

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
     	<p>Flammable material; avoid heat and sources of ignition. Water-reactive. May ignite or generate flammable gas in the presence of moisture. Corrosive to eyes and skin on contact. Harmful compound, minimize exposure. Environmental hazard. This material is toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment. Pyrophoric. May spontaneously ignite on contact with air. CARCINOGEN. MINIMIZE EXPOSURE. POSSIBLE MUTAGEN MINIMIZE EXPOSURE. Store under nitrogen.</p>	

Section I. Chemical Product and Company Identification

Chemical Name	Diethylzinc, (ca. 1mol/L in Hexane)		
Catalog Number	D3214	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Not available.		
Chemical Formula	C ₄ H ₁₀ Zn (Diethylzinc) C ₆ H ₁₄ (n-Hexane)	<div style="border: 2px dashed black; padding: 5px;"> In case of Emergency Call </div>	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)
CAS Number	557-20-0 (Diethylzinc) 110-54-3 (n-Hexane)		

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Diethylzinc, (ca. 1mol/L in Hexane)	557-20-0 (Diethylzinc) 110-54-3 (n-Hexane)	~18.7% ~81.3% (n-Hexane)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.	(n-Hexane) Rat LD ₅₀ (oral) 25 gm/kg Rat LD ₅₀ (inhalation) 48000 ppm/4H

Section III. Hazards Identification

Acute Health Effects	<p>Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested.</p> <p>Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : (n-Hexane) TUMORIGENIC EFFECTS Rat TClO Inhalation; 1000 ppm/4hours/59 weeks intermittent TOXIC EFFECTS Tumorigenic - Carcinogenic by RTECS criteria Tumorigenic Effects - Testicular tumors Mouse TClO Inhalation; 9018 ppm/6hours/2 years intermittent TOXIC EFFECTS Tumorigenic - Neoplastic by RTECS criteria Liver - Tumors DEVELOPMENTAL TOXICITY (n-Hexane) REPRODUCTIVE EFFECTS Rat TClO Inhalation; 5000 ppm; female 6-19 days of pregnancy TOXIC EFFECTS Specific Developmental Abnormalities - Musculoskeletal system Specific Developmental Abnormalities - Urogenital system TClO Inhalation; 5000 ppm/ 20 hours; female 6-19 days of pregnancy TOXIC EFFECTS Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus) Mouse TClO Inhalation; 200 ppm; female 6-17 days of pregnancy TOXIC EFFECTS Effects on Fertility - Post-implantation mortality (e.g., dead and or resorbed implants per total number of implants) Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.</p>

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Emergency phone number (800) 424-9300

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	DO NOT INDUCE VOMITING. 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	223°C (433.4°F) (n-Hexane)
Flash Points	-23°C (-9.4°F).	Flammable Limits	LOWER: 1.1% UPPER: 7.5% (n-Hexane)
Combustion Products	These products are toxic carbon oxides (CO, CO ₂). Some metallic oxides.		
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. Do NOT use water on fire. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use DRY chemical powder. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Flammable Material. Water Reactive Material. Corrosive Material. Harmful Material. Environmental hazard. Pyrophoric. Carcinogenic Material. Possible Mutagenic 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 get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. 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	FLAMMABLE. WATER REACTIVE. CORROSIVE. HARMFUL. ENVIRONMENTAL HAZARD. PYROPHORIC. CARCINOGEN. POSSIBLE MUTAGEN. STORE UNDER NITROGEN. Keep locked up.. Keep under inert atmosphere. Keep container dry. Keep away from heat. Mechanical exhaust required. Keep away from direct sunlight or strong incandescent light. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Avoid shock and friction. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, acids, alkalis (bases), moisture.
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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	Face shield. 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	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, Colorless.)	Solubility	Not available.
Specific Gravity	0.726 (water=1)		
Molecular Weight	123.53	Partition Coefficient	Not available.
Boiling Point	118 (244.4°F) (Diethylzinc) 68°C (154.4°F) (n-Hexane)	Vapor Pressure	2.8 kPa (@ 25°C) (Diethylzinc) ~132 mmHg (@ 20°C) (n-Hexane)
Melting Point	-28 (-18.4°F) (Diethylzinc) 94°C (201.2°F) (Freezing Point) (n-Hexane)	Vapor Density	2.97 (Air = 1) (n-Hexane)
Refractive Index	Not available.	Volatility	Not available.

