Ground and bond all containers

HEPTANE

Product ID: AA1003

and handling equipment. Remove spillage immediately from hard, smooth walking areas. Water mist or spray may be used to reduce or disperse vapors; but, it may not prevent ignition in closed spaces. This material will float on water and its run-off may create an explosion or fire hazard. Keep upwind of leak or spill. Stop the flow of material, if this is without risk. Dike far ahead of liquid spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Soak up residue with non-flammable absorbent material. Place in non-leaking containers for immediate disposal. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. CAUTION: Spilled material may be slippery.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Use non-sparking tools and equipment. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Always open containers slowly to allow any excess pressure to vent. Launder contaminated clothing before reuse. Air-dry contaminated clothing in a well ventilated area before laundering. A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. Do not fill any portable container in or on a vehicle. DO NOT use compressed air for filling, discharging or other handling operations. Always keep nozzle in contact with the container throughout the loading process. This product can form ignitable vapor-air mixture inside storage tanks and can accumulate static electricity during transfer and storage, even with proper grounding and bonding. Additional precautions beyond standard grounding and bonding may be necessary to prevent static discharge and fire/explosion hazards. Additional measures include, but are not limited to, inerting tank head space with nitrogen, adding anti-static agents, and reducing pump flow velocity during transfer to 1 meter/second or less. Consult NFPA 77, NFPA 69 and API RP 2003 for additional information and preventative measures. SPECIAL PRECAUTIONS: To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Use the correct grounding procedures. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product.

Conditions for Safe Storage, Including any Incompatibilities: HIGHLY FLAMMABLE LIQUID. Store in a cool, well-ventilated area away from all sources of ignition and out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Static electricity may accumulate and create a fire hazard. Ground fixed equipment. Bond and ground transfer containers and equipment. Protect containers against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes. Containers should be able to withstand pressures expected from warming and cooling in storage. This flammable liquid should be stored in a separate safety cabinet or room. A refrigerated room is preferable for materials with a flash point temperature lower than 70 F (21 C). All electrical equipment in areas where this material is stored or handled should be installed in accordance with applicable regulatory requirements and the National Electrical Code. Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Drums must be equipped with self-closing valves, pressure vacuum bungs and flame arresters. Store only in approved containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component

N-Heptane

Limits

500 ppm TWA; 2000 mg/m³ TWA

HEPTANE

Product ID: AA1003

ACGIH Exposure Guidelines:

Component

N-Heptane

Limits

400 ppm TWA (listed under Heptane, all isomers); 500 ppm STEL (listed under Heptane, all isomers)

Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are required when handling or using this product to avoid overexposure. Use explosion-proof ventilation equipment. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual Protection Measures:

Eye/Face Protection: Wear safety glasses with side shields while handling this product. Wear additional eye protection such as chemical safety goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Chemical-resistant. Viton (R). Heavy nitrile rubber. Impervious. Gauntlet-type. Inspect regularly for leaks.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved organic respirator. NIOSH-Approved air-purifying respirator with: Organic vapor cartridge. NIOSH-Approved full-facepiece positive-pressure, air-supplied respirator. NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Rubber boots. Protective clothing. Appropriate fire-retardant garments. Launder contaminated clothing and clean protective equipment before reuse.

General Hygiene Conditions: Handle in accordance with good industrial hygiene and safety practice. Wash with soap and water before meal times and at the end of each work shift. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear. Colorless.

Odor: Mild solvent odor.

Odor Threshold: N.D.

pH: N.A.

Freezing Point (deg. F): -71 (pour point)

Melting Point (deg. F): N.A.

Initial Boiling Point or Boiling Range: 199 - 210 °F

Flash Point: 15 - 18 °F to

Flash Point Method: ASTM D 56.

Evaporation Rate (nBuAc = 1): 4.18 -- 4.5

Flammability (solid, gas): N.D.

Lower Explosion Limit: ~1 %

Upper Explosion Limit: 6.7 %

Vapor Pressure (mm Hg): 40 - 45 @ 20C

Vapor Density (air=1): 3 - 3.5

Specific Gravity or Relative Density: 0.696 - 0.7

Solubility in Water: Negligible

Partition Coefficient (n-octanol/water): N.D.

Autoignition Temperature: 473 - 474

Decomposition Temperature: N.D.

HEPTANE

Product ID: AA1003

Viscosity: 0.49 cSt @ 40C, 0.58 cSt @ 25C

% Volatile (wt%): 100

VOC (wt%): 100

VOC (lbs/gal): 5.79 - 5.83

Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions.

