

JM Roofing System Urethane Adhesive, Part 1

Version 1.4

Revision Date 01/02/2018

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM Roofing System Urethane Adhesive, Part 1

Manufacturer or supplier's details

Company : Johns Manville
Address : P.O. Box 5108
Denver, CO USA 80127
Telephone : +1 303-978-2000 8:00 a.m.-5:00 p.m. M-F
Emergency telephone : 1-800-424-9300 (Chemtrec, in English)
number
Prepared by : productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Inhalation) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Specific target organ toxicity : Category 3
- single exposure

GHS label elementsHazard pictograms : 

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

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P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear eye protection/ face protection.
 P280 Wear protective gloves.
 P281 Use personal protective equipment as required.
 P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 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.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.

Storage:

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 (%)
polymethylenepolyphenylene isocyanate	9016-87-9	>= 70 - < 90
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 30 - < 50

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
 Show this safety data sheet to the doctor in attendance.
 Do not leave the victim unattended.

If inhaled : Call a physician or poison control centre immediately.
 If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.

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- 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 : Do NOT induce vomiting.
Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Standard procedure for chemical fires.
- 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.
- 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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

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- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- 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.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Dispose of rinse water in accordance with local and national regulations.
 Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
4,4'-methylenediphenyl diisocyanate	101-68-8	TWA	0.005 ppm	ACGIH
		TWA	0.005 ppm 0.05 mg/m ³	NIOSH REL
		C	0.02 ppm 0.2 mg/m ³	NIOSH REL
		C	0.02 ppm 0.2 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.

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- 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 : dark amber
- Odour : characteristic
- Odour Threshold : No data available
- pH : No data available
- Melting point/freezing point : No data available
- Boiling point/boiling range : 200 °C
- Flash point : 220 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Upper explosion limit : No data available
- Lower explosion limit : 4 %(V)
- Vapour pressure : No data available
- Relative vapour density : No data available
- Relative density : No data available
- Density : 1.22 g/cm³
- Solubility(ies)
Water solubility : insoluble
- Solubility in other solvents : No data available
- Partition coefficient: n-octanol/water : No data available
- Auto-ignition temperature : No data available

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Thermal decomposition : No data available

Viscosity
Viscosity, dynamic : 200 mPa.s

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.

Conditions to avoid : No data available

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**Acute inhalation toxicity : Acute toxicity estimate : 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method**Acute toxicity****Components:****polymethylenepolyphenylene isocyanate:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.49 mg/l
Exposure time: 4 h
Test atmosphere: dust/mistAcute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402**Acute toxicity****4,4'-methylenediphenyl diisocyanate:**

Acute oral toxicity : LD50 (Rat): 31,600 mg/kg

LD50 (Rat): > 7,616 mg/kg
Method: OECD Test Guideline 401Acute inhalation toxicity : LC50 (Rat, male): 0.368 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation**Product:**

Remarks: May cause skin irritation and/or dermatitis.

Skin corrosion/irritation**Components:****polymethylenepolyphenylene isocyanate:**

Species: Rabbit

Result: Skin irritation

Skin corrosion/irritation**4,4'-methylenediphenyl diisocyanate:**

Species: Rabbit

Method: Draize Test

Result: Mild skin irritant

Species: Human

Result: irritating

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

Remarks: May cause irreversible eye damage.

Serious eye damage/eye irritation**Components:****polymethylenepolyphenylene isocyanate:**

Species: Rabbit

Result: Mild eye irritation

Serious eye damage/eye irritation**4,4'-methylenediphenyl diisocyanate:**

Species: Rabbit

Result: Moderate eye irritation

Method: Draize Test

Species: Human

Result: irritating

Respiratory or skin sensitisation**Product:**

Remarks: May cause sensitisation of susceptible persons by skin contact or by inhalation of aerosol or dust.

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Respiratory or skin sensitisation**Components:****polymethylenepolyphenylene isocyanate:**

Exposure routes: Dermal

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 429

Result: positive

Exposure routes: Inhalation

Species: Guinea pig

Assessment: May cause sensitisation by inhalation.

Result: positive

Respiratory or skin sensitisation**4,4'-methylenediphenyl diisocyanate:**

Exposure routes: Dermal

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 429

Result: positive

Exposure routes: Inhalation

Species: Guinea pig

Assessment: May cause sensitisation by inhalation.

Result: positive

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

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

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.

STOT - single exposure**Components:****polymethylenepolyphenylene isocyanate:**

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

STOT - single exposure**4,4'-methylenediphenyl diisocyanate:**

Exposure routes: Inhalation

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Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT - repeated exposure**Components:****polymethylenepolyphenylene isocyanate:**

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: Causes damage to organs through prolonged or repeated exposure.

STOT - repeated exposure**4,4'-methylenediphenyl diisocyanate:**

Exposure routes: Inhalation

Target Organs: Respiratory Tract

Assessment: Causes damage to organs through prolonged or repeated exposure.

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: 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

SECTION 13. DISPOSAL CONSIDERATIONS

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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.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

These products are not classified as dangerous goods according to international transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA list

TSCA - 5(a) Significant New Use Rule List of Chemicals : No substances are subject to a Significant New Use Rule.

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) : No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
4,4'-methylenediphenyl diisocyanate	101-68-8	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute Health Hazard
 Chronic Health Hazard

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:

polymethylenepolyphenylene isocyanate 9016-87-9
 4,4'-methylenediphenyl diisocyanate 101-68-8

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Clean Air Act

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

4,4'-methylenediphenyl diisocyanate 101-68-8

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

4,4'-methylenediphenyl diisocyanate 101-68-8

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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.