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Critical Temperature	Not available.	Odor	Characteristic.
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 oxidizing agents, acids, alkalis (bases), moisture, alcohol, halogens, oxygen, air, chlorine, fluorine, magnesium perchlorate. This product will attack some forms of plastic, rubber and coatings. The product REACTS violently with water to emit FLAMMABLE BUT NON TOXIC GASES.

Section XI. Toxicological Information

RTECS Number	ZH2077777 (Diethylzinc) MN9275000 (n-Hexane)
Routes of Exposure	Eye Contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	(n-Hexane) Rat LD ₅₀ (oral) 25 gm/kg Rat LD ₅₀ (inhalation) 48000 ppm/4H
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : (n-Hexane) TUMORIGENIC EFFECTS Rat TClO Inhalation; 1000 ppm/4hours/59 weeks intermittent TOXIC EFFECTS Tumorigenic - Carcinogenic by RTECS criteria Tumorigenic Effects - Testicular tumors Mouse TClO Inhalation; 9018 ppm/6hours/2 years intermittent TOXIC EFFECTS Tumorigenic - Neoplastic by RTECS criteria Liver - Tumors DEVELOPMENTAL TOXICITY (n-Hexane) REPRODUCTIVE EFFECTS Rat TClO Inhalation; 5000 ppm; female 6-19 days of pregnancy TOXIC EFFECTS Specific Developmental Abnormalities - Musculoskeletal system Specific Developmental Abnormalities - Urogenital system TClO Inhalation; 5000 ppm/ 20 hours; female 6-19 days of pregnancy TOXIC EFFECTS Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus) Mouse TClO Inhalation; 200 ppm; female 6-17 days of pregnancy TOXIC EFFECTS Effects on Fertility - Post-implantation mortality (e.g., dead and or resorbed implants per total number of implants) Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.
Acute Toxic Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	n-Hexane's production and use as a pure or commercial grade solvent, as a raw material in the synthesis of polyolefins, elastomers and pharmaceuticals, in the formulation of glues, stains, varnishes and other industrial chemicals may result in its release to the environment through various waste streams. n-Hexane is also a component of natural gas and crude oil. The vast majority of n-hexane is released to the environment through the manufacture, use, and disposal of many products associated with the petroleum industry and the combustion of gasoline. If released to air, a vapor pressure of 153 mm Hg at 25 deg C indicates n-hexane will exist solely as a vapor in the ambient atmosphere. Vapor-phase n-hexane 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 3 days. If released to soil, n-hexane is expected to have high mobility based upon an estimated Koc of 150. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 1.83 atm-cu m/mole. n-Hexane may volatilize from dry soil surfaces based upon its vapor pressure. Screening studies suggest that n-hexane will undergo biodegradation in soil and water surfaces, but volatilization is expected to be the predominant fate process in the environment. If released into water, n-hexane is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. 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 hour and 3 days, respectively. An estimated BCF of 200 suggests the potential for bioconcentration in aquatic organisms is 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-hexane may occur through inhalation and dermal contact with this compound at workplaces where n-hexane is produced or used. Monitoring data indicate that the general population may be exposed to n-hexane via inhalation of ambient air, particularly at urban areas with heavy vehicular traffic or gasoline filling stations.

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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	DOT Class 4.3: Dangerous when wet material. DOT Class 3: Flammable liquid.
PIN Number	UN3399
Proper Shipping Name	Organometallic substance, liquid, water-reactive, flammable
Packing Group (PG)	I
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). CLASS E: Corrosive liquid. CLASS F: Dangerously reactive material. On DSL.
EINECS Number (EEC)	209-161-3 (Diethylzinc) 203-777-6 (n-Hexane)
EEC Risk Statements	R10- Flammable. R14- Reacts violently with water. R18- In use, may form flammable/explosive vapor-air mixture. R34- Causes burns. R50- Very toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment.
Japanese Regulatory Data	ENCS No. (9)-1890 (Diethylzinc) ENCS No. (2)-6 (n-Hexane)

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.