

**Section 1 - Product and Company Identification****Hazard Label** WARNING LABEL**Company Information**

Johns Manville  
Roofing Systems  
P.O. Box 5108  
Denver, CO 80127 USA

Telephone: 303-978-2000 8:00AM-5:00PM M-F  
Internet Address: <http://www.jm.com>  
Emergency: 800-424-9300 (Chemtrec, In English)

**Trade Names:** JM TPO Membrane Cleaner

**Use:** Used to clean small areas on the membrane where dirt, asphalt, or other foreign materials must be removed to ensure a good weld or bond.

**Section 2 - Hazards Identification****Emergency Overview**

WARNING: Flammable liquid and vapor. Vapor may cause flash fire. Use water spray to cool materials in or near a fire. Fire may be difficult to extinguish. Vapors may travel, and can be ignited by a remote source.

HMIS Ratings: Health = 2, Fire = 3, Reactivity = 0

**Inhalation**

Irritation of the upper respiratory tract (scratchy throat), coughing, and congestion may occur in extreme exposures.

**Skin**

Drying of skin, dermatitis, and blistering may occur following prolonged exposures.

**Ingestion**

This product is not intended to be ingested under normal conditions of use. May be harmful if swallowed. May cause gastrointestinal irritation and disturbances. May cause effects similar to those for inhalation exposure. Aspiration into the lungs may cause lung inflammation and other lung injury.

**Eyes**

Irritation, redness, and burning in eyes may occur.

**Primary Routes of Entry (Exposure)**

Inhalation, skin, and eye contact.

**Target Organs**

Nose (nasal passages), throat, lungs, skin, eyes

**Medical Conditions Aggravated by Exposure**

Pre-existing chronic respiratory, skin, or eye diseases or conditions.

**Section 3 - Composition/Information on Ingredients**

CAS #	Component	Percent
1330-20-7	Xylenes (o-, m-, p- isomers)	79-82
100-41-4	Ethyl benzene	18-24
108-88-3	Toluene	0-1
71-43-2	Benzene (poss. contaminant toluene)	<0.001

**General Product Description**

Flammable clear colorless liquid.

**Section 4 - First Aid Measures****First Aid: Inhalation**

Remove to fresh air. If symptoms persist contact a physician.

**First Aid: Skin**

Remove contaminated clothing. Wash exposed areas with soap and water. If irritation develops or persists, seek medical attention. Launder contaminated clothing before reuse.

**First Aid: Ingestion**

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting and seek medical attention immediately.

**First Aid: Eyes**

Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

**First Aid: Notes to Physician**

Treatment for inhalation, skin contact, or ingestion should be symptomatic. Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias.

**Section 5 - Fire Fighting Measures**

**Flash Point:** 80°F

**Upper Flammable Limit (UFL):** 6.6%

**Auto Ignition:** 980°F

**Rate of Burning:** Not determined

**General Fire Hazards**

WARNING: FLAMMABLE liquid and vapor.

Keep away from heat, sparks, and flame. Material is highly volatile and readily gives off vapors which are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Keep container closed. Use with adequate ventilation.

NFPA Ratings: Health = 2, Fire = 3, Reactivity = 0

**Hazardous Combustion Products**

Carbon monoxide, carbon dioxide, halogenated hydrocarbons, nitrogen oxides, and various hydrocarbons.

**Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>), dry chemical.

**Fire Fighting Equipment/Instructions**

Use NIOSH-approved self-contained breathing apparatus operating in the pressure demand mode and full fire fighting protective clothing. Avoid inhalation of vapors.

**Section 6 - Accidental Release Measures****Containment Procedures**

Remove all sources of ignition. Evacuate and ventilate spill area. Dam spill area with sand, earth, or other suitable absorbent. Prevent entry of material into sewers, other water sources, or land areas. Wear full protective clothing and respiratory protection during clean-up as required to maintain exposures below the applicable exposure limit. Shovel absorbed material into containers in well-ventilated area.

**Clean-Up Procedures**

Place in closable container for disposal.

**Section 7 - Handling and Storage****Handling Procedures**

Use protective equipment as described in Section 8 of this safety data sheet when handling uncontained material. Handle in accordance with good industrial hygiene and safety practices.

**Storage Procedures**

Warehouse storage should be in accordance with package directions, if any. Product should be kept in a cool and dry area in original packaging. Do not freeze.

