

SAFETY DATA SHEET

1. Identification

Product identifier: HEPTANE

Other means of identification

Product No.: 5164, 9431, 9365, V554, 9177, M956, 5177, 9338, 5139

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada

CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 2

Health Hazards

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 2B

Specific Target Organ Toxicity -
Single Exposure Category 3

Aspiration Hazard Category 1

Environmental Hazards

Acute hazards to the aquatic
environment Category 1

Chronic hazards to the aquatic
environment Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Very toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Collect spillage.

Storage: Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
HEPTANE		142-82-5	90 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin Contact:	Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Highly flammable liquid and vapour.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up:	Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities:	Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
HEPTANE	TWA	400 ppm	US. ACGIH Threshold Limit Values (02 2012)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (02 2012)
	Ceil_Time	440 ppm 1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	85 ppm 350 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	400 ppm 1,600 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm 2,000 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection	
Hand Protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Gasoline-like odor
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	-90.6 °C
Initial boiling point and boiling range:	98 °C
Flash Point:	-4 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	Class IB Flammable Liquid
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	6.7 %(V)
Flammability limit - lower (%):	1.05 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	6.13 kPa (25 °C)
Vapor density:	3.5
Relative density:	0.68 (20 °C)
Solubility(ies)	
Solubility in water:	0.003 g/l
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	4.66
Auto-ignition temperature:	203.9 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	100.2 g/mol (C7H16)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Heat, sparks, flames.

Incompatible Materials:	Strong oxidizers
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful or fatal if swallowed.
Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	No data available.
Dermal	
Product:	No data available.
Inhalation	
Product:	LD 50 (Mouse, 2 h): 75 mg/l LC 50 (Rat, 4 h): 103 mg/l

Repeated dose toxicity	
Product:	No data available.

Skin Corrosion/Irritation	
Product:	Causes skin irritation.

Serious Eye Damage/Eye Irritation	
Product:	Irritating to eyes.

Respiratory or Skin Sensitization	
Product:	Not a skin sensitizer.

Carcinogenicity	
Product:	This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro	
Product:	No mutagenic components identified
In vivo	
Product:	No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: Narcotic effect. Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: None known.

Aspiration Hazard

Product: May be fatal if swallowed and enters airways.

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

HEPTANE
LC 50 (Mozambique tilapia (*Tilapia mossambica*), 96 h): 375 mg/l Mortality
LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 4,924 mg/l Mortality
LC 50 (Carp (*Leuciscus idus melanotus*), 48 h): 270 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

HEPTANE
EC 50 (Water flea (*Daphnia magna*), 96 h): 71.25 - 93.75 mg/l Intoxication
LC 50 (Water flea (*Daphnia magna*), 24 h): > 10 mg/l Mortality
LC 50 (Oligochaete (*Branchiura sowerbyi*), 96 h): 2,500 mg/l Mortality
LC 50 (Water flea (*Daphnia magna*), 24 h): > 10 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: The product is moderately biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 4.66

Mobility in Soil: The product is insoluble in water and will spread on the water surface.

Other Adverse Effects: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number:	UN 1206
UN Proper Shipping Name:	Heptanes
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

IMDG

UN Number:	UN 1206
UN Proper Shipping Name:	HEPTANES
Transport Hazard Class(es)	
Class(es):	3
Label(s):	3
EmS No.:	F-E, S-D
Packing Group:	II
Marine Pollutant:	Not a Marine Pollutant
Special precautions for user:	—

IATA

UN Number:	UN 1206
Proper Shipping Name:	Heptanes
Transport Hazard Class(es):	
Class(es):	3
Label(s):	3
Marine Pollutant:	Not a Marine Pollutant
Packing Group:	II
Special precautions for user:	—

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
 None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
HEPTANE	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute (Immediate)
Fire

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
HEPTANE	100 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
HEPTANE	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
HEPTANE

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
HEPTANE

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u>
HEPTANE

US. Rhode Island RTK

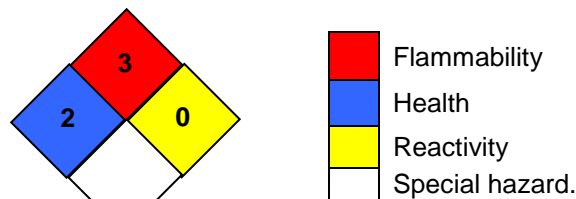
<u>Chemical Identity</u>
HEPTANE

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	09-03-2015
Revision Date:	No data available.
Version #:	1.1
Further Information:	No data available.

Disclaimer:

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