

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	Flammable material; avoid heat and sources of ignition. Environmental hazard. This material is toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.	   

Section I. Chemical Product and Company Identification

Chemical Name	2,4,4-Trimethyl-1-pentene		
Catalog Number	T0665	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	1-Pentene, 2,4,4-trimethyl- (CA INDEX NAME); Diisobutylene; Isooctene		
Chemical Formula	C ₈ H ₁₆		
CAS Number	107-39-1	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
2,4,4-Trimethyl-1-pentene	107-39-1	Not available.	Not available.	Not available.

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.
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.

Section V. Fire and Explosion Data

Flammability	Flammable.	Auto-Ignition	391 °C (735.8 °F)
Flash Points	-7°C (19.4°F)	Flammable Limits	LOWER: 0.8% UPPER: 4.8%
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	Flammable liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Flammable material. Environmentally hazardous material. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.
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Section VII. Handling and Storage

Handling and Storage Information	FLAMMABLE. ENVIRONMENTAL HAZARD. Keep away from heat. Mechanical exhaust required. 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. (Clear, colorless.)	Solubility	Soluble in ether, benzene, carbon tetrachloride. Insoluble in water.
Specific Gravity	0.72 (water=1)		
Molecular Weight	112.21	Partition Coefficient	LOG P _{ow} : 4.55
Boiling Point	100°C (212°F)	Vapor Pressure	10 kPa (@ 38°C)
Melting Point	-93°C (-135.4°F)	Vapor Density	3.9 (Air = 1)
Refractive Index	1.41	Volatility	Not available.
Critical Temperature	Not available.	Odor	Gasoline-like.
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, oxygen.

Section XI. Toxicological Information

RTECS Number	Not available.
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Not available.
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.
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Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	2,4,4-Trimethyl-1-pentene's production and use as a chemical intermediate for antioxidants, surfactants, lube additives, plasticizers and rubber chemicals may result in its release to the environment through various waste streams. It is emitted in vehicular exhaust from both gasoline and diesel engines. If released to air, a vapor pressure of 44.7 mm Hg at 25 deg C indicates 2,4,4-trimethyl-1-pentene will exist solely in the vapor phase in the ambient atmosphere. Vapor-phase 2,4,4-trimethyl-1-pentene will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals and ozone molecules with atmospheric half-lives of about 7 and 23 hrs, respectively. If released to soil, 2,4,4-trimethyl-1-pentene is expected to have high mobility based upon an estimated Koc of 275. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 0.75 atm-cu m/mole. 2,4,4-Trimethyl-1-pentene may volatilize from dry soil surfaces based upon its vapor pressure. Volatilization from water

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Emergency phone number (800) 424-9300

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 1.08 hr and 4.19 days, respectively. 2,2,4-Trimethyl-1-pentene is expected to biodegrade slowly in soil and water based upon no biodegradation in the Japanese MITI test. An estimated log BCF of 2.80 suggests the potential for bioconcentration in aquatic organisms is high. Hydrolysis is not expected to occur due to the lack of hydrolyzable functional groups. Occupational exposure to 2,4,4-trimethyl-1-pentene may occur through inhalation and dermal contact with this compound at workplaces where 2,4,4-trimethyl-1-pentene is produced or used. The general population may be exposed to 2,4,4-trimethyl-1-pentene present in the atmosphere as a pollutant.

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 DOT CLASS 3: Flammable liquid

PIN Number UN2050

Proper Shipping Name Diisobutylene, isomeric compounds

Packing Group (PG) II

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 B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
On DSL.

EINECS Number (EEC) 203-486-4

EEC Risk Statements
R11- Highly flammable.
R18- In use, may form flammable/explosive vapor-air mixture.
R51- Toxic to aquatic organisms.
R53- May cause long-term adverse effects in the aquatic environment.

Japanese Regulatory Data ENCS No. 2-24

Section XVI. Other Information

Version 1.0
Validated on 11/1/2010.
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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.