**Section 8 - Exposure Controls / Personal Protection****Exposure Guidelines****A: General Product Information**

Protective equipment should be provided as necessary to prevent inhalation of vapors, prolonged skin contact, and to keep exposure levels below the applicable exposure limits.

**B: Component Exposure Limits****Xylenes (o-, m-, p- isomers) (1330-20-7)**

OSHA: 100 ppm TWA; 435 mg/m<sup>3</sup> TWA

100 ppm TWA; 435 mg/m<sup>3</sup> TWA

ACGIH: 100 ppm TWA

150 ppm STEL

**Ethyl benzene (100-41-4)**

OSHA: 100 ppm TWA; 435 mg/m3 TWA  
100 ppm TWA; 435 mg/m3 TWA  
ACGIH: 100 ppm TWA  
125 ppm STEL

**Toluene (108-88-3)**

OSHA: 200 ppm TWA  
100 ppm TWA; 375 mg/m3 TWA  
ACGIH: 20 ppm TWA

**Benzene (impurity of toluene) (71-43-2)**

OSHA: 1 ppm TWA; 10 ppm TWA (applies to industry segments exempt from the benzene standard at 29 CFR 1910.1028)  
0.5 ppm Action Level; 1 ppm TWA; 5 ppm STEL (Cancer hazard, Flammable - see 29 CFR 1910.1028)  
10 ppm TWA (unless specified in 1910.1028)  
ACGIH: 0.5 ppm TWA  
2.5 ppm STEL  
Skin - potential significant contribution to overall exposure by the cutaneous route

**PERSONAL PROTECTIVE EQUIPMENT****Personal Protective Equipment: Eyes/Face**

Safety glasses with side shields or chemical goggles are recommended.

**Personal Protective Equipment: Skin**

Impervious gloves such as nitrile rubber should be used to help prevent excessive skin contact.

**Personal Protective Equipment: Respiratory**

A NIOSH approved respirator must be used if vapor concentrations exceed exposure limits.

**Ventilation**

Local exhaust or general dilution ventilation may be required to maintain exposures below the applicable exposure limits. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

**Personal Protective Equipment: General**

Protective equipment should be provided as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

<b>Section 9 - Physical &amp; Chemical Properties</b>
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<p><b>Appearance:</b> Clear liquid <b>Physical State:</b> liquid <b>Vapor Pressure:</b> 5.1 mmHg @68°F <b>Boiling Point:</b> 2790F @ 760mmHg <b>Solubility (H<sub>2</sub>O):</b> &lt; 0.08% <b>Freezing Point:</b> Not determined <b>Percent Volatile:</b> 99.8%</p>	<p><b>Odor:</b> solvent odor <b>pH:</b> Not determined <b>Vapor Density:</b> 3.66 <b>Melting Point:</b> Not determined <b>Specific Gravity:</b> .870 @600°F <b>Evaporation Rate:</b> .86 <b>VOC:</b> 855 g/L EPA Method 24</p>
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<b>Section 10 - Stability &amp; Reactivity Information</b>
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**Stability**

These products are not reactive.

**Stability: Conditions to Avoid**

Keep away from ignition sources. Do not freeze. Do not thin.

**Incompatibility**

Strong acids, alkalis, and oxidizing agents

**Hazardous Decomposition**

May form carbon dioxide, carbon monoxide, halogenated hydrocarbons, nitrogen oxides, various hydrocarbons.

**Hazardous Polymerization**

Will not occur.

**Section 11 - Toxicological Information****Acute Toxicity****A: General Product Information**

Vapors from this product may cause eye and upper respiratory irritation, dry throat and mouth, nausea, headache, dizziness, drowsiness, and coma in extreme cases. Prolonged exposures may lead to liver and kidney injury.

**B: Component Analysis - LD50/LC50****Xylenes (o-, m-, p- isomers) (1330-20-7)**

Inhalation LC50 Rat: 5000 ppm/4H; Inhalation LC50 Rat: 47635 mg/L/4H; Oral LD50 Rat: 4300 mg/kg; Dermal LD50 Rabbit: >1700 mg/kg

**Ethyl benzene (100-41-4)**

Inhalation LC50 Rat: 17.2 mg/L/4H; Oral LD50 Rat: 3500 mg/kg; Dermal LD50 Rabbit: 15354 mg/kg

