

Revision Date 12/12/2022 Print Date 12/12/2022 Version 3.0

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name JM Two-Part Urethane Insulation Adhesive (Regular Grade)

Part 1

Manufacturer or supplier's details

Company Johns Manville Address P.O. Box 5108

Denver, CO USA 80217-5108

+1-303-978-2000 Telephone

Emergency telephone 24-Hour Number: +1-800-424-9300 (CHEMTREC)

number

Company

Johns Manville Canada Inc.

Address 5301 42 Avenue

Innisfail, AB Canada T4G 1A2

Telephone +1-303-978-2000

Emergency telephone

number

24-Hour Number: +1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use Adhesives and/or sealants Restrictions on use For professional users only. Prepared by productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200 and the Hazardous Products Regulations

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 (Respiratory system)

- single exposure (Inhalation)

Specific target organ toxicity

- repeated exposure

(Inhalation)

Category 2 (Respiratory system)

GHS label elements

Hazard pictograms







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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.

H373 May cause damage to organs (Respiratory system) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention:

P260 Do not breathe mist or vapours. P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of

the workplace.

P280 Wear protective gloves/ eye protection/ face protection. 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 person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor 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.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P342 + P311 If experiencing respiratory symptoms: Call a

POISON CENTER/ doctor.

P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Mixture



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Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
4,4'-methylenediphenyl diisocyanate	101-68-8	<= 100
isocyanic acid, polymethylenepolyphenylene	9016-87-9	>= 30 - < 60
ester (part of 4,4'-methylenediphenyl		
diisocyanate)		

Actual concentration or concentration range is withheld as a trade secret

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.

Symptoms of poisoning may appear several hours later.

If inhaled : Remove to fresh air immediately. Get medical attention

immediately.

If breathing is irregular or stopped, administer artificial

respiration.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Call a physician if irritation develops or persists.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Protect unharmed eye.

If eye irritation persists, consult a specialist.

If swallowed : DO NOT induce vomiting unless directed to do so by a

physician or poison control center.

Gently wipe or rinse the inside of the mouth with water. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician or Poison Control Centre

immediately.

Most important symptoms

and effects, both acute and

delayed

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

Harmful if inhaled.

May cause allergy or asthma symptoms or breathing

difficulties if inhaled.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated

exposure if inhaled.

Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)

Dry chemical

Foam

Unsuitable extinguishing

media

: Water

Specific hazards during

firefighting

The product reacts with water and generates heat.



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Hazardous combustion

products

carbon oxides nitrogen oxides isocyanates hydrogen cyanide

Specific extinguishing

methods

Use a water spray to cool fully closed containers.

Remove undamaged containers from fire area if it is safe to do

Further information

Special protective equipment

for firefighters

Standard procedure for chemical fires.

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.

Immediately evacuate personnel to safe areas.

Environmental precautions Prevent further leakage or spillage if safe to do so.

The product should not be allowed to enter drains, water

courses or the soil.

Methods and materials for containment and cleaning up Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to

overpressurization of the container.

SECTION 7. HANDLING AND STORAGE

fire and explosion

Advice on protection against : Normal measures for preventive fire protection.

Advice on safe handling Provide sufficient air exchange and/or exhaust in work rooms.

> Do not breathe vapours/dust. Avoid formation of aerosol.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Smoking, eating and drinking should be prohibited in the

application area.

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.

For personal protection see section 8.

Conditions for safe storage Keep containers tightly closed in a dry, cool and well-

ventilated place.

To maintain product quality, do not store in heat or direct

sunlight.

Materials to avoid Never allow product to get in contact with water during

storage.

Keep away from oxidizing agents, strongly acid or alkaline

materials, as well as of amines, alcohols and water.

Keep away from metals.

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Keep away from solvents.

Recommended storage

temperature

: 45 - 95 °F / 7 - 35 °C

Storage period

: 18 Months

Further information on

storage stability

Keep containers dry and tightly closed to avoid moisture

absorption and contamination.

Do not freeze.

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/m3	NIOSH REL
		С	0.02 ppm 0.2 mg/m3	NIOSH REL
		С	0.02 ppm 0.2 mg/m3	OSHA

Engineering measures : Use a local and/or general ventilation system.

Personal protective equipment

Respiratory protection : If used and stored as directed, no special protective

equipment is necessary.

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where

concentrations are above recommended limits or are

unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided

by air purifying respirators against exposure to any

hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other

circumstance where air purifying respirators may not provide

adequate protection.

Hand protection

Material : Protective gloves

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 : Wear safety glasses with side shields or goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Skin and body protection : Wear protective clothing, such as long-sleeved shirts and

pants.

Additional body garments should be used based upon the



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task being performed (e.g., sleevelets, apron, gauntlets,

disposable suits) to avoid exposed skin surfaces.

Remove and wash contaminated clothing before re-use.

Hygiene measures : Ensure adequate ventilation, especially in confined areas.

Handle in accordance with good industrial hygiene and safety

practice.

When using do not eat, drink or 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 brown
Odour : aromatic

Odour Threshold : No data available pH : Not applicable

Melting point/freezing point
Initial boiling point and boiling

range

: not determined

: >= 93 °C

Flash point : ca. 220 °C

Evaporation rate : not determined

Flammability (solid, gas) : No data available Upper explosion limit : not determined

Lower explosion limit : not determined

Vapour pressure : 4,271 hPa (20 °C)

Relative vapour density : not determined

Relative density : 1.22(Water = 1.0)

Solubility(ies)

Water solubility : Decomposes in contact with water.

