

MATERIAL SAFETY DATA SHEET (MSDS)- **HEXANE**

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name : **HEXANE**
Product Description : Aliphatic Hydrocarbon
Product Code :
Intended Use : Solvent

COMPANY IDENTIFICATION

Supplier : **Pon Pure Chemicals Group**
 CHENNAI, TAMILNADU, INDIA

24 Hour Health Emergency (91) 8939878447
 (91) 9444038694

Transportation Emergency Phone (91) 9444038517

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pon Pure Chemicals Group	CHENNAI	Day Emergency - 044-26161803-26161809

This (M)SDS is a generic document with no country specific information included.

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
NAPHTHA (PETROLEUM), HYDROTREATED LIGHT	64742-49-0	100%

Hazardous Constituent(s) Contained in Complex Substance(s)

Name	CAS#	Concentration*
CYCLOHEXANE	110-82-7	< 3%
HEXANE (MIXTURES OF ISOMERS)	EXCL N-HEXANE	15 - 40%
N-HEXANE	110-54-3	45 - 60%

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

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Extremely flammable. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.

POTENTIAL HEALTH EFFECTS

Danger of adverse health effects by prolonged exposure. If swallowed, may be aspirated and cause lung damage. Overexposure to n-hexane may cause effects on the peripheral nerves, resulting in weakness or numbness of lower limbs. May cause central nervous system depression.

Target Organs: Nervous system |

ENVIRONMENTAL HAZARDS

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

NFPA Hazard ID: Health: 1 Flammability: 3 Reactivity: 0

HMIS Hazard ID: Health: 1* Flammability: 3 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4

FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat

appropriately.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Hexane- Individuals with neurological disease should avoid exposure.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Highly flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Incomplete combustion products

FLAMMABILITY PROPERTIES

Flash Point [Method] : <-18C (0F) [ASTM D-56]

Flammable Limits (Approximate volume % in air): LEL: 1.2 UEL: 7.3

Autoignition Temperature : 290°C (554°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for firefighting information. See Section 3 for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Warn other shipping. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Avoid contact with skin. Use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

- Loading/Unloading Temperature** : [Ambient]
Transport Temperature : [Ambient]
Transport Pressure : [Ambient]
Static Accumulator : This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool and well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

- Storage Temperature** : [Ambient]
Storage Pressure : [Ambient]
Suitable Containers/Packing : Tank Cars; Barges; Drums; Tank Trucks
Suitable Materials and Coatings : Carbon Steel; Stainless Steel; Polyethylene; Polypropylene; Polyester; Teflon
Unsuitable Materials and Coatings : Natural Rubber; Butyl Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			Note	Source
CYCLOHEXANE		TWA	1050 mg/m ³	300 ppm	N/A	OSHA Z1
CYCLOHEXANE		TWA	100 ppm		N/A	ACGIH
HEXANE (MIXTURES OF ISOMERS)		STEL	3500 mg/m ³	1000 ppm	N/A	ACGIH
HEXANE (MIXTURES OF ISOMERS)		TWA	1760 mg/m ³	500 ppm	N/A	ACGIH
N-HEXANE		TWA	1800 mg/m ³	500 ppm	N/A	OSHA Z1
N-HEXANE		TWA	50 ppm		Skin	ACGIH
NAPHTHA (PETROLEUM), HYDROTREATED LIGHT	Vapor.	RCP - TWA	300 mg/m ³	85 ppm	Total Hydrocarbons	ExxonMobil

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION : Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1

for additional data.

