

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Readily absorbed through skin.	   

Section I. Chemical Product and Company Identification

Chemical Name	Dimethyl Adipate		
Catalog Number	A0166	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Adipic Acid Dimethyl Ester		
Chemical Formula	C ₈ H ₁₄ O ₄		
CAS Number	627-93-0		
		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
Dimethyl Adipate	627-93-0	Min. 99.0 (GC)	Not available.	Rat LD ₅₀ (intraperitoneal) 1809 uL/kg

Section III. Hazards Identification

Acute Health Effects	Readily absorbed through skin. 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 Intraperitoneal 362 mg/kg, female 5-15 days of pregnancy TOXIC Effects: Specific Developmental Abnormalities – Musculoskeletal system Specific Developmental Abnormalities – Other developmental abnormalities Rat TDLo Intraperitoneal 181 mg/kg, female 5-15 days of pregnancy TOXIC Effects: Effects on Fertility – Post-implantation mortality

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	360°C (680°F)
Flash Points	122°C (251.6°F).	Flammable Limits	LOWER: 0.8% UPPER: 8.1%
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 MeasuresSpill Cleanup
Instructions

Material is readily absorbed through skin. 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.

Section VII. Handling and StorageHandling and Storage
Information

READILY ABSORBED THROUGH SKIN. 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, reducing agents, acids, alkalis (bases).

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. (Clear, colorless.)

Solubility

Soluble in alcohol, ether, acetic acid, carbon tetrachloride
Insoluble in water.

Specific Gravity

1.06 (water=1)

Molecular Weight

174.19

Partition Coefficient

Not available.

Boiling Point

109 to 110°C (228.2 to 230°F) @ 14 mmHg

Vapor Pressure

8.0 kPa (@ 25°C)

Melting Point

10°C (50°F) (Freezing Point)

Vapor Density

Not available.

Refractive Index

1.427 - 1.430

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 oxidizing agents, reducing agents, acids, alkalis (bases).

Section XI. Toxicological Information

RTECS Number

AV1645000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Rat LD₅₀ (intraperitoneal) 1809 uL/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY : Reproductive Effects.
 Rat TDLo Intraperitoneal 362 mg/kg, female 5-15 days of pregnancy
 TOXIC Effects:
 Specific Developmental Abnormalities - Musculoskeletal system
 Specific Developmental Abnormalities - Other developmental abnormalities
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Acute Toxic Effects

Readily absorbed through skin.
 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 adipate's production and use as a finish remover may result in its release to the environment through various waste streams. If released to air, a vapor pressure of 0.06 mm Hg at 25 deg C indicates dimethyl adipate will exist solely as a vapor in the ambient atmosphere. Vapor-phase dimethyl adipate 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 4 days. Dimethyl adipate may undergo direct photolysis in the environment, since this compound contains a functional group that can absorb light > 290 nm. If released to soil, dimethyl adipate is expected to have very high mobility based upon an estimated Koc of 11. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 9.77×10^{-7} atm-cu m/mole. Dimethyl adipate may volatilize from dry soil surfaces based upon its vapor pressure. If released into water, dimethyl adipate is not expected to adsorb to suspended solids and sediment in water based upon the estimated Koc. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's estimated Henry's Law constant. An estimated BCF of 1.2 suggests the potential for bioconcentration in aquatic organisms is low. Dimethyl adipate is expected to undergo hydrolysis due to the presence of hydrolyzable functional groups. Estimated hydrolysis half-lives are 2 years and 60 days at pH values of 7 and 8, respectively. Occupational exposure to dimethyl adipate may occur through inhalation and dermal contact with this compound at workplaces where dimethyl adipate is produced or used. The general population may be exposed to dimethyl adipate via inhalation or dermal contact with finish removers in which dimethyl adipate is used as a solvent.

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)

On DSL

EINECS Number (EEC)

211-020-6

EEC Risk Statements

Not available.

Japanese Regulatory Data

ENCS No. 2-861 ; 2-879

Section XVI. Other Information**Version 1.0****Validated on 2/16/2007.****Printed 2/16/2007.****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.