Solubility in other solvents
Partition coefficient: n-

Partition coefficient. n-

octanol/water

No data availableNo data available

INO data available

Auto-ignition temperature : No data available Thermal decomposition : No data available

Viscosity

Viscosity, dynamic : 300 mPa.s

Viscosity, kinematic : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Container can be pressurized by carbon dioxide due to

reaction with humid air and/or water.



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Chemical stability

Possibility of hazardous

reactions

Stable under normal conditions.

Mixture reacts slowly with water resulting in evolution of

carbon dioxide.

Polymerisation is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition

and/or rupture containers.

Conditions to avoid : Do not expose to temperatures above: 177 °C

Exposure to moisture

If contained in exposed to high heat (> 350 °F), it can be pressurized and possibly rupture. Methylene diisocyanate reacts slowly with water to form carbon dioxide gas. This gas can cause sealed container to expand and possibly rupture.

Incompatible materials : Water

Strong bases

Acids Alcohols Metals Amines

Hazardous decomposition

products

carbon oxides nitrogen oxides Isocyanates

Hydrogen cyanide (hydrocyanic acid)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 1.0 - 5.0 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Components:

4,4'-methylenediphenyl diisocyanate:

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

Acute inhalation toxicity : LC50 (Rat): 2.24 mg/l

Exposure time: 1 h

Test atmosphere: dust/mist

Assessment: The component/mixture is moderately toxic after

short term inhalation.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg

Method: OECD Test Guideline 402

isocyanic acid, polymethylenepolyphenylene ester (part of 4,4'-methylenediphenyl

diisocyanate):

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



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Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after

short term inhalation.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9,400 mg/kg

Method: OECD Test Guideline 402

Skin corrosion/irritation

Components:

4,4'-methylenediphenyl diisocyanate:

Species: Rabbit Method: Draize Test Result: Mild skin irritant

Species: Human Result: irritating

Skin corrosion/irritation

isocyanic acid, polymethylenepolyphenylene ester (part of 4,4'-methylenediphenyl diisocyanate):

Species: Rabbit
Result: Skin irritation

Serious eye damage/eye irritation

Components:

4,4'-methylenediphenyl diisocyanate:

Species: Rabbit

Result: Moderate eye irritation

Method: Draize Test

Species: Human Result: irritating

Serious eye damage/eye irritation

isocyanic acid, polymethylenepolyphenylene ester (part of 4,4'-methylenediphenyl diisocyanate):

Species: Rabbit Result: Eye irritation

Respiratory or skin sensitisation

Components:

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



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Respiratory or skin sensitisation

isocyanic acid, polymethylenepolyphenylene ester (part of 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.

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 (29 CFR 1910 Subpart Z, Toxic and

Hazardous Substances).

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:

4,4'-methylenediphenyl diisocyanate:

Exposure routes: Inhalation
Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

STOT - single exposure

isocyanic acid, polymethylenepolyphenylene ester (part of 4,4'-methylenediphenyl diisocyanate):

Exposure routes: Inhalation
Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

STOT - repeated exposure

Product:

Exposure routes: Inhalation

Target Organs: Respiratory system

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

STOT - repeated exposure

Components:

4,4'-methylenediphenyl diisocyanate:



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Exposure routes: Inhalation

Target Organs: Respiratory system

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

STOT - repeated exposure

isocyanic acid, polymethylenepolyphenylene ester (part of 4,4'-methylenediphenyl

diisocyanate):

Exposure routes: Inhalation

Target Organs: Respiratory system

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

Further information

Product:

Remarks: Contains isocyanates. May produce an allergic reaction.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

Components:

4,4'-methylenediphenyl diisocyanate:

Partition coefficient: n- : log Pow: 4.51 (68 °F / 20 °C)

octanol/water pH: 7

Mobility in soilNo 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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents/container to an approved facility in



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accordance with local, regional, national and international

regulations.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

Land transport

USDOT: Not classified as a dangerous good under transport regulations TDG: Not classified as a dangerous good under transport regulations

Sea transport

IMDG: Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO: Not classified as a dangerous good under 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, Subpart 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 Calculated produc	
		(lbs)	(lbs)
4,4'-methylenediphenyl	101-68-8	5000	10000
diisocyanate			

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Specific target organ toxicity (single or repeated exposure)

Acute toxicity (any route of exposure)
Respiratory or skin sensitisation

Skin corrosion or irritation

Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section

302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels

established by SARA Title III, Section 313:

30 - 60 %



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isocyanic acid, 9016-87-9

polymethylenepolyphenyle ne ester (part of 4,4'methylenediphenyl diisocyanate)

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

4,4'-methylenediphenyl 101-68-8 30 - 60 %

diisocyanate

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

4,4'-methylenediphenyl 101-68-8 30 - 60 %

diisocyanate

California Prop. 65

This product does not require a warning under the California Safe Drinking Water and Toxic Enforcement Act (Proposition 65).

SECTION 16. OTHER INFORMATION

Further information

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Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA : USA. Occupational Exposure Limits (OSHA) - Table Z-1

Limits for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / C : Ceiling value not be exceeded at any time.

OSHA / C : Ceiling

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL -Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS -Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS -Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population



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(Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA -National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD -Organization for Economic Co-operation and Development: OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS -Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

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.