

Material Safety Data Sheet

HAZARD WARNINGS			RISK PHRASES	PROTECTIVE CLOTHING
			Flammable material; avoid heat and sources of ignition. Irritating to skin, eyes, and the respiratory system. Harmful compound, minimize exposure. DANGER, MAY CAUSE CANCER.	   

Section I. Chemical Product and Company Identification

Chemical Name	m-Xylene		
Catalog Number	X0013	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Benzene, 1,3-Dimethyl- (9 CI)		
Chemical Formula	C ₆ H ₄ (CH ₃) ₂		
CAS Number	108-38-3	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
m-Xylene	108-38-3	-----	This compound is classified as a possible mutagen. There is no acceptable exposure limit for a mutagen.	Rat LD ₅₀ (oral) 5000mg/kg Rabbit LD ₅₀ (dermal) 14100mg/kg Mouse LD ₅₀ (intraperitoneal) 2003µl/kg

Section III. Hazards Identification

Acute Health Effects	<p>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.</p> <p>Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY Reproductive Effects: Rat TCLo (inhalation) 3000mg/m³/24 hours, female 7-14 days of pregnancy. Toxic Effects: Effects on Fertility - Pre-implantation mortality. Effects on Embryo or Fetus - Fetotoxicity. Specific Developmental Abnormalities - Musculoskeletal system. Mouse TDLo (oral) 30mg/kg, female 6-15 days of pregnancy. Toxic Effects: Effects on Fertility - Litter size. Rabbit TCLo (inhalation) 500 mg/m³/24 hours, female 7-20 days of pregnancy. Toxic Effects: Effects on Fertility - Post-implantation mortality. Effects on Embryo or Fetus - Fetal Death. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.</p>

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	Flammable.	Auto-Ignition	Not available.
Flash Points	25°C (77°F).	Flammable Limits	LOWER: 1.1% UPPER: 7%
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. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Flammable material. Harmful material. Irritating material. Possible mutagenic 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. HARMFUL. IRRITANT. POSSIBLE MUTAGEN. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. 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.
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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	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	Liquid. (Clear, colorless.)	Solubility	Insoluble in water. Miscible in alcohol, acetone, and ether.
Specific Gravity	0.8684 (water=1)		
Molecular Weight	106.16	Partition Coefficient	Not available.
Boiling Point	137 to 138°C (278.6 to 280.4°F)	Vapor Pressure	2.1 kPa (@ 20°C)
Melting Point	-47.4°C (-53.3°F)	Vapor Density	3.7 (Air = 1)
Refractive Index	1.4973 @ 20°C	Volatility	Not available.
Critical Temperature	Not available.	Odor	Sweet.
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	ZE2275000
Routes of Exposure	Eye Contact. Ingestion. inhalation.
Toxicity Data	Rat LD ₅₀ (oral) 5000mg/kg Rabbit LD ₅₀ (dermal) 14100mg/kg Mouse LD ₅₀ (intraperitoneal) 2003µl/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY Reproductive Effects: Rat TClO (inhalation) 3000mg/m ³ /24 hours, female 7-14 days of pregnancy. Toxic Effects: Effects on Fertility - Pre-implantation mortality. Effects on Embryo or Fetus - Fetotoxicity. Specific Developmental Abnormalities - Musculoskeletal system. Mouse TDLo (oral) 30mg/kg, female 6-15 days of pregnancy. Toxic Effects: Effects on Fertility - Litter size. Rabbit TClO (inhalation) 500 mg/m ³ /24 hours, female 7-20 days of pregnancy. Toxic Effects: Effects on Fertility - Post-implantation mortality. Effects on Embryo or Fetus - Fetal Death. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
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	3-Xylene's production and use as a chemical intermediate may result in its release to the environment through various waste streams. 3-Xylene will enter the atmosphere primarily from fuel emissions and exhausts linked with its use in gasoline. If released to the atmosphere, 3-xylene is expected to exist solely in the vapor phase based on a measured vapor pressure of 8.29 mm Hg at 25 deg C. Vapor-phase 3-xylene is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated half-life of about 16 hours. Measured Koc values of 166 and 182 indicate that 3-xylene may have moderate mobility in soil. Volatilization of 3-xylene may be important from moist soil surfaces given a measured Henry's Law constant of 7.18X10 ⁻³ atm-cu m/mole. The potential for volatilization of 3-xylene from dry soil surfaces may exist based upon this compound's vapor pressure. Biodegradation of 3-xylene in both soil and water is expected to be a major fate process for this compound. Under aerobic conditions, 3-xylene was biodegraded within several weeks; this compound was anaerobically biodegraded in aquifer studies within weeks to months. Metabolites include 3-methylbenzyl fumaric acid, 3-methylbenzyl succinic acid, 3-methylsalicylate, 3-methylbenzoate and 3-methylbenzaldehyde. In water, 3-xylene is not expected to adsorb to suspended organic matter. 3-Xylene in water with added humic substances was 50% degraded following 3 hours irradiation suggesting that indirect photooxidation in the presence of humic acids may play an important role in the abiotic degradation of 3-xylene. It is expected to volatilize from water surfaces given its measured Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3 hours and 4 days, respectively. The potential for bioconcentration in aquatic organisms is expected to be low based on measured BCF values of 6 to 23.4. Exposure to 3-xylene may occur occupationally during its production or subsequent use, particularly as a solvent or in gasoline, via dermal and respiratory routes. The main route of exposure for the general population will be through inhalation of contaminated air as well as ingestion of contaminated drinking water and food. Dermal contact with household products containing 3-xylene is also expected to be significant.

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.
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Section XIV. Transport Information

DOT Classification	CLASS 3: Flammable liquid.
PIN Number	UN1307
Proper Shipping Name	Xylenes
Packing Group (PG)	III
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).
EINECS Number (EEC)	203-576-3
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R46- May cause heritable genetic damage. R47- May cause birth defects.
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.