TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Irritating to skin, eyes, and the respiratory system.**	

Section I. Chemical Product and Company Identification

Chemical Name: **Diethyl Adipate**

Catalog Number	A0162
Synonym	Adipic Acid Diethyl Ester
Chemical Formula	$C_{10}H_{18}O_4$
CAS Number	141-28-6

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

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
Diethyl Adipate	141-28-6	Min. 99.0 (GC)	Not available.	Mouse LD_{50} (oral) 8100 mg/kg Mouse LD_{50} (intraperitoneal) 2190 mg/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 : Reproductive Effects.
Rat TDLo Intraperitoneal 837 mg/kg, female 5-15 days of pregnancy
TOXIC Effects:
Effects on Embryo or Fetus - Fetal death
Specific Developmental Abnormalities - Other developmental abnormalities

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	113°C (235.4°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.

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Emergency phone number (800) 424-9300

Section VI. Accidental Release Measures

Spill Cleanup Instructions

Irritating material.
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 Storage

Handling and Storage Information

IRRITANT. 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.

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	Insoluble in water. Soluble in various organic solvents etc., ether, alcohol, acetone. Freely soluble in Methanol, Ethanol. Slightly soluble in cyclohexane. Practically insoluble in benzene.
Specific Gravity	1.01 (water=1)		
Molecular Weight	202.25	Partition Coefficient	Not available.
Boiling Point	251°C (483.8°F) @ 760 mmHg	Vapor Pressure	Not available.
Melting Point	-18°C (-0.4°F)	Vapor Density	Not available.
Refractive Index	1.426 - 1.429	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

AV1100000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Mouse LD_{50} (oral) 8100 mg/kg
Mouse LD_{50} (intraperitoneal) 2190 mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
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Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Diethyl adipate's production and use as a plasticizer may result in its release to the environment through various waste streams. If released to air, a vapor pressure of 0.058 mm Hg at 25 deg C indicates diethyl adipate will exist solely as a vapor in the ambient atmosphere. Vapor-phase diethyl 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 2 days. Diethyl adipate may undergo direct photolysis in the environment, but the kinetics of this reaction are unknown. If released to soil, diethyl adipate is expected to have very high mobility based upon an estimated Koc of 45. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 3.6X10-6 atm-cu m/mole. Volatilization from dry soil surfaces is not expected to be an important environmental fate process based on the vapor pressure of this compound. Diethyl adipate was degraded to adipic acid using an activated sludge inoculum in a single screening study. If released into water, diethyl adipate is not expected to adsorb to suspended solids and sediment in water 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 10 and 110 days, respectively. Hydrolysis may be an important environmental fate process based on estimated hydrolysis half-lives of 64 days and 1.7 years at pH 8 and 7, respectively. An estimated BCF of 6 suggests the potential for bioconcentration in aquatic organisms is low. Occupational exposure to diethyl adipate may occur through inhalation and dermal contact with this compound at workplaces where diethyl adipate 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)	On DSL
EINECS Number (EEC)	205-477-0
EEC Risk Statements	R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	ENCS No. 2-861 ; 2-876

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.