Conditions to Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid contact with other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Incompatible Materials: Oxidizing agents. Acids. Alkalies. Chlorine. Oxygen. Halogens. Chromates. Perchlorates. Peroxides.

Hazardous Decomposition Products: Combustion products: Carbon monoxide. Carbon dioxide. Smoke. Fumes. Hydrocarbons. Products of incomplete combustion.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Ingestion. Inhalation. Skin.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: May cause mild irritation. May cause: watering. redness.

Skin Contact: May cause mild irritation. Contact may cause: redness. Prolonged and repeated contact with skin can cause defatting and drying of the skin which may result in skin irritation and dermatitis. Prolonged or repeated exposure may cause: cracking. drying.

Skin Absorption: No data available.

Inhalation: Vapors or mists may irritate: nose. throat. eyes. lungs. May cause: central nervous system depression. nausea. vomiting. headache. dizziness. vertigo. fatigue. drowsiness. unconsciousness. Inhalation of high concentrations may cause: irregular heart beat. other central nervous system effects, including death.

Ingestion: Minimal toxicity. May cause: nausea. vomiting. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Numerical Measures of Toxicity:

<u>Component</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
N-Heptane	No Data	Rabbit: 3000 mg/kg	No Data

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

Medical Conditions Aggravated by Exposure to Product: Skin disorders. Eye disorders. Respiratory system disorders. Liver disorders. Kidney disorders. Central nervous system disorders.

Other: Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect.

12. ECOLOGICAL INFORMATION

HEPTANE

Product ID: AA1003

Ecotoxicological Information: This material is expected to be toxic to aquatic life. May cause long-term adverse effects in the aquatic environment. Aquatic toxicity values are expected to be in the range of 1 - 10 mg/l based upon data from components and similar products.

Chemical Fate Information: Mobility: Highly volatile material, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

Biodegradation: Expected to be readily biodegradable.

Hydrolysis: Transformation due to hydrolysis not expected to be significant.

Photolysis: Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation: Expected to degrade rapidly in air.

This product will normally float on water. Components will evaporate rapidly. The octanol-water partition coefficient (log Kow) for this product is expected to be in the range of 2.1 to 5.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D001

Note: An additional EPA Hazardous Waste Number may include: D018.

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number: UN1206
Proper Shipping Name: HEPTANE
Hazard Class: 3
Packing Group: II
Additional Description: MARINE POLLUTANT
Label Required: FLAMMABLE

Note: This product is NOT regulated as a MARINE POLLUTANT when transported on inland waterways in sizes of <=5L or <=5KG or by road, rail, or inland air in non-bulk sizes, provided the packaging meet the general provisions of 49 CFR 173.24 and 173.24(a).

15. REGULATORY INFORMATION

TSCA Inventory Status: This product or all components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

SARA Title III Section 311/312 Category Hazards:

<u>Immediate (Acute)</u>	<u>Delayed (Chronic)</u>	<u>Fire Hazard</u>	<u>Pressure Release</u>	<u>Reactive</u>
Yes	No	Yes	No	No

<u>Regulated Components:</u> <u>Component</u>	<u>CAS</u> <u>Number</u>	<u>CERCLA</u> <u>RQ</u>	<u>SARA</u> <u>EHS</u>	<u>SARA</u> <u>313</u>	<u>U.S.</u> <u>HAP</u>	<u>WI</u> <u>HAP</u>	<u>Prop</u> <u>65</u>

HEPTANE

Product ID: AA1003

No components found.

***Prop 65 - May Contain the Following Trace Components:**

Benzene: < 0.001 %

Toluene: < 0.1 %

Ethylbenzene: < 0.001 %

Cumene: <0.001%Naphthalene: < 0.0001%

Clean Water Act:

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharge or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800)424-8802.

16. OTHER INFORMATION

Hazard Rating System

Health: 2

Flammability: 3

Reactivity: 0

* = Chronic Health Hazard

NFPA Rating System

Health: 2

Flammability: 3

Reactivity: 0

Special Hazard: None

SDS Abbreviations

N.A. = Not Applicable

N.D. = Not Determined

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

C = Ceiling Limit

N.E./Not Estab. = Not Established

SDS Prepared by: JAK

Reason for Revision: New format.

Revised: 05-31-2016

Replaces: 10-02-2013

The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which Chemical Distribution Solutions assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.