

**JM TPO Membrane Adhesive (Solvent Based)**

Version 1.1

Revision Date 04/13/2015

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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Trade name : JM TPO Membrane Adhesive (Solvent Based)

## Manufacturer or supplier's details

Company : Johns Manville  
Address : P.O. Box 5108  
Denver, CO USA 80127  
Telephone : 303-978-2000 8:00AM-5:00PM M-F  
Emergency telephone : 1-800-424-9300 (Chemtrec, in English)  
number

Prepared by : productsafety@jm.com

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**Flammable liquids : Category 2  
Skin irritation : Category 2  
Eye irritation : Category 2A  
Carcinogenicity : Category 2  
Reproductive toxicity : Category 2  
Specific target organ toxicity : Category 3 (Central nervous system)  
- single exposure  
Specific target organ toxicity : Category 2 (Central nervous system)  
- repeated exposure  
Skin sensitisation : Sub-category 1B**GHS Label element**

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs (Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision) through prolonged or repeated exposure if

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inhaled.

**Precautionary statements****: Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ eye protection/ face protection.  
P272 Contaminated work clothing should not be allowed out of the workplace.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****Hazardous components**

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Chemical Name	CAS-No.	Concentration (%)
toluene	108-88-3	>= 30 - < 50
acetone	67-64-1	>= 20 - < 30
Solvent naphtha (petroleum), light aliph.	64742-89-8	>= 10 - < 20
ethylbenzene	100-41-4	>= 0.1 - < 1

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.  
If unconscious place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Remove contact lenses.  
Immediately flush eye(s) with plenty of water.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Standard procedure for chemical fires.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Take precautionary measures against static discharges.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Container may be opened only under exhaust ventilation hood.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : No smoking.  
Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m <sup>3</sup>	NIOSH REL
		ST	150 ppm 560 mg/m <sup>3</sup>	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm	OSHA
		TWA	100 ppm 375 mg/m <sup>3</sup>	OSHA
acetone	67-64-1	STEL	150 ppm 560 mg/m <sup>3</sup>	OSHA
		TWA	500 ppm	ACGIH
		STEL	750 ppm	ACGIH
		TWA	250 ppm 590 mg/m <sup>3</sup>	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m <sup>3</sup>	OSHA
		TWA	750 ppm 1,800 mg/m <sup>3</sup>	OSHA
		STEL	1,000 ppm 2,400 mg/m <sup>3</sup>	OSHA
Solvent naphtha (petroleum), light aliph.	64742-89-8	TWA	500 ppm 2,000 mg/m <sup>3</sup>	OSHA
		TWA	400 ppm 1,600 mg/m <sup>3</sup>	OSHA
ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m <sup>3</sup>	NIOSH REL
		ST	125 ppm 545 mg/m <sup>3</sup>	NIOSH REL
		TWA	100 ppm 435 mg/m <sup>3</sup>	OSHA
		TWA	100 ppm 435 mg/m <sup>3</sup>	OSHA
		STEL	125 ppm 545 mg/m <sup>3</sup>	OSHA

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks

: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

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Eye protection	: Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. Written instructions for handling must be available at the work place.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Colour	: light cream
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Boiling point/boiling range	: 56 °C (1,013 hPa)
Flash point	: -20 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: 12.8 %(V)
Lower explosion limit	: 1.27 %(V)
Vapour pressure	: 307 hPa (25 °C)
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.876 g/cm <sup>3</sup> (25 °C)
Water solubility	: No data available

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Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
	Vapours may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity	: Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate : > 30000 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method

**Acute toxicity****Components:****toluene:**

Acute oral toxicity	: LD50 Oral (Rat): 5,580 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 28.1 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	: LD50 (Rabbit, male): > 5,000 mg/kg

**Acute toxicity**

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**acetone:**

Acute oral toxicity : LD50 (Rat, female): 5,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): 120 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 20,000 mg/kg

**Acute toxicity****Solvent naphtha (petroleum), light aliph.:**

Acute oral toxicity : LD50 (Rat): &gt; 8,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3400 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rat): &gt; 4,000 mg/kg

**Acute toxicity****ethylbenzene:**

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): 4000 ppm  
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): 17,800 mg/kg

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation in susceptible persons.

