

MSDS# 25150

Section 1 - Chemical Product and Company Identification

MSDS Name: Xylenes, mixed isomers with ethylbenzene (Flash Point 26.1°C / 79°F; PG III)

Catalog Numbers: S71223, S71232, S71233, 23402725, S566CA, X16-4, X3F-1GAL, X3FB50, X3P-1GAL, X3P1GALLC, X3POPB50, X3RB50, X3S-20, X3S-200, X3S-4, X3SJ4, X4-20, X4-4, X4P-1GAL, X5-1, X5-20, X5-200, X5-4, X5-500, X5FB115, X5FB19, X5FB200, X5FB50, X5J4, X5J500, X5P-1GAL, X5POP19, X5POP200, X5POP50, X5POPB19, X5POPB200, X5POPB50, X5RB115, X5RB200, X5RB50, X5RS115, X5RS19, X5RS200, X5RS28, X5RS50, X5S-4, X5SK-4, X5SS115, X5SS19, X5SS200, X5SS28, X5SS50

Synonyms: Dimethylbenzene; Methyltoluene.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

-----  
Risk Phrases:

CAS#: 100-41-4  
Chemical Name: Ethylbenzene  
%: 4  
EINECS#: 202-849-4  
Hazard Symbols:

-----  
Risk Phrases:

CAS#: 1330-20-7  
Chemical Name: Xylenes (o-, m-, p- isomers)  
%: 96  
EINECS#: 215-535-7  
Hazard Symbols:

-----  
Text for R-phrases: see Section 16

Hazard Symbols: XN



Risk Phrases: 10 20/21 36/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Flammable liquid and vapor. May cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. May be harmful if absorbed through skin or if inhaled. Causes eye, skin, and respiratory

tract irritation. Target Organs: Central nervous system, respiratory system, eyes, skin.

#### Potential Health Effects

- Eye:** 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. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.
- Inhalation:** Causes respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. Odor thresholds ranging from 0.07 to 40 ppm have been reported for xylenes. Inhalation overexposure may lead to central nervous system depression, producing effects such as dizziness, headache, confusion, incoordination, nausea, weakness, and loss of consciousness. Extreme exposures may cause other CNS effects including death.
- 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.

#### Section 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. If vomiting occurs naturally, have victim lean forward.
- 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.

#### Section 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. Use water spray to keep fire-exposed containers cool. 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:** 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.
- Autoignition Temperature:** 527 deg C ( 980.60 deg F)
- Flash Point:** 25.6-32.2 deg C
- Explosion Limits: Lower:** 1.1%
- Explosion Limits: Upper:** 7.0%
- NFPA Rating:** health: 2; flammability: 3; instability: 0;

#### Section 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. Use a spark-proof tool. 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.

### Section 7 - Handling and Storage

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.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethylbenzene	100 ppm; 125 ppm STEL	100 ppm TWA; 435 mg/m <sup>3</sup> TWA 800 ppm IDLH	100 ppm TWA; 435 mg/m <sup>3</sup> TWA
Xylenes (o-, m-, p- isomers)	100 ppm; 150 ppm STEL	none listed	100 ppm TWA; 435 mg/m <sup>3</sup> TWA

OSHA Vacated PELs: Ethylbenzene: 100 ppm TWA; 435 mg/m<sup>3</sup> TWA Xylenes (o-, m-, p- isomers): 100 ppm TWA; 435 mg/m<sup>3</sup> TWA

#### 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. Ventilation fans and other electrical service must be non-sparking and have an explosion-proof design.

#### Exposure Limits

#### Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate 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. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: aromatic odor

pH: Not applicable

Vapor Pressure: 8.29 mm Hg @ 25 deg C

Vapor Density: 3.66 (air=1)

Evaporation Rate: 0.7 (butyl acetate=1)

Viscosity: <32.6 SUS

Boiling Point: 136 - 140 deg C

Freezing/Melting Point: -34 deg C (-29.20°F)

Decomposition Temperature: Not available

Solubility in water: Insoluble

Specific Gravity/Density: 0.865 (water=1)

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

Molecular Weight: 106.17

### Section 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, nitric acid.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Hazardous Polymerization	Will not occur.

### Section 11 - Toxicological Information

RTECS#: CAS# 100-41-4: DA0700000  
CAS# 1330-20-7: ZE2100000  
RTECS:  
**CAS# 100-41-4:** Draize test, rabbit, eye: 500 mg Severe;  
Inhalation, mouse: LC50 = 35500 mg/m<sup>3</sup>/2H;  
Inhalation, rat: LC50 = 55000 mg/m<sup>3</sup>/2H;  
Oral, rat: LD50 = 3500 mg/kg;  
Oral, rat: LD50 = 3500 mg/kg;  
Skin, rabbit: LD50 = 17800 uL/kg;

