



Material Safety Data Sheet

Creation Date 14-Jan-2010

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Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name n-Hexane

Cat No. H306-1; H306-4; H306-4LC; H306-SK4

Synonyms Hexane; Hex (OPTIMA/ACS)

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: 703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Extremely flammable liquid and vapor. Inhalation may cause central nervous system effects. Irritating to eyes and skin. May cause irritation of respiratory tract. Aspiration hazard if swallowed - can enter lungs and cause damage. Danger of serious damage to health by prolonged exposure. Possible risk of impaired fertility. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Appearance Colorless

Physical State Liquid

odor Petroleum distillates

Target Organs Skin, Respiratory system, Eyes, Central nervous system (CNS), Heart, Blood, Liver, Reproductive System

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 cause irritation of respiratory tract. May be harmful if inhaled.

Ingestion

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

Chronic Effects

Tumorigenic effects have been reported in experimental animals.. Experiments have shown reproductive toxicity effects on laboratory animals. Possible risk of impaired fertility. Danger of serious damage to health by prolonged exposure. May cause adverse liver effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions

Central nervous system disorders. Preexisting eye disorders. Skin disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Hexane	110-54-3	>95
Isohexane	107-83-5	2.3
3-Methylpentane	96-14-0	1.0

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

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

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point

-22°C / -7.6°F

Method

No information available.

Autoignition Temperature

223°C / 433.4°F

Explosion Limits**Upper**

7.5 vol %

Lower

1.1 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. This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained..

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 1

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.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. HANDLING AND STORAGE**Handling**

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. 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.

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 adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hexane	TWA: 50 ppm Skin	(Vacated) TWA: 180 mg/m ³ (Vacated) TWA: 50 ppm TWA: 500 ppm TWA: 1800 mg/m ³	IDLH: 1100 ppm TWA: 180 mg/m ³ TWA: 50 ppm
3-Methylpentane	TWA: 500 ppm STEL: 1000 ppm	(Vacated) TWA: 500 ppm (Vacated) TWA: 1800 mg/m ³ (Vacated) STEL: 3600 mg/m ³ (Vacated) STEL: 1000 ppm	TWA: 350 mg/m ³ TWA: 100 ppm Ceiling: 510 ppm Ceiling: 1800 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
Hexane	TWA: 176 mg/m ³ TWA: 50 ppm Skin	TWA: 176 mg/m ³ TWA: 50 ppm	TWA: 176 mg/m ³ TWA: 50 ppm

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
3-Methylpentane	TWA: 1760 mg/m ³ TWA: 500 ppm STEL: 1000 ppm STEL: 3500 mg/m ³	TWA: 1760 mg/m ³ TWA: 500 ppm STEL: 1000 ppm STEL: 3500 mg/m ³	TWA: 1760 mg/m ³ TWA: 500 ppm STEL: 1000 ppm STEL: 3520 mg/m ³

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	160 mbar @ 20 °C
Vapor Density	2.97 (Air = 1.0)
Viscosity	0.31 mPa s at 20 °C
Boiling Point/Range	69°C / 156.2°F @ 760 mmHg
Melting Point/Range	-95°C / -139°F
Decomposition temperature °C	No information available.
Flash Point	-22°C / -7.6°F
Evaporation Rate	No information available.
Specific Gravity	0.659
Solubility	Insoluble in water
log Pow	No data available
Molecular Weight	86.18
Molecular Formula	C6 H14

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Heat, flames and sparks. Exposure to light.
Incompatible Materials	Strong oxidizing agents, Halogens
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
Hexane	25 g/kg (Rat)	3000 mg/kg (Rabbit)	48000 ppm (Rat) 4 h

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 Mutagenic effects have occurred in experimental animals.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity Teratogenic effects have occurred in experimental animals..

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hexane	Not listed	Not listed	Not listed	EC50: 3.87 mg/L/48h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility .

Component	log Pow
Hexane	4.11

13. DISPOSAL CONSIDERATIONS

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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 UN1208
Proper Shipping Name Hexanes
Hazard Class 3
Packing Group II

TDG

UN-No UN1208
Proper Shipping Name HEXANES
Hazard Class 3
Packing Group II

IATA

UN-No UN1208
Proper Shipping Name Hexanes
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN1208
Proper Shipping Name Hexanes
Hazard Class 3
Packing Group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Hexane	X	X	-	203-777-6	-		X	X	X	X	KE-18626 X
Isohexane	X	X	-	203-523-4	-		X	X	X	X	KE-24699 X
3-Methylpentane	X	X	-	202-481-4	-		X	X	X	X	KE-24700 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) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Hexane	110-54-3	>95	1.0

SARA 311/312 Hazardous Categorization

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

Clean Water Act

Not applicable

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depleters	Class 2 Ozone Depleters
Hexane	X		-

OSHA

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Hexane	5000 lb	-

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Hexane	X	X	X	X	X
Isohexane	X	X	X	-	-
3-Methylpentane	X	-	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 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
 D2A Very toxic materials
 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