

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** HEPTANE

**Other means of identification**

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

**Recommended use and restriction on use**

**Recommended use:** Not determined.

**Restrictions on use:** Not determined.

**Details of the supplier of the safety data sheet**

	Avantor Performance Materials, LLC. 3477 Corporate Parkway 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

## 2. Hazard(s) identification

**Hazard Classification**

**Physical Hazards**

Flammable liquids	Category 2
Static-accumulating flammable liquid	Category 1

**Health Hazards**

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2B
Specific Target Organ Toxicity - Single Exposure	Category 3 <sup>1</sup>
Aspiration Hazard	Category 1

**Target Organs**

1. Respiratory tract irritation.

**Unknown toxicity - Health**

Acute toxicity, oral	100 %
Acute toxicity, dermal	100 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

**Environmental Hazards**

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

**Unknown toxicity - Environment**

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	100 %

**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 Statements**

**Prevention:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take action to prevent static discharges. 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 [or shower]. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing. IF SWALLOWED: Immediately call a POISON CENTER/doctor. 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.

### 3. Composition/information on ingredients

#### Substances

Chemical name	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.

**Hazards:** None known.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically. Symptoms may be delayed.

### 5. Fire-fighting measures

**General Fire Hazards:** Flammable liquid and vapor. Vapors may cause a flash fire or ignite explosively.

#### 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:** 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.

**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:** In case of leakage, eliminate all ignition sources. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use 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 and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use 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 1.640 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	STEL	500 ppm 2.050 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
HEPTANE	TWA	400 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	500 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
HEPTANE	TWA	400 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	STEL	500 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
HEPTANE	8 HR ACL	400 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	500 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
HEPTANE	TWA	400 ppm 1.640 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	500 ppm 2.050 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
HEPTANE	STEL	500 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	400 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
HEPTANE	TWA	400 ppm	US. ACGIH Threshold Limit Values (02 2012)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (02 2012)

**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

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Gasoline-like odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	Not applicable
<b>Melting point/freezing point:</b>	-90,6 °C
<b>Initial boiling point and boiling range:</b>	98 °C
<b>Flash Point:</b>	-4 °C
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	Class IB Flammable Liquid
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	6,7 %(V)
<b>Flammability limit - lower (%):</b>	1,05 %(V)
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	6,13 kPa (25 °C)
<b>Vapor density:</b>	3,5
<b>Density:</b>	0,68 g/ml (20 °C)
<b>Relative density:</b>	0,6837 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	0,003 g/l
<b>Solubility (other):</b>	ethanol: very soluble
<b>Partition coefficient (n-octanol/water):</b>	4,66
<b>Auto-ignition temperature:</b>	203,9 °C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.
<b>Other information</b>	
<b>Molecular weight:</b>	100,2 g/mol (C7H16)

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames.
<b>Incompatible Materials:</b>	Strong oxidizers
<b>Hazardous Decomposition Products:</b>	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation:** May cause irritation to the respiratory system.

**Skin Contact:** Causes skin irritation.  
**Eye contact:** Causes eye irritation.  
**Ingestion:** Harmful or fatal if swallowed.

**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): 75 mg/l  
 LC 50 (Rat): 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

**ACGIH Carcinogen List:**  
 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.

<b>12. Ecological information</b>
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**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**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.

<b>13. Disposal considerations</b>
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**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

### TDG

UN Number:	UN 1206
UN Proper Shipping Name:	HEPTANES
Transport Hazard Class(es)	
Class:	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Not determined.

### IMDG

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

### IATA

UN Number:	UN 1206
UN Proper Shipping Name:	Heptanes
Transport Hazard Class(es):	
Class:	3
Label(s):	3
Packing Group:	II
Marine Pollutant:	Yes
Special precautions for user:	Not determined.
Cargo aircraft only:	Allowed.

**Transport in bulk according to Annex II of MARPOL and the IBC Code:** Not applicable

## 15. Regulatory information

### Canada Federal Regulations

**List of Toxic Substances (CEPA, Schedule 1)**

**Export Control List (CEPA 1999, Schedule 3)**

**National Pollutant Release Inventory (NPRI)**

**Greenhouse Gases**

**Controlled Drugs and Substances Act**

**Precursor Control Regulations**

### International regulations

**Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable

**Kyoto protocol**

Not applicable

**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**

**Revision Date:** 17.05.2018

**Version #:** 1.1

**Further Information:** No data available.

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