



HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	<b>Combustible material; avoid heat and sources of ignition.</b> <b>Irritating to skin, eyes, and the respiratory system.</b> <b>Hygroscopic -- keep container tightly sealed.</b> <b>May form explosive peroxides.</b> <b>Store under nitrogen.</b> <b>Air sensitive.</b> <b>POSSIBLE CARCINOGEN. MINIMIZE EXPOSURE.</b>	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Decalin</b>		
	(cis- and trans- mixture) [Testing Methods for Sulfur in Crude Oil and Petroleum Products](JIS K-2541 1980)		
Catalog Number	D1738	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Decahydronaphthalene		
Chemical Formula	C <sub>10</sub> H <sub>18</sub>		
CAS Number	91-17-8	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Decalin <small>(cis- and trans- mixture) [Testing Methods for Sulfur in Crude Oil and Petroleum Products](JIS K-2541 1980)</small>	91-17-8	-----	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LC <sub>50</sub> (inhalation) 710ppm/4H Rat LD <sub>50</sub> (oral) 4170mg/kg Rabbit LD <sub>50</sub> (dermal) 5900µl/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	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects: Rat TClO (inhalation) 50ppm/24H/90 days, continuous. Toxic Effects: Tumorigenic - Neoplastic by RTECS criteria. Endocrine - Tumors. Mouse TClO (inhalation) 50ppm/24H/90 days, continuous. Toxic Effects: Tumorigenic - Carcinogenic by RTECS criteria. Endocrine - Tumors. <b>DEVELOPMENTAL TOXICITY</b> 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. SEEK IMMEDIATE MEDICAL ATTENTION in case of ingestion of a radioactive material.

(*cis- and trans- mixture*)  
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### Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	250°C (482°F)
Flash Points	58°C (136.4°F).	Flammable Limits	LOWER: 0.7% UPPER: 4.9%
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
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	Combustible liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.		


### Section VI. Accidental Release Measures

Spill Cleanup Instructions	Combustible material. Irritating material. Hygroscopic material. May form explosive peroxides. Air sensitive. Store under nitrogen. Possible carcinogenic 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. Consult federal, state, and/or local authorities for assistance on disposal.
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### Section VII. Handling and Storage

Handling and Storage Information	COMBUSTIBLE. IRRITANT. HYGROSCOPIC. MAY FORM EXPLOSIVE PEROXIDES. AIR SENSITIVE. STORE UNDER NITROGEN. POSSIBLE CARCINOGEN. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents.
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### 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. Gloves. 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	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.

### Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, colorless.)	Solubility	Very soluble in chloroform, methanol, ether, alcohol.
Specific Gravity	0.881 (water=1)		Miscible with most ketones, esters, propyl and isopropyl alcohols. Insoluble in water.
Molecular Weight	138.25	Partition Coefficient	Not available.
Boiling Point	189 to 191°C (372.2 to 375.8°F)	Vapor Pressure	98.8 kPa (@ 20°C)
Melting Point	-125°C (-193°F)	Vapor Density	4.76 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Turpentine-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	Air sensitive. Heat and light accelerate peroxide formation.
Incompatibilities	Reactive with oxidizing agents.

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### Section XI. Toxicological Information

RTECS Number	QJ3150000
Routes of Exposure	Eye Contact. Ingestion. inhalation.
Toxicity Data	Rat LC <sub>50</sub> (inhalation) 710ppm/4H Rat LD <sub>50</sub> (oral) 4170mg/kg Rabbit LD <sub>50</sub> (dermal) 5900µl/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Tumorigenic Effects: Rat TCLo (inhalation) 50ppm/24H/90 days, continuous. Toxic Effects: Tumorigenic - Neoplastic by RTECS criteria. Endocrine - Tumors. Mouse TCLo (inhalation) 50ppm/24H/90 days, continuous. Toxic Effects: Tumorigenic - Carcinogenic by RTECS criteria. Endocrine - Tumors. <b>DEVELOPMENTAL TOXICITY</b> 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. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.


### Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Decahydronaphthalene a component of crude oil and a product of combustion, is produced and released to the environment during natural fires. Emissions from petroleum refining, coal tar distillation, and gasoline and diesel fueled engines are major contributors of decahydronaphthalene to the environment. Decahydronaphthalene is also used as a chemical intermediate and a general solvent. Consequently, decahydronaphthalene is released to the environment via manufacturing effluents where decahydronaphthalene is produced and used. Because of the widespread use of decahydronaphthalene in a variety of products, decahydronaphthalene is also released to the environment through the disposal of these products and municipal waste water treatment facilities. Decahydronaphthalene should biodegrade in acclimated environments under the proper conditions. Decahydronaphthalene is not expected to undergo hydrolysis or photolysis in the environment. A calculated Koc range of 4700 to 9600 indicates that decahydronaphthalene will be slightly mobile to immobile in soil. In aquatic systems, decahydronaphthalene may partition from the water column to organic matter contained in sediments and suspended solids. Decahydronaphthalene has the potential to bioconcentrate in aquatic systems. A Henry's Law constant of 4.70X10 <sup>-1</sup> atm-cu m/mole at 25 deg C suggests volatilization of decahydronaphthalene from environmental waters should be rapid. The volatilization half-lives from a model river and model pond, the latter considers the effect of adsorption, have been estimated to be 3.4 hr and 28.1 days, respectively. Decahydronaphthalene is expected to exist entirely in the vapor phase in ambient air. Reaction with photochemically produced hydroxyl radicals (half-life of 20.3 hr) is likely to be an important fate process in the atmosphere. The most probable human exposure would be occupational exposure, which may occur through dermal contact or inhalation at places where decahydronaphthalene is produced or used. Non occupational exposures would most likely occur via urban atmospheres, contaminated drinking water supplies and recreational activities at contaminated waterways.

### 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	CLASS 3: Combustible liquid
PIN Number	UN1147
Proper Shipping Name	Decahydronaphthalene
Packing Group (PG)	III
DOT Pictograms	

(*cis- and trans- mixture*)  
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### Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
EINECS Number (EEC)	202-046-9
EEC Risk Statements	R19- May form explosive peroxides. R36/37/38- Irritating to eyes, respiratory system and skin. R45- May cause cancer.
Japanese Regulatory Data	ENCS No. 4-0575

### Section XVI. Other Information

**Version 1.0**  
**Validated on 7/9/2001.**  
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#### Notice to Reader

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