

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM EPDM 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
 Reproductive toxicity : Category 2
 Specific target organ toxicity : Category 3 (Central nervous system)
 - single exposure
 Specific target organ toxicity : Category 2
 - repeated exposure
 (Inhalation)

GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
 H315 Causes skin irritation.
 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 inhaled.

Precautionary statements : **Prevention:**
 P201 Obtain special instructions before use.

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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.

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

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	>= 5 - < 10
n-hexane	110-54-3	>= 5 - < 10
cyclohexane	110-82-7	>= 1 - < 5

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

magnesium oxide	1309-48-4	>= 1 - < 5
heptane	142-82-5	>= 1 - < 5
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 (CO₂)
 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.
 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

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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.
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.

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

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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 ³	NIOSH REL
		ST	150 ppm 560 mg/m ³	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm	OSHA
		TWA	100 ppm 375 mg/m ³	OSHA
acetone	67-64-1	STEL	150 ppm 560 mg/m ³	OSHA
		TWA	500 ppm	ACGIH
		STEL	750 ppm	ACGIH
		TWA	250 ppm 590 mg/m ³	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m ³	OSHA
		TWA	750 ppm 1,800 mg/m ³	OSHA
Solvent naphtha (petroleum), light aliph.	64742-89-8	STEL	1,000 ppm 2,400 mg/m ³	OSHA
		TWA	500 ppm 2,000 mg/m ³	OSHA
		TWA	400 ppm 1,600 mg/m ³	OSHA
		TWA	50 ppm	ACGIH
n-hexane	110-54-3	TWA	50 ppm 180 mg/m ³	NIOSH REL
		TWA	500 ppm 1,800 mg/m ³	OSHA
		TWA	50 ppm 180 mg/m ³	OSHA
		TWA	100 ppm	ACGIH
cyclohexane	110-82-7	TWA	300 ppm 1,050 mg/m ³	NIOSH REL
		TWA	300 ppm 1,050 mg/m ³	OSHA
		TWA	300 ppm 1,050 mg/m ³	OSHA
		TWA	10 mg/m ³	ACGIH
magnesium oxide	1309-48-4	TWA (Inhalable fraction)	10 mg/m ³	ACGIH
		TWA (fume, total particulate)	15 mg/m ³	OSHA
		TWA (Fume - total particulate)	10 mg/m ³	OSHA
heptane	142-82-5	TWA	85 ppm 350 mg/m ³	NIOSH REL

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

		C	440 ppm 1,800 mg/m ³	NIOSH REL
		TWA	500 ppm 2,000 mg/m ³	OSHA
		TWA	400 ppm 1,600 mg/m ³	OSHA
		STEL	500 ppm 2,000 mg/m ³	OSHA
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH
ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m ³	NIOSH REL
		ST	125 ppm 545 mg/m ³	NIOSH REL
		TWA	100 ppm 435 mg/m ³	OSHA
		TWA	100 ppm 435 mg/m ³	OSHA
		STEL	125 ppm 545 mg/m ³	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).
- 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 : yellow
- Odour : No data available

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
	: 56 °C
Flash point	: -1.11 °C Method: closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.872 g/cm ³ (25 °C)
Water solubility	: No data available
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	
Viscosity, dynamic	: 2.5 mPa.s (20 °C)
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.

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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 methodAcute inhalation toxicity : Acute toxicity estimate : > 30000 ppm
Exposure time: 4 h
Test atmosphere: gas
Method: Calculation methodAcute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
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**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): > 8,000 mg/kg

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

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg

Acute toxicity

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

n-hexane:

- Acute oral toxicity : LD50 (Rat): 25,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): 48000 ppm
Exposure time: 4 h
- Acute dermal toxicity : LD50 (Rabbit): > 1,300 mg/kg

Acute toxicity**cyclohexane:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 5540 ppm
Exposure time: 4 h
Test atmosphere: vapour
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Acute toxicity**magnesium oxide:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute toxicity**heptane:**

- Acute oral toxicity : LD50 (Rat): > 15,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): 103 mg/l
Exposure time: 4 h
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 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.

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

Skin corrosion/irritation**n-hexane:**

Result: Skin irritation

Skin corrosion/irritation**cyclohexane:**

Assessment: Irritating to skin.

Result: Skin irritation

Remarks: Irritating to skin.

Skin corrosion/irritation**heptane:**

Result: Skin irritation

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

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

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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 -
Assessment

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

Reproductive toxicity**n-hexane:**Reproductive toxicity -
Assessment

: Suspected of damaging fertility.

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 - single exposure**n-hexane:**

Assessment: May cause drowsiness or dizziness.

STOT - single exposure**cyclohexane:**

Assessment: May cause drowsiness or dizziness.

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

STOT - single exposure**heptane:**

Assessment: May cause drowsiness or dizziness.

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

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

STOT - repeated exposure**n-hexane:**

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.

Components:**cyclohexane:**

Repeated dose toxicity - : Causes skin irritation.

Assessment

heptane:

Repeated dose toxicity - : Causes skin irritation.

Assessment

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.

n-hexane:

May be fatal if swallowed and enters airways.

cyclohexane:

May be fatal if swallowed and enters airways.

heptane:

May be fatal if swallowed and enters airways.

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

Skin contact:

Remarks:

Prolonged skin contact may defat the skin

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

and produce dermatitis.

n-hexane:

Repeated or prolonged exposure may cause irritation of eyes and skin.

ethylbenzene:

Skin contact:

Remarks:

Prolonged skin contact may defat the skin and produce dermatitis.

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.

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

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

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.
 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	2857

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	35 %
n-hexane	110-54-3	8 %
cyclohexane	110-82-7	3 %
ethylbenzene	100-41-4	0.3 %

Clean Air Act

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

JM EPDM Membrane Adhesive (Solvent Based)

Version 1.1

Revision Date 04/13/2015

Print Date 04/13/2015

toluene	108-88-3	35 %
n-hexane	110-54-3	8 %

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 SOCMII Intermediate or Final VOC's (40 CFR 60.489):

toluene	108-88-3	35 %
acetone	67-64-1	25 %
cyclohexane	110-82-7	3 %

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**

Revision Date : 04/13/2015

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.