**Skin corrosion/irritation****Components:****toluene:**

Species: Rabbit

Assessment: Irritating to skin.

Result: Irritating to skin.

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Serious eye damage/eye irritation****Components:****toluene:**

Species: Rabbit

Result: Mild eye irritation

Exposure time: 24 h

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**Serious eye damage/eye irritation****acetone:**

Species: Rabbit  
Result: Eye irritation  
Exposure time: 24 h  
Assessment: Irritating to eyes.  
Method: Draize Test

**Germ cell mutagenicity****Components:****Solvent naphtha (petroleum), light aliph.:**

Germ cell mutagenicity- : In vivo tests showed mutagenic effects  
Assessment

**Carcinogenicity****Components:****Solvent naphtha (petroleum), light aliph.:**

Carcinogenicity - : Possible human carcinogen  
Assessment

**Carcinogenicity****ethylbenzene:**

Carcinogenicity - : Limited evidence of carcinogenicity in human studies  
Assessment

**IARC**

Group 2B: Possibly carcinogenic to humans

ethylbenzene 100-41-4

**ACGIH**

Confirmed animal carcinogen with unknown relevance to humans

ethylbenzene 100-41-4

**OSHA**

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity****Components:****toluene:**

Reproductive toxicity - : Suspected of damaging the unborn child., Some evidence of  
Assessment adverse effects on development, based on animal experiments.

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**STOT - single exposure****Components:****toluene:**

Assessment: May cause drowsiness or dizziness.

**STOT - single exposure****acetone:**

Exposure routes: inhalation (vapour)

Target Organs: Nervous system

Assessment: May cause drowsiness or dizziness.

**STOT - repeated exposure****Product:**

Exposure routes: inhalation (vapour)

**STOT - repeated exposure****Components:****toluene:**

Assessment: May cause damage to organs through prolonged or repeated exposure.

**STOT - repeated exposure****ethylbenzene:**

Target Organs: Sensory organs

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity****Components:****toluene:**

May be fatal if swallowed and enters airways.

**Solvent naphtha (petroleum), light aliph.:**

May be fatal if swallowed and enters airways.

**Experience with human exposure****Components:****toluene:**

Skin contact:

Remarks:

Prolonged skin contact may defat the skin and produce dermatitis.

**ethylbenzene:**

Skin contact:

Remarks:

Prolonged skin contact may defat the skin and produce dermatitis.

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**Further information****Product:**

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential****Components:****toluene:**Partition coefficient: n-  
octanol/water : Pow: 2.7**acetone:**Partition coefficient: n-  
octanol/water : log Pow: 0.24**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**Regulation 40 CFR Protection of Environment; Part 82 Protection of  
Stratospheric Ozone - CAA Section 602 Class I SubstancesRemarks This product neither contains, nor was manufactured with a  
Class I or Class II ODS as defined by the U.S. Clean Air Act  
Section 602 (40 CFR 82, Subpt. A, App.A + B).Additional ecological : No data available  
information

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**Disposal of residual product : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with  
chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

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Dispose of as unused product.  
 Do not re-use empty containers.  
 Do not burn, or use a cutting torch on, the empty drum.

**SECTION 14. TRANSPORT INFORMATION**
**International transport regulations**

US DOT: UN1133 Adhesive, 3, II

**SECTION 15. REGULATORY INFORMATION**
**TSCA list** : Not relevant

Not relevant

**EPCRA - Emergency Planning and Community Right-to-Know Act**
**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
toluene	108-88-3	1000	3333

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

toluene	108-88-3	30 %
ethylbenzene	100-41-4	0.1 %

**Clean Air Act**

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

toluene	108-88-3	30 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

toluene	108-88-3	30 %
acetone	67-64-1	20 %

**California Prop 65**
**WARNING!** This product contains a chemical known to the State of California to cause cancer.

ethylbenzene	100-41-4
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**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

toluene	108-88-3
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**The components of this product are reported in the following inventories:**

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

**SECTION 16. OTHER INFORMATION****Further information**

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.