GENERAL INFORMATION

Physical State	: Liquid
Form	: Clear
Color	: Colorless
Odor	: Mild Petroleum/Solvent
Odor Threshold	: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 C):	0.672
Density (at 15.6 °C)	: 673 kg/m ³ (5.62 lbs/gal, 0.67 kg/dm ³)
Flash Point [Method]	: <-18C (0F) [ASTM D-56]
Flammable Limits (Approximate volume % in air):	LEL: 1.2 UEL: 7.3
Autoignition Temperature:	290°C (554°F)
Boiling Point / Range	: 66C (151F) - 69C (156F)
Vapor Density (Air = 1)	: 3 at 101 kPa
Vapor Pressure	: 18.833 kPa (141.6 mm Hg) at 20 C 39.62 kPa (297.15 mm Hg) at 38C
Evaporation Rate (n-butyl acetate = 1):	8.1
pH	: N/D
Log Pow (n-Octanol/Water Partition Coefficient):	N/D
Solubility in Water	: Negligible
Viscosity	: 0.42 cSt (0.42 mm ² /sec) at 40 C 0.47 cSt (0.47 mm ² /sec) at 25C
Oxidizing Properties	: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point	: <-75°C (-103°F)
Melting Point	: N/D
Pour Point	: < -60°C (-76°F)
Molecular Weight	: 86
Hygroscopic	: No
Coefficient of Thermal Expansion:	0.00092 V/VDEGC

SECTION 10

STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity: Data available.	Minimally Toxic. Based on available literature
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on available literature
Ingestion	
Toxicity: LD50 > 15000 mg/kg	Minimally Toxic. Based on available literature
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic. Based on available literature
Irritation: Data available.	Moderately irritating to skin with prolonged exposure. Based on available literature
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes. Based on available literature

CHRONIC/OTHER EFFECTS

For the product itself:

High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Contains:

N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially

irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be readily biodegradable.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

OTHER ECOLOGICAL INFORMATION

VOC (EPA Method 24): 5.608 lbs/gal

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

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.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue 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 SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. 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.

SECTION 14

TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name : HEXANES
Hazard Class & Division : 3
ID Number : 1208
Packing Group : II
Product RQ : 8333.33 lbs - N-HEXANE
ERG Number : 128
Label(s) : 3
Transport Document Name: HEXANES, 3, UN1208, PG II, RQ (Hexane)

LAND (TDG)

Proper Shipping Name : HEXANES
Hazard Class & Division : 3
UN Number : 1208
Packing Group : II

SEA (IMDG)

Proper Shipping Name : HEXANES
Hazard Class & Division : 3
EMS Number : F-E, S-D

UN Number : 1208
Packing Group : II
Label(s) : 3
Transport Document Name: HEXANES, 3, UN1208, PG II

AIR (IATA)

Proper Shipping Name : HEXANES
Hazard Class & Division : 3
UN Number : 1208
Packing Group : II
Label(s) : 3
Transport Document Name: HEXANES, 3, UN1208, PG II

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA:

Chemical Name	CAS Number	Typical Value	Component RQ	Product RQ
CYCLOHEXANE	110-82-7	< 3%	1000 lbs	33333.33 lbs
N-HEXANE	110-54-3	45 - 60%	5000 lbs	8333.33 lbs

CWA / OPA: This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire. Delayed Health.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
CYCLOHEXANE	110-82-7	< 3%
N-HEXANE	110-54-3	45 - 60%

The Following Ingredients are Cited on the Lists Below:*

Chemical Name	CAS Number	List Citations
CYCLOHEXANE	110-82-7	1, 4, 13, 16, 17, 18, 19
HEXANE (MIXTURES OF EXCL N-HEXANE)		1

ISOMERS)		
N-HEXANE	110-54-3	1, 4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

PRECAUTIONARY LABEL TEXT:

Contains: N-HEXANE, HEXANE (MIXTURES OF ISOMERS)

DANGER!

HEALTH HAZARDS

Danger of adverse health effects by prolonged exposure. If swallowed, may be aspirated and cause lung damage.

Target Organs: Nervous system |

PHYSICAL HAZARDS

Extremely flammable. Material can accumulate static charges which may cause an incendiary electrical discharge.

PRECAUTIONS

Avoid breathing mists or vapors. Avoid contact with skin. Use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or grounding procedures.

FIRST AID

Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye: Flush thoroughly with water. If irritation occurs, get medical assistance.

Oral: Seek immediate medical attention. Do not induce vomiting.

Skin: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

FIRE FIGHTING MEDIA

Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

SPILL/LEAK

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Allow liquid to evaporate from the surface. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Use

Not intended or suitable for use in or around a household or dwelling.

Disclaimer:

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