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## MATERIAL SAFETY DATA SHEET (MSDS)

### M-XYLENE (FOR SYNTHESIS)

#### 1 - Chemical Product

MSDS Name:m-Xylene  
 Synonym:1,3-Dimethylbenzene

Cas NO:108-38-3

Product Coad: SS0120200500

Molecular Formula: C<sub>8</sub>H<sub>10</sub>  
 Molecular Weight: 106.17

#### 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
108-38-3	m-Xylene	> 99.0	203-576-3

#### 3 - HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

Flammable. Harmful by inhalation and in contact with skin.

Irritating to skin.

##### Potential Health Effects

Eye:Causes severe eye irritation. Splashes of xylene in human eyes generally cause transient superficial injury.Skin:May be harmful if absorbed through the skin. Xylene contact causes defatting of the skin with irritation, dryness, and cracking.

Blistering may occur, particularly if exposure to concentrated xylene is prolonged and the exposed area of skin is occluded.

Ingestion:Aspiration hazard. May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea.

Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause effects similar to those of acute inhalation.

Inhalation:Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Prolonged exposure may result in dizziness and general weakness. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause liver and kidney damage. Causes irritation of mucous membrane. Exposure may cause blood abnormalities. Odor thresholds ranging from 0.07 to 40 ppm have been reported for xylenes.

Chronic:Chronic exposure to xylene may cause defatting dermatitis, reversible eye damage, dyspnea (labored breathing), confusion, dizziness, apprehension, memory loss, headache, tremors, weakness, anorexia, nausea, ringing in the ears, irritability, thirst, mild changes in liver function, kidney impairment, anemia, and hyperplasia, but not destruction, of the bone marrow.

#### 4 - FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.Skin:In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:Potential for aspiration if swallowed. Get medical aid immediately.

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation:If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.Notes to

Physician:Treat symptomatically and supportively.

#### 5 - FIRE FIGHTING MEASURES

General Information:As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable liquid and vapor. Vapors may form an explosive mixture with air. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire. May accumulate static electricity.

Extinguishing Media:Use water spray to cool fire-exposed containers. Water may be ineffective. This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

#### 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition.

Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces. U.S. regulations require reporting spills and releases to soil, water and air in excess of reportable quantities. This material creates a fire hazard because it floats on water. If possible, try to contain floating material.

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#### 7 - HANDLING and STORAGE

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame.

Avoid breathing vapor or mist.

Storage: Keep away from sources of ignition. Keep container closed when not in use. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids.

#### 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment Eyes: Wear chemical goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

#### 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: clear, colorless

Odor: aromatic odor

pH: Not applicable.

Vapor Pressure: 6.72 mm Hg @ 21 deg C

Viscosity: <32.6 SUS

Boiling Point: 139 deg C

Freezing/Melting Point: -48 deg C

Autoignition Temperature: 527 deg C ( 980.60 deg F)

Flash Point: 25 deg C ( 77.00 deg F)

Explosion Limits, lower: 1.1%

Explosion Limits, upper: 7.0%

Decomposition Temperature: Not available.

Solubility in water: Insoluble.

Specific Gravity/Density: 0.86 (water=1)

#### 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, ignition sources.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, acetic acid, nitric acid.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

#### 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 108-38-3: ZE2275000 LD50/LC50:

CAS# 108-38-3: Draize test, rabbit, eye: 5 mg/24H Severe; Draize test, rabbit, skin: 20 mg/24H Moderate; Oral, rat: LD50 = 5 gm/kg; Skin, rabbit: LD50 = 14100 uL/kg.

Carcinogenicity:

m-Xylene - ACGIH: A4 - Not Classifiable as a Human Carcinogen IARC: Group 3 carcinogen (listed as \*\* undefined \*\*).

Other:

See actual entry in RTECS for complete information.

#### 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Rainbow trout: LC50 = 13.5 mg/L; 96 Hr; Unspecified Fish: Goldfish: LD50 = 13 mg/L; 24 Hr; Unspecified Fish: Fathead Minnow: LC50 = 46 mg/L; 1 Hr; Static bioassay Acute and long-term toxicity to fish and invertebrates: LD50 for goldfish is 13 mg/L/24 Hr.