**Toluene (108-88-3)**

Inhalation LC50 Rat: 12.5 mg/L/4H; Inhalation LC50 Rat: >26700 ppm/1H; Oral LD50 Rat: 636 mg/kg; Dermal LD50 Rabbit: 8390 mg/kg; Dermal LD50 Rat: 12124 mg/kg

**Benzene (impurity of toluene) (71-43-2)**

Inhalation LC50 Rat: 13050-14380 ppm/4H; Oral LD50 Rat: 1800 mg/kg

**Carcinogenicity****A: General Product Information**

Ethylbenzene has been shown to cause cancer in laboratory animals. The relevance of this finding to humans is uncertain. The International Agency for Research on Cancer (IARC) has classified ethylbenzene as a possible human carcinogen. In testing of C-6 isomers for carcinogenicity by inhalation, there was a treatment-related increase in liver tumors (adenomas and carcinomas) in female mice at the highest dose only (9,000 ppm). There was no increase in tumor incidence in male mice or in rats of either sex at any dose level.

**B: Component Carcinogenicity****Xylenes (o-, m-, p- isomers) (1330-20-7)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 71 [1999], Monograph 47 [1989])

**Ethyl benzene (100-41-4)**

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Group 2B - Possibly Carcinogenic to Humans (IARC Monograph 77 [2000])

**Toluene (108-88-3)**

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 71 [1999], Monograph 47 [1989])

**Benzene (impurity of toluene) (71-43-2)**

ACGIH: A1 - Confirmed Human Carcinogen

OSHA: 0.5 ppm Action Level; 1 ppm TWA; 5 ppm STEL (Cancer hazard, Flammable - see 29 CFR 1910.1028)

NTP: Known Human Carcinogen (Select Carcinogen)

IARC: Group 1 - Known Human Carcinogen (IARC Supplement 7 [1987], Monograph 29 [1982])

**Chronic Toxicity**

Exposure to xylene can cause central nervous system, kidney, and liver damage. Repeated, prolonged skin contact will defat the skin, causing drying, cracking, and dermatitis.

**Neurotoxicity**

Toluene is a central nervous system depressant which produces lightheadedness, nausea, headache, and ataxia at low doses and confusion behavioral and intelligence effects, coma, and death at high doses.

**Mutagenicity**

Some evidence in animals exposed to toluene. Sister chromatid exchanges and chromosome aberrations were elevated in lymphocytes from laboratory workers exposed to toluene and other solvents.

**Teratogenicity**

Toluene may be harmful to the human fetus based on positive test results with laboratory animals. Case studies show that prolonged intentional abuse of toluene during pregnancy can cause birth defects in humans.

**Section 12 - Ecological Information****Ecotoxicity****A: General Product Information**

Organic solvents may produce significant toxicity to aquatic organisms and ecosystems.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity****Xylenes (o-, m-, p- isomers) (1330-20-7)**

96 Hr LC50 Pimephales promelas: 13.4 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss:2.661-4.093 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:13.5-17.3 mg/L; 96 Hr LC50 Lepomis macrochirus:13.1-16.5 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus:19 mg/L; 96 Hr LC50 Lepomis macrochirus:7.711-9.591 mg/L [static]; 96 Hr LC50 Pimephales promelas:23.53-29.97 mg/L [static]; 96 Hr LC50 Cyprinus carpio:780 mg/L [semi-static]; 96 Hr LC50 Cyprinus carpio:>780 mg/L; 96 Hr LC50 Poecilia reticulata:30.26-40.75 mg/L [static]  
48 Hr EC50 water flea: 3.82 mg/L; 48 Hr LC50 Gammarus lacustris: 0.6 mg/L

**Ethyl benzene (100-41-4)**

96 Hr LC50 Oncorhynchus mykiss: 11.0-18.0 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:4.2 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas:7.55-11 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus:32 mg/L [static]; 96 Hr LC50 Pimephales promelas:9.1-15.6 mg/L [static]; 96 Hr LC50 Poecilia reticulata:9.6 mg/L [static]  
72 Hr EC50 Selenastrum capricornutum: 4.6 mg/L; 96 Hr EC50 Selenastrum capricornutum: >438 mg/L  
48 Hr EC50 Daphnia magna: 1.8-2.4 mg/L

