

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	The health risks of this compound have not been fully determined. Exposure may cause irritation of the skin, eyes, and respiratory system.	   

Section I. Chemical Product and Company Identification

Chemical Name	Phthalic Acid Di-n-hexyl Ester		
Catalog Number	P1344	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	1,2-Benzenedicarboxylic Acid, Dihexyl Ester (9 CI)		
Chemical Formula	C ₆ H ₄ [COO(CH ₂) ₅ CH ₃] ₂		
CAS Number	84-75-3	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
Phthalic Acid Di-n-hexyl Ester	84-75-3	Min. 98.0(GC)	Not available.	Rat LD ₅₀ (oral) 29600mg/kg Rat LD ₅₀ (unreported) >33gm/kg Rabbit LD ₅₀ (dermal) >20ml/kg

Section III. Hazards Identification

Acute Health Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound. 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/REPRODUCTIVE EFFECTS : Rat TDLo (oral) 9600mg/kg, male, 4 Days prior to mating. Toxic Effects: Paternal Effects- Testes, epididymis, sperm duct. Mouse TDLo (oral) 181gm/kg, male, 18 Weeks prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Paternal Effects- Testes, epididymis, sperm duct. Paternal Effects- Prostate, seminal vesicle, Cowper's gland, accessory glands. Mouse TDLo (oral) 30gm/kg, male, 7 Days prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Paternal Effects- Testes, epididymis, sperm duct. Effects on Fertility- Male fertility index. 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	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
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	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.
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Section VII. Handling and Storage

Handling and Storage Information	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.
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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. 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. (Oily, clear.)	Solubility	In water, 0.24mg/L.
Specific Gravity	1.01 (water=1)		
Molecular Weight	334.50	Partition Coefficient	K _{ow} = 6.82
Boiling Point	210°C (410°F) @ 5mmHg	Vapor Pressure	Not available.
Melting Point	-58°C (-72.4°F)	Vapor Density	11.5 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Slightly aromatic.
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.

Section XI. Toxicological Information

RTECS Number	TI1100000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (oral) 29600mg/kg Rat LD ₅₀ (unreported) >33gm/kg Rabbit LD ₅₀ (dermal) >20ml/kg

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

Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY/REPRODUCTIVE EFFECTS: Rat TDLo (oral) 9600mg/kg, male, 4 Days prior to mating. Toxic Effects: Paternal Effects- Testes, epididymis, sperm duct. Mouse TDLo (oral) 181gm/kg, male, 18 Weeks prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Paternal Effects- Testes, epididymis, sperm duct. Paternal Effects- Prostate, seminal vesicle, Cowper's gland, accessory glands. Mouse TDLo (oral) 30gm/kg, male, 7 Days prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Paternal Effects- Testes, epididymis, sperm duct. Effects on Fertility- Male fertility index. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Diethyl phthalate's production and use as a plasticizer may result in its release to the environment through various waste streams. If released to air, a measured vapor pressure of 1.4×10^{-5} mm Hg at 25 deg C indicates diethyl phthalate is expected to exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase diethyl phthalate 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 1.1 days. Particulate-phase diethyl phthalate may be physically removed from the atmosphere by wet and dry deposition. If released to soil, an estimated Koc of 1.2×10^5 suggests diethyl phthalate will be essentially immobile. Volatilization from dry soil surfaces is not expected to occur given this compound's vapor pressure. Diethyl phthalate may volatilize from wet soil surfaces based upon an estimated Henry's Law constant of 2.6×10^{-5} atm-cu m/mole. However, adsorption to organic matter is expected to attenuate this process. Biodegradation is expected to be an important process in both soil and water. In a shake flask carbon dioxide evolution screening test, >99% of diethyl phthalate was lost and 77% of theoretical carbon dioxide was evolved after 28 days. In a semi-continuous activated sludge test, the mean degradation percentage for diethyl phthalate was >92.8% in 24 hr. If released into water, diethyl phthalate is expected to adsorb to suspended solids and sediment in the water column based upon a measured sediment Koc of 5.26×10^4. Volatilization from water surfaces is expected to occur based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives from a model river and a model lake are 2.8 and 26 days, respectively. Adsorption to suspended solids and sediment in the water column is expected to attenuate this process. Measured BCFs of 1066 to 3254 in Daphnia suggest bioconcentration in aquatic organisms will be very high. Estimated hydrolysis half-lives of 130 days and 3.4 years at pHs 8 and 7, respectively, suggest hydrolysis is not expected to be an important process. Occupational exposure to diethyl phthalate may occur through inhalation of aerosols and dermal contact with this compound at workplaces where diethyl phthalate is produced or used as a plasticizer. (HSDB)

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 available. On DSL.
EINECS Number (EEC)	201-559-5
EEC Risk Statements	Not available.
Japanese Regulatory Data	ENCS No. 3-1307X

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Emergency phone number (800) 424-9300

Section XVI. Other Information**Version 1.0****Validated on 10/30/2003.****Printed 3/19/2005.****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.

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