LD50/LC50: RTECS:  
**CAS# 1330-20-7:** Draize test, rabbit, eye: 87 mg Mild;  
Draize test, rabbit, eye: 5 mg/24H Severe;  
Draize test, rabbit, skin: 100% Moderate;  
Draize test, rabbit, skin: 500 mg/24H Moderate;  
Inhalation, rat: LC50 = 5000 ppm/4H;  
Oral, mouse: LD50 = 2119 mg/kg;  
Oral, rat: LD50 = 4300 mg/kg;  
Skin, rabbit: LD50 = >1700 mg/kg;

Carcinogenicity: Ethylbenzene - ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans California: carcinogen, initial date 6/11/04 IARC: Group 2B carcinogen  
Xylenes (o-, m-, p- isomers) - IARC: Group 3 (not classifiable)

Epidemiology: 175 workers were exposed to 21 ppm of xylene for 7 years. Subjective symptoms such as anxiety, forgetfulness, inability to concentrate and dizziness were reported. Xylenes accounted for >70% of the total exposure. Liver & kidney effects were not reported

Teratogenicity: No increased incidence of birth defects was reported in a study of lab workers exposed to xylene during early pregnancy. Exposure to other solvents and chemicals also occurred. An increased incidence of spontaneous abortions was reported. Animal information suggests that xylene is not teratogenic or embryotoxic at exposure levels that are not harmful to the mother.

Reproductive: An increase in menstrual disorders has been reported in women exposed to organic solvents such as benzene, toluene, and xylenes. It is not possible to attribute these effects to xylenes in particular.

Neurotoxicity: Xylene may be ototoxic (damages hearing or enhances sensitivity to noise) in chronic occupational exposures, probably from a neurotoxic mechanism.

Mutagenicity: Xylene does not appear to be a mutagen.

Other: Not available

### Section 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

### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. RCRA P-Series: None listed. RCRA U-Series: CAS# 1330-20-7: waste number U239 (Ignitable waste, Toxic waste).

### Section 14 - Transport Information

US DOT  
Shipping Name: XYLENES  
Hazard Class: 3  
UN Number: UN1307

Packing Group: II  
Canada TDG  
Shipping Name: XYLENES  
Hazard Class: 3  
UN Number: UN1307  
Packing Group: III

USA RQ: CAS# 100-41-4: 1000 lb final RQ; 454 kg final RQ

USA RQ: CAS# 1330-20-7: 100 lb final RQ; 45.4 kg final RQ

### Section 15 - Regulatory Information

#### US Federal

##### TSCA

CAS# 100-41-4 is listed on the TSCA Inventory.

CAS# 1330-20-7 is listed on the TSCA Inventory.

##### Health & Safety Reporting List

CAS# 100-41-4: Effective 6/19/87, Sunset 6/19/97

##### Chemical Test Rules Section 12b

None of the chemicals in this product are under a Chemical Test Rule.

None of the chemicals are listed under TSCA Section 12b.

##### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

##### CERCLA Hazardous Substances and corresponding RQs

CAS# 100-41-4: 1000 lb final RQ; 454 kg final RQ CAS# 1330-20-7: 100 lb final RQ; 45.4 kg final RQ

##### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

##### SARA Codes

CAS # 100-41-4: acute, chronic, flammable. CAS # 1330-20-7: acute, chronic, flammable.

##### Section 313

This material contains Ethylbenzene (CAS# 100-41-4, 4%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372. This material contains Xylenes (o-, m-, p- isomers) (CAS# 1330-20-7, 96%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

##### Clean Air Act:

CAS# 100-41-4 is listed as a hazardous air pollutant (HAP). CAS# 1330-20-7 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

##### Clean Water Act:

CAS# 100-41-4 is listed as a Hazardous Substance under the CWA. CAS# 1330-20-7 is listed as a Hazardous Substance under the CWA. CAS# 100-41-4 is listed as a Priority Pollutant under the Clean Water Act. CAS# 100-41-4 is listed as a Toxic Pollutant under the Clean Water Act.

##### OSHA:

##### STATE

Ethylbenzene can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts. Xylenes (o-, m-, p- isomers) can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

##### California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act: WARNING: This product contains Ethylbenzene, a chemical known to the state of California to cause cancer.

##### California No Significant Risk Level:

None of the chemicals in this product are listed.

#### 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 36/38 Irritating to eyes and skin.

Safety Phrases:

S 25 Avoid contact with eyes.

WGK (Water Danger/Protection)

CAS# 100-41-4: 1

CAS# 1330-20-7: 2

Canada

CAS# 100-41-4 is listed on Canada's DSL List

CAS# 1330-20-7 is listed on Canada's DSL List

Canadian WHMIS Classifications: B2, D2B, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 100-41-4 is listed on Canada's Ingredient Disclosure List

CAS# 1330-20-7 is not listed on Canada's Ingredient Disclosure List.

#### Section 16 - Other Information

MSDS Creation Date: 6/22/1999

Revision #14 Date 10/25/2007

Revisions were made in Sections: 5

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

-----