TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Flammable material; avoid heat and sources of ignition.** **Environmental hazard.** **This material is very toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.** **Irritating to skin, eyes, and the respiratory system.** **Hygroscopic -- keep container tightly sealed.**	

Section I. Chemical Product and Company Identification

Chemical Name: **n-Octane**

Catalog Number	O0022
Synonym	Not available.
Chemical Formula	$CH_3(CH_2)_6CH_3$
CAS Number	111-65-9

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call: **Chemtrec®**
(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
n-Octane	111-65-9	Min. 97.0 (GC)	Not available.	Rat LC_{50} (inhalation) 118 gm/m^3 /4H

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	Flammable.	Auto-Ignition	220℃ (428℉)
Flash Points	13℃ (55.4℉).	Flammable Limits	LOWER: 0.96% UPPER: 6.5%

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

Flammable liquid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog.
Consult with local fire authorities before attempting large scale fire-fighting operations.

Continued on Next Page **Emergency phone number (800) 424-9300**

Section VI. Accidental Release Measures

Spill Cleanup Instructions

Flammable material. Environmentally hazardous material. Irritating material. Hygroscopic material.
Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information

FLAMMABLE. ENVIRONMENTAL HAZARD. IRRITANT. HYGROSCOPIC. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray.
Always store away from incompatible compounds such as oxidizing agents, acids.

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. (Clear, colorless.)	Solubility	Miscible with benzene, petroleum ether, gasoline. Soluble in ether. Slightly soluble in alcohol. Insoluble in water.
Specific Gravity	0.703 (water=1)		
Molecular Weight	114.23	Partition Coefficient	Log P_{ow}: 5.18
Boiling Point	125 to 126°C (257 to 258.8°F)	Vapor Pressure	1.33 kPa (@ 20°C)
Melting Point	-57°C (-70.6°F)	Vapor Density	3.94 (Air = 1)
Refractive Index	1.396 - 1.400	Volatility	Not available.
Critical Temperature	Not available.	Odor	Gasoline like
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.

Incompatibilities

Reactive with strong oxidizing agents, strong acids.

Section XI. Toxicological Information

RTECS Number

RG8400000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Rat LC_{50} (inhalation) 118 gm/m^3/4H

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
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Acute Toxic Effects

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Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	n-Octane's production and use in petroleum and gasoline products result in its release to the environment through various waste streams. Combustion of gasoline has been shown to release n-octane into the atmosphere. n-Octane is a natural constituent in the paraffin fraction of crude oil and natural gas. If released to air, a vapor pressure of 14.1 mm Hg at 25 deg C indicates n-octane will exist solely as a vapor in the ambient atmosphere. Vapor-phase n-octane will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 44 hours. If released to soil, n-octane is expected to have no mobility based upon an estimated Koc of 16,000. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 3.2 atm-cu m/mole. However, adsorption to soil is expected to attenuate volatilization. n-Octane may volatilize from dry soil surfaces based upon its vapor pressure. n-Octane is expected to biodegrade in soil under aerobic conditions. The avg theoretical biological oxygen demand in soil for n-octane was 13, 58, 70 and 69% after 2, 5, 10 and 20 days, respectively. If released into water, n-octane is expected to adsorb to suspended solids and sediment based upon the estimated Koc. When evaporation rates are low, biodegradation of n-octane in water may be important under aerobic conditions. For example, a 49% loss of n-octane occurred within 5 days and completely disappeared within 15 days when 1 ml of crude oil was added to a 100 ml simulated seawater soln inoculated with sediment samples at 20 deg C. Volatilization from water surfaces is expected to be an important fate process based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 1.1 hrs and 4.2 days, respectively. However, volatilization from water surfaces is expected to be attenuated by adsorption to suspended solids and sediment in the water column. An estimated BCF of 1,900 suggests the potential for bioconcentration in aquatic organisms is very high. Hydrolysis is not expected to be an important environmental fate process since this compound lacks functional groups that hydrolyze under environmental conditions. Occupational exposure to n-octane may occur through inhalation and dermal contact with this compound at workplaces where n-octane is produced or used. Monitoring data indicate that the general population may be exposed to n-octane via inhalation of ambient air, ingestion of food and drinking water, and dermal contact with this compound and consumer products containing n-octane. Extensive monitoring data indicate n-octane is a widely occurring atmospheric pollutant. Breath samples have demonstrated n-octane exposure among urban residents. In the United States, the avg daily indoor concn of n-octane was found to be 0.882 ppb while the ambient outdoor air concn was found to 2.6 ppb (as carbon).

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.

Section XIV. Transport Information

DOT Classification	DOT Class 3: Flammable liquid.
PIN Number	UN1262
Proper Shipping Name	Octanes
Packing Group (PG)	II
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)	CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). On DSL
EINECS Number (EEC)	203-892-1
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R36/37/38- Irritating to eyes, respiratory system and skin. R50- Very toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	ENCS No. 2-8

Section XVI. Other Information

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Notice to Reader

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