**Toluene (108-88-3)**

96 Hr LC50 Pimephales promelas: 15.22-19.05 mg/L [flow-through] (1 day old); 96 Hr LC50 Pimephales promelas:12.6 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:5.89-7.81 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss:14.1-17.16 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:5.8 mg/L [semi-static]; 96 Hr LC50 Lepomis macrochirus:11.0-15.0 mg/L [static]; 96 Hr LC50 Oryzias latipes:54 mg/L [static]; 96 Hr LC50 Poecilia reticulata:28.2 mg/L [semi-static]; 96 Hr LC50 Poecilia reticulata:50.87-70.34 mg/L [static]  
96 Hr EC50 Selenastrum capricornutum: >433 mg/L  
48 Hr EC50 water flea: 11.3 mg/L; 48 Hr EC50 water flea: 310 mg/L; 48 Hr EC50 Daphnia magna: 11.3 mg/L

**Benzene (impurity of toluene) (71-43-2)**

96 Hr LC50 Pimephales promelas: 10.7-14.7 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss:5.3 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus:22.49 mg/L [static]; 96 Hr LC50 Poecilia reticulata:28.6 mg/L [static]; 96 Hr LC50 Pimephales promelas:22330-41160 µg/L [static]; 96 Hr LC50 Lepomis macrochirus:70000-142000 µg/L [static]  
72 Hr EC50 Selenastrum capricornutum: 29 mg/L  
48 Hr EC50 water flea: 356 mg/L [Static]; 48 Hr EC50 Daphnia magna: 10 mg/L

**Section 13 - Disposal Considerations****US EPA Waste Number & Descriptions****A: General Product Information**

This product is classified an ignitable hazardous waste by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261: Waste # D001). Dispose of spilled material in accordance with federal, state, and local regulations in a hazardous waste facility. Empty containers must be handled with care due to product residue. Do not heat or cut empty containers with electric or gas torch. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the Environmental Protection Agency (EPA).

**B: Component Waste Numbers****Xylenes (o-, m-, p- isomers) (1330-20-7)**

RCRA: waste number U239 (Ignitable waste, Toxic waste)

**Toluene (108-88-3)**

RCRA: waste number U220

**Disposal Instructions**

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

**Section 14 - Transport Information****International Transport Regulations****DOT:**

UN1993, Flammable Liquid, n.o.s (xylene), 3, PGIII

Flammable Liquid Label Required

**IATA & IMDG:** Contact JM Product Stewardship**Section 15 - Regulatory Information****US Federal Regulations****A: General Product Information**

SARA 311 Status. The following SARA 311 designations apply to this product: Immediate (acute) health hazard. Fire hazard.

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Xylenes (o-, m-, p- isomers) (1330-20-7)**

SARA 313: 1.0 % de minimis concentration

CERCLA: 100 lb final RQ; 45.4 kg final RQ

**Ethyl benzene (100-41-4)**

SARA 313: 0.1 % de minimis concentration

CERCLA: 1000 lb final RQ; 454 kg final RQ

**Toluene (108-88-3)**

CERCLA: 1000 lb final RQ; 454 kg final RQ

**Benzene (impurity of toluene) (71-43-2)**

CERCLA: 10 lb final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule); 4.54 kg final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule)

**State Regulations****A: General Product Information**

Other state regulations may apply. Check individual state requirements.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	No	Yes	Yes	Yes	Yes
Ethyl benzene	100-41-4	Yes	No	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	No	Yes	Yes	Yes	Yes
Benzene (impurity of toluene)	71-43-2	Yes	No	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):  
WARNING! This product contains a chemical known to the state of California to cause cancer.

Component	CAS #
Ethyl benzene	100-41-4
Benzene (impurity of toluene)	71-43-2

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Component	CAS #
Toluene	108-88-3

**A: TSCA Status**

This product and its components are listed on the TSCA 8(b) inventory.

None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

**B: Component Analysis - Inventory**

Component	CAS #	TSCA	DSL	EINECS
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	Yes	Yes
Ethyl benzene	100-41-4	Yes	Yes	Yes
Toluene	108-88-3	Yes	Yes	Yes
Benzene (impurity of toluene)	71-43-2	Yes	Yes	Yes

**Component Analysis - WHMIS IDL**

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Ethyl benzene	100-41-4	0.1 %

**WHMIS Classification**

Controlled Product Classification: B2, D2A

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

**Section 16 - Other Information****Other Information**

Prepared for:  
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The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Date	MSDS #	Reason
07/17/07	3149-1.0000	New product. New MSDS.
05/05/09	3149-1.0001	Changed name to JM TPO Membrane Cleaner. Updated SDS to GHS format.

End of Sheet 3149