

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Irritating to skin, eyes, and the respiratory system. Moisture sensitive material. Store under nitrogen.	

Section I. Chemical Product and Company Identification

Chemical Name	Hexadecane		
Catalog Number	H0066	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	Cetane		
Chemical Formula	CH ₃ (CH ₂) ₁₄ CH ₃		
CAS Number	544-76-3		
		In case of Emergency Call	Chemtec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Hexadecane	544-76-3	Min. 98.0 (GC)	Not available.	Mouse LD ₅₀ (intravenous) 9821 mg/kg

Section III. Hazards Identification

Acute Health Effects	Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	205 °C (401 °F)
Flash Points	136 °C (276.8 °F).	Flammable Limits	LOWER: 0.4%
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures**Spill Cleanup
Instructions**

Irritating material. Moisture sensitive material.
If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage**Handling and Storage
Information**

IRRITANT. MOISTURE SENSITIVE. STORE UNDER NITROGEN. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray.
Always store away from incompatible compounds such as oxidizing agents.

Section VIII. Exposure Controls/Personal Protection**Engineering Controls**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

Personal Protection

Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.

**Exposure Limits**

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Colorless clear.)	Solubility	Soluble in alcohol, acetone, ether. Insoluble in water.
Specific Gravity	0.77 (water=1)		
Molecular Weight	226.44	Partition Coefficient	Log K _{ow} : 8.25
Boiling Point	287 °C (548.6 °F)	Vapor Pressure	<1 mmHg @ 105.3°C
Melting Point	17°C (62.6°F) (Freezing Point)	Vapor Density	7.8 (Air = 1)
Refractive Index	1.433-1.436	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data**Stability**

This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability

Avoid excessive heat and light. Moisture sensitive.

Incompatibilities

Reactive with strong oxidizing agents.

Section XI. Toxicological Information**RTECS Number**

ML9200000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Mouse LD₅₀ (intravenous) 9821 mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Acute Toxic Effects

Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
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Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Hexadecane occurs naturally as volatile component of some foods sources of hexadecane are gasoline and diesel powered vehicles, rubber manufacture, shale oil production, coal combustion, biomass and refuse combustion, and tobacco smoke. Both photolysis and hydrolysis of hexadecane may not be important in the environment. The loss of hexadecane from soil and aquatic media via aerobic biodegradation may be the most important process. The biodegradation half-lives of hexadecane have been estimated to be 18 days in river water and 30 days in saline water. The estimated log K _{oc} value indicates that hexadecane may be immobile in soil. The volatilization of hexadecane should be important from moist soil or water. Both sorption to sediment and suspended solids in water and bioconcentration in aquatic organisms are expected to be important in water. The half-life for the reaction of hexadecane with photochemically generated hydroxyl radicals in the atmosphere has been estimated to be 10.3 hrs. Partial removal of hexadecane from the atmosphere should occur by wet deposition. Workers may be exposed to hexadecane both via inhalation and dermal routes.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
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Section XIV. Transport Information

DOT Classification	Not a DOT controlled material (United States).
PIN Number	Not applicable.
Proper Shipping Name	Not applicable.
Packing Group (PG)	Not applicable.
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	Not controlled under WHMIS (Canada). On DSL.
EINECS Number (EEC)	208-878-9
EEC Risk Statements	R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	ENCS No. (2)-10

Section XVI. Other Information

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Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.