



Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Irritating to skin, eyes, and the respiratory system. POSSIBLE CARCINOGEN. MINIMIZE EXPOSURE. Combustible material; avoid heat and sources of ignition. Possible risk of irreversible effects.	

Section I. Chemical Product and Company Identification

Chemical Name	Terephthalic Acid Dimethyl Ester		
Catalog Number	T0015	Supplier	TCl America 9211 N. Harbortgate St. Portland OR 1-800-423-8616
Synonym	1,4-Benzenedicarboxylic Acid, Dimethyl Ester (9 Cl)		
Chemical Formula	C ₆ H ₄ (COOCH ₃) ₂		
CAS Number	120-61-6	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
Terephthalic Acid Dimethyl Ester	120-61-6	Min. 99.0 (GC)	This chemical is classified as a possible 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.	Rat LD ₅₀ (intraperitoneal) 3900mg/kg Rat LD ₅₀ (oral) >3200mg/kg Guinea Pig LD ₅₀ (dermal) >5000mg/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. SEEK IMMEDIATE MEDICAL ATTENTION in case of ingestion of a radioactive material.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	569°C (1056.2°F)
Flash Points	Not available.	Flammable Limits	LOWER: 0.24%
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.		

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Emergency phone number (800) 424-9300

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 MeasuresSpill Cleanup
Instructions

Irritating material. Combustible material. Possible carcinogenic material. Possible risk of irreversible effects.
Use a shovel to put the material into a convenient waste disposal container. 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 StorageHandling and Storage
Information

IRRITANT. COMBUSTIBLE. CARCINOGEN. RISK OF IRREVERSIBLE EFFECTS. 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 ingest. Do not breathe dust. 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, acids, alkalis (bases).

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Splash goggles. Lab coat. Dust 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. 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	Solid. (White to colorless briquettes.)	Solubility	Soluble in ether, Chloroform, Hot alcohol. Slightly soluble in Ethanol.
Specific Gravity	Not available.		
Molecular Weight	194.19	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	13 mm Hg @ 150°C
Melting Point	140°C (284°F)	Vapor Density	1.04 (Air = 1)
Refractive Index	Not available.	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.
Incompatibilities	Reactive with strong oxidizing agents, strong acids, strong alkalis (bases).

Section XI. Toxicological Information

RTECS Number	WZ1225000
Routes of Exposure	Eye Contact. Ingestion. inhalation.
Toxicity Data	Rat LD ₅₀ (intraperitoneal) 3900mg/kg Rat LD ₅₀ (oral) >3200mg/kg Guinea Pig LD ₅₀ (dermal) >5000mg/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. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity Not available.

Environmental Fate Dimethyl terephthalate's production and use in polymer fibers, polyester resins and plasticizers may result in its release to the environment through various waste streams. Based on a vapor pressure of 0.01 mm Hg at 25 deg C, dimethyl terephthalate is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase dimethyl terephthalate is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an atmospheric half-life of about 28 days. This compound is expected to have moderate mobility in soil based upon an estimated Koc value of 400. Volatilization from dry soil surfaces is not expected based upon the vapor pressure of this compound. Volatilization from moist soil surfaces is expected based upon the estimated Henry's Law constant of 1.34X10⁻⁴ atm-cu m/mole. Dimethyl terephthalate is expected to biodegrade in both soil and aquatic systems based upon a standard BOD study and river die-away test. In water, dimethyl terephthalate is expected to adsorb to sediment or particulate matter given its estimated Koc value. This compound is expected to volatilize from water surfaces given its estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 13 and 198 hours respectively. This compound is expected to hydrolyze in aquatic environments with an estimated half-life of about 26 days at pH 8. An estimated BCF value of 30 suggests that bioconcentration in aquatic organisms is moderate, not high. Occupational exposure may be through inhalation and dermal contact with this compound at workplaces where dimethyl terephthalate is produced or used.

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 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.

EINECS Number (EEC) 204-411-8

EEC Risk Statements R36/37/38- Irritating to eyes, respiratory system and skin.
R40- Possible risks of irreversible effects.
R45- May cause cancer.

Japanese Regulatory Data Not available.

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, household, 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.