



Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

Creation Date 26-Jan-2010

Revision Date 05-Feb-2013

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Heptane
Cat No.	BP1115-500; H20-20; H20-200; H340-4; H350-1; H350-4; H350-4LC; H350N2-19; H350RS-19; H350RS-200; H350SK-1; H350SK-4; H360-1; H360-4; O3008-1; O3008-4; O3008FB-19; O3008FB-50; O3008FB-115; O3008FB-200; O3008RB-200; O3008RS-19; O3008RS-50; O3008RS-115; O3008RS-200; O3008SS-28; O3008SS-50; O3008SS-115; O3008SS-200; O3387-4
Synonyms	n-Heptane; Normal Heptane; Ligroine; Petroleum Ether (Sequencing/Technical/Spectranalyzed/HPLC/Certified/Laboratory/Optima/Peroxide Free)
Recommended Use	Laboratory chemicals
Company Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Extremely flammable liquid and vapor. Vapor may cause flash fire. Aspiration hazard if swallowed - can enter lungs and cause damage. May cause pulmonary edema. Irritating to eyes and skin. Inhalation may cause central nervous system effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Appearance Colorless

Physical State Liquid

Odor Petroleum distillates

Target Organs Central nervous system (CNS), Skin, Eyes, Blood, Liver, Kidney

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

Irritating to eyes.

Skin

Irritating to skin. May be harmful in contact with skin.

Inhalation

Inhalation may cause central nervous system effects. May be harmful if inhaled. May cause irritation of respiratory tract.

Ingestion Aspiration hazard. May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Central nervous system disorders. Skin disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
n-Heptane	142-82-5	>99
Methylcyclohexane	108-87-2	0 - 0.2
Dimethylcyclopentane	28729-52-4	0 - 0.1
Isooctane	26635-64-3	0 - 0.1

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.

Ingestion Call a physician or Poison Control Center immediately. Do not induce vomiting.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point -4°C / 24.8°F

Method - No information available.

Autoignition Temperature 215°C / 419°F

Explosion Limits

Upper 6.7 vol %
Lower 1.05 vol %

Suitable Extinguishing Media CO₂, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media Water may be ineffective

Hazardous Combustion Products No information available.

Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA**Health 2****Flammability 3****Instability 0****Physical hazards N/A****6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Should not be released into the environment. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Remove all sources of ignition. Soak up with inert absorbent material. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Keep in suitable, closed containers for disposal..

7. HANDLING AND STORAGE**Handling**

Use only under a chemical fume hood. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
n-Heptane	TWA: 400 ppm STEL: 500 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 1600 mg/m ³ (Vacated) STEL: 500 ppm (Vacated) STEL: 2000 mg/m ³ TWA: 500 ppm TWA: 2000 mg/m ³	IDLH: 750 ppm TWA: 85 ppm TWA: 350 mg/m ³ Ceiling: 440 ppm Ceiling: 1800 mg/m ³
Methylcyclohexane	TWA: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 1600 mg/m ³ TWA: 500 ppm TWA: 2000 mg/m ³	IDLH: 1200 ppm TWA: 400 ppm TWA: 1600 mg/m ³
Isooctane	TWA: 300 ppm		

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
n-Heptane	TWA: 400 ppm TWA: 1640 mg/m ³ STEL: 500 ppm STEL: 2050 mg/m ³	TWA: 400 ppm TWA: 1600 mg/m ³ STEL: 500 ppm STEL: 2000 mg/m ³	TWA: 400 ppm STEL: 500 ppm
Methylcyclohexane	TWA: 400 ppm TWA: 1610 mg/m ³	TWA: 400 ppm TWA: 1600 mg/m ³ STEL: 500 ppm STEL: 2000 mg/m ³	TWA: 400 ppm

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Colorless
Odor	Petroleum distillates
Odor Threshold	No information available.
pH	No information available.
Vapor Pressure	48 mbar @ 20 °C
Vapor Density	3.5 (Air = 1.0)
Viscosity	0.4 mPa s at 20 °C
Boiling Point/Range	98°C / 208.4°F
Melting Point/Range	-91°C / -131.8°F
Decomposition temperature	No information available.
Flash Point	-4°C / 24.8°F
Evaporation Rate	2.8 (Butyl Acetate = 1.0)
Specific Gravity	0.683
Solubility	Insoluble in water
log Pow	No data available
Molecular Weight	100.20

9. PHYSICAL AND CHEMICAL PROPERTIES

Molecular Formula C7 H16

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks. Incompatible products.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing..

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Heptane	>2000 mg/kg (rat)	3000 mg/kg (Rabbit)	103 g/m ³ (Rat) 4 h
Methylcyclohexane	3200 mg/kg (Rat)	Not listed	Not listed

Irritation	Irritating to eyes and skin
Toxicologically Synergistic Products	No information available.
Chronic Toxicity	
Carcinogenicity	There are no known carcinogenic chemicals in this product
Sensitization	No information available.
Mutagenic Effects	No information available.
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
Other Adverse Effects	The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.
Endocrine Disruptor Information	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
n-Heptane	Not listed	375.0 mg/L LC50 96 h	Not listed	EC50: >10 mg/L/24h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility .

Component	log Pow
n-Heptane	4.66

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT

UN-No UN1206
Proper Shipping Name HEPTANES
Hazard Class 3
Packing Group II

TDG

UN-No UN1206
Proper Shipping Name HEPTANES
Hazard Class 3
Packing Group II

IATA

UN-No UN1206
Proper Shipping Name Heptanes
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN1206
Proper Shipping Name Heptanes
Hazard Class 3
Packing Group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
n-Heptane											

15. REGULATORY INFORMATION											
n-Heptane	T	X	-	205-563-8	-		X	X	X	X	X
Methylcyclohexane	X	X	-	203-624-3	-		X	X	X	X	X
Dimethylcyclopentane	-	-	-	249-193-5	-		-	-	-	X	-
Isooctane	X	-	X	247-861-0	-		X	X	-	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Component	TSCA 12(b)
n-Heptane	Section 4

SARA 313

Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
n-Heptane	X	X	X	-	X
Methylcyclohexane	X	X	X	-	X
Isooctane	-	-	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

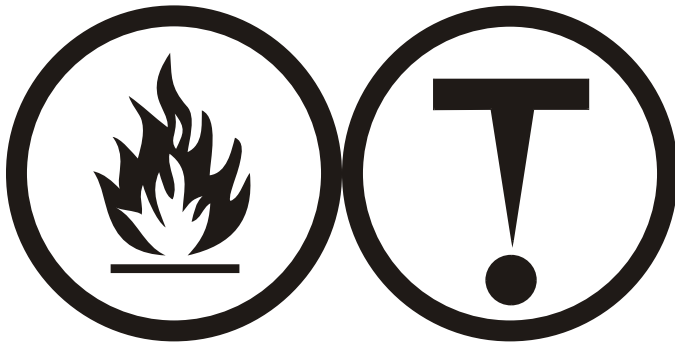
Mexico - Grade Serious risk, Grade 3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

B2 Flammable liquid
 D2B Toxic materials



16. OTHER INFORMATION

Prepared By Regulatory Affairs
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Revision Summary "****", and red text indicates revision

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS