

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Harmful compound, minimize exposure. Irritating to skin, eyes, and the respiratory system. CARCINOGEN. MINIMIZE EXPOSURE.	

Section I. Chemical Product and Company Identification

Chemical Name	Terephthalic Acid		
Catalog Number	T0166	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	p-Phthalic Acid		
Chemical Formula	C ₈ H ₆ O ₄		
CAS Number	100-21-0	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	100-21-0	Min. 99.0 (GC,T)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD ₅₀ (oral) >6400 mg/kg Mouse LD ₅₀ (oral) 3200 mg/kg Mouse LD ₅₀ (intraperitoneal) 1430 mg/kg

Section III. Hazards Identification

Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. 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 : Carcinogenic by RTECS criteria.. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic effects. Rat TDLo Oral 92.4 gm/kg for 4 weeks intermittent TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Kidney, Ureter, and Bladder - Tumors Tumorigenic - Facilitates action of known carcinogens 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	May be combustible at high temperature.	Auto-Ignition	496 °C (924.8 °F)
Flash Points	>300 °C (572 °F).	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.		

Continued on Next Page

Emergency phone number (800) 424-9300

Section VI. Accidental Release Measures

Spill Cleanup Instructions Harmful material. Irritating material. Carcinogenic material. 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 Storage

Handling and Storage Information HARMFUL. IRRITANT. CARCINOGEN. 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 dust.

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 carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White crystalline powder.)	Solubility	Soluble in 1M NaOH, DMF, DMSO, pyrimidine, alkalies. Very slightly soluble in water, alcohol. Insoluble in ethanol, ether, chloroform, acetic acid.
Specific Gravity	1.51 (water=1)		
Molecular Weight	166.13	Partition Coefficient	LOG P _{ow} : 2
Boiling Point	402°C (755.6°F) (subl.)	Vapor Pressure	<1 Pa (@ 20°C)
Melting Point	>300°C (572°F)	Vapor Density	Not available.
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.

Section XI. Toxicological Information

RTECS Number	WZ0875000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD ₅₀ (oral) >6400 mg/kg Mouse LD ₅₀ (oral) 3200 mg/kg Mouse LD ₅₀ (intraperitoneal) 1430 mg/kg
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Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. 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 Terephthalic acid is likely to enter the environment during production and use in the manufacture of polyester fibers, films, and bottles. If released to soil, terephthalic acid will be lost primarily by biodegradation. The mobility of terephthalic acid in soil is expected to be moderate. If released to water, terephthalic acid may biodegrade. Hydrolysis and photolysis do not appear to be important fate processes in water. Based on the Kow value, the bioconcentration of terephthalic acid in aquatic organisms should not be important. The volatilization of the dissociated and undissociated acid from water will not be important and in most waters terephthalic acid will be found in the dissociated form. If released to air, vapor-phase terephthalic acid may react with photochemically-produced hydroxyl radicals with an estimated half-life of 58 days. Particulate terephthalic acid may be removed from the atmosphere by both wet and dry deposition. Due to its persistence in the atmosphere, terephthalic acid may travel long distances in air. Terephthalic acid has been detected in the ambient air in urban and remote areas, surface water and in certain industrial effluents. The probable routes of worker's exposure to terephthalic acid during its manufacture and use as a chemical intermediate are inhalation and dermal.

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) CLASS D-2B: Material causing other toxic effects (TOXIC).
On DSL.

EINECS Number (EEC) 202-830-0

EEC Risk Statements R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.
R45- May cause cancer.

Japanese Regulatory Data ENCS No. 3-1334

Section XVI. Other Information

Version 1.0
Validated on 1/15/2009.
Printed 1/15/2009.

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.