Cas#1330-20-7: LC50(96Hr.) rainbow trout = 8.05 mg/L, Static condition; LC50(96Hr.) fathead minnow = 16.1 mg/L, flow-through conditions; LC50(96Hr.) bluegill = 16.1 mg/L, flow-through; EC50 (48 Hr.) water flea = 3.82 mg/L, flow-through conditions; EC50(24 Hr.) photobacterium phosphoreum = 0.0084 mg/L, Microtox test.

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#### 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

#### 14 - TRANSPORT INFORMATION

IATA  
 Shipping Name: XYLENES  
 Hazard Class: 3  
 UN Number: 1307  
 Packing Group: III  
 IMO  
 Shipping Name: XYLENES  
 Hazard Class: 3.3  
 UN Number: 1307  
 Packing Group: III  
 RID/ADR  
 Shipping Name: XYLENES  
 Hazard Class: 3  
 UN Number: 1307  
 Packing group: III

#### 15 - REGULATORY INFORMATION

European/International Regulations  
 European Labeling in Accordance with EC Directives  
 Hazard Symbols: XN  
 Risk Phrases:  
 R 10 Flammable.  
 R 20/21 Harmful by inhalation and in contact with skin.  
 R 38 Irritating to skin.  
 Safety Phrases:  
 S 25 Avoid contact with eyes.  
 WGK (Water Danger/Protection)  
 CAS# 108-38-3: No information available.  
 United Kingdom Occupational Exposure Limits  
 CAS# 108-38-3: OES-United Kingdom, TWA 50 ppm TWA; 220 mg/m3 TWA  
 CAS# 108-38-3: OES-United Kingdom, STEL 100 ppm STEL; 441 mg/m3 STEL  
 United Kingdom Maximum Exposure Limits  
 Canada  
 CAS# 108-38-3 is listed on Canada's DSL List.  
 CAS# 108-38-3 is listed on Canada's Ingredient Disclosure List.  
 Exposure Limits  
 CAS# 108-38-3 (listed as \*\* undefined \*\*): OEL-ARAB Republic of Egypt:  
 TWA 0.5 ppm (0.9 mg/m3)  
 OEL-AUSTRALIA:TWA 80 ppm (330 mg/m3);STEL 150 ppm (655 mg/m3)  
 OEL-BELGIUM:TWA 100 ppm (434 mg/m3);STEL 150 ppm (651 mg/m3)  
 OEL-CZECHOSLOVAKIA:TWA 200 mg/m3;STEL 1000 mg/m3  
 OEL-DENMARK:TWA 50 ppm (217 mg/m3);Skin  
 OEL-FINLAND:TWA 100 ppm (435 mg/m3);STEL 150 ppm;Skin  
 OEL-FRANCE:TWA 100 ppm (435 mg/m3);STEL 150 ppm (650 mg/m3)  
 OEL-GERMANY:TWA 100 ppm (440 mg/m3)  
 OEL-HUNGARY:TWA 100 mg/m3;STEL 300 mg/m3  
 OEL-JAPAN:TWA 100 ppm (430 mg/m3)  
 OEL-THE NETHERLANDS:TWA 100 ppm (435 mg/m3);Skin  
 OEL-THE PHILIPPINES:TWA 0.1 mg/m3  
 OEL-POLAND:TWA 100 mg/m3  
 OEL-SWEDEN:TWA 50 ppm (200 mg/m3);STEL 100 ppm (450 mg/m3);Skin  
 OEL-SWITZERLAND:TWA 100 ppm (436 mg/m3);STEL 200 ppm (870 mg/m3)  
 OEL-THAILAND:TWA 100 ppm (435 mg/m3)  
 OEL-TURKEY:TWA 100 ppm (435 mg/m3)  
 OEL-UNITED KINGDOM:TWA 100 ppm (435 mg/m3);STEL 150 ppm;Skin  
 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV  
 OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV  
 US FEDERAL  
 TSCA  
 CAS# 108-38-3 is listed on the TSCA inventory.

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**16. Other Information**

**Product Use:** Laboratory Reagent.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

## DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
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**End of document**