

JM All Season Sprayable Bonding Adhesive

Version 2.0

Revision Date 03/10/2021

Print Date 03/10/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM All Season Sprayable Bonding Adhesive

Manufacturer or supplier's details

Company : Johns Manville
 Address : P.O. Box 5108
 Denver, CO USA 80127
 Telephone : +1-303-978-2000
 Emergency telephone number : 24-Hour Number: +1-800-424-9300 (CHEMTREC)

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 : Spraying
 Adhesives

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 (OSHA HCS 2012) and the Hazardous Products Regulations (WHMIS 2015)

Flammable aerosols : Category 1

Skin irritation : Category 2

Eye irritation : Category 2A

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.

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H336 May cause drowsiness or dizziness.

Precautionary statements :

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Pressurized container: Do not pierce or burn, even after use.

P261 Avoid breathing 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:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

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.

P331 Do NOT induce vomiting.

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.

Storage:

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

P405 Store locked up.

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

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

Adhesives

Hazardous components

Chemical name	CAS-No.	Concentration (%)
methyl acetate	79-20-9	>= 10 - < 30
cyclohexane	110-82-7	>= 10 - < 30
acetone; 2-propanone	67-64-1	>= 7 - < 13
pentane	109-66-0	>= 5 - < 10

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petroleum gases, liquefied	68476-85-7	>= 3 - < 7
carbon dioxide	124-38-9	>= 3 - < 7

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended.
If inhaled	:	Remove person to fresh air. If signs/symptoms continue, get medical attention.
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. Get medical attention immediately. If breathing is irregular or stopped, administer artificial respiration.
Most important symptoms and effects, both acute and delayed	:	May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May cause cancer.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO ₂) Dry powder Water spray Sand
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides nitrogen oxides Hydrogen chloride gas
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	:	Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Beware of vapours accumulating to form explosive
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concentrations. Vapours can accumulate in low areas.
 Refer to protective measures listed in sections 7 and 8.

- Environmental precautions : Prevent product from entering drains.
 Do not allow contact with soil, surface or ground water.
 Do not allow uncontrolled discharge of product into the environment.
 Do not flush into surface water or sanitary sewer system.
- Methods and materials for containment and cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
 Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.
 Use only in area provided with appropriate exhaust ventilation.
- Advice on safe handling : For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.
 Keep away from fire, sparks and heated surfaces.
 Do not use sparking tools.
 Use only with adequate ventilation.
- Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
 Keep in a dry, cool and well-ventilated place.
- Materials to avoid : Explosives
- Further information on storage stability : Stable at normal ambient temperature and pressure.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methyl acetate	79-20-9	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 610 mg/m ³	NIOSH REL
		ST	250 ppm 760 mg/m ³	NIOSH REL
		TWA	200 ppm 610 mg/m ³	OSHA

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cyclohexane	110-82-7	TWA	100 ppm	ACGIH
		TWA	300 ppm 1,050 mg/m ³	NIOSH REL
		TWA	300 ppm 1,050 mg/m ³	OSHA
acetone; 2-propanone	67-64-1	TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
		TWA	250 ppm 590 mg/m ³	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m ³	OSHA
pentane	109-66-0	TWA	120 ppm 350 mg/m ³	NIOSH REL
		C	610 ppm 1,800 mg/m ³	NIOSH REL
		TWA	1,000 ppm 2,950 mg/m ³	OSHA
		TWA	600 ppm 1,800 mg/m ³	OSHA
		STEL	750 ppm 2,250 mg/m ³	OSHA
petroleum gases, liquefied	68476-85-7	TWA	1,000 ppm 1,800 mg/m ³	NIOSH REL
		TWA	1,000 ppm 1,800 mg/m ³	OSHA
carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m ³	NIOSH REL
		ST	30,000 ppm 54,000 mg/m ³	NIOSH REL
		TWA	5,000 ppm 9,000 mg/m ³	OSHA

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
acetone; 2-propanone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	25 mg/l	ACGIH BEI

Personal protective equipment

Respiratory protection : 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

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	release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Hand protection	
Material	: Solvent-resistant gloves (butyl-rubber)
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.
Skin and body protection	: Wear protective clothing, such as long-sleeved shirts and pants.
Protective measures	: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Written instructions for handling must be available at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: aerosol
Colour	: green
Odour	: hydrocarbon-like
Odour Threshold	: No data available
pH	: Not applicable
Melting point/freezing point	: not determined
Initial boiling point and boiling range	: 36 °C
Flash point	: -35 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Extremely flammable aerosol.
Upper explosion limit	: 16 %(V)
Lower explosion limit	: 1.2 %(V)
Vapour pressure	: 233 hPa (20 °C)
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.856 g/cm ³ (20 °C)
Solubility(ies)	
Water solubility	: immiscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: 260 °C

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Thermal decomposition : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Explosive properties : Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.
Chemical stability : Stable under recommended storage conditions.
Possibility of hazardous reactions : None known.
Stable under recommended storage conditions.

Conditions to avoid : Heat, flames and sparks.
Incompatible materials : Oxidizing agents
Acids and bases
Metals
halogenated compounds

Hazardous decomposition products : carbon oxides
nitrogen oxides
Hydrogen chloride gas
Aldehydes
Hydrocarbons
acids

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

Acute inhalation toxicity : Acute toxicity estimate : > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute toxicity estimate : 92.59 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute toxicity**Components:****methyl acetate:**

Acute oral toxicity : LD50 (Rat, male): 6,482 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rabbit, male and female): ca. > 49.2 - < 98.4 mg/l
Exposure time: 4 h
Test atmosphere: vapour

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Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
 Method: OECD Test Guideline 402

Acute toxicity

cyclohexane:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
 Method: OECD Test Guideline 401
 Remarks: No mortality was observed.

Acute inhalation toxicity : LC50 (Rat, male and female): > 32.88 mg/l
 Exposure time: 4 h
 Test atmosphere: vapour
 Method: OECD Test Guideline 403
 GLP: no
 Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
 Method: OECD Test Guideline 402
 Remarks: No mortality was observed.

Acute toxicity

acetone; 2-propanone:

Acute oral toxicity : LD50 (Rat, female): 5,800 mg/kg
 GLP: no

Acute inhalation toxicity : LC50 (Rat, female): 76.0 mg/l
 Exposure time: 4 h
 Test atmosphere: vapour
 GLP: no

Acute dermal toxicity : LD50 (Guinea pig, male and female): > 7,426 mg/kg
 GLP: no

Acute toxicity

pentane:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
 Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): > 25.3 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403
 Remarks: No mortality was observed.

Acute toxicity

petroleum gases, liquefied:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 20000 ppm
 Exposure time: 4 h
 Test atmosphere: gas
 Remarks: Information given is based on data obtained from similar substances.

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Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Components:****cyclohexane:**

Assessment: Irritating to skin.

Result: Skin irritation

Remarks: Irritating to skin.

Serious eye damage/eye irritation**Components:****methyl acetate:**

Species: Rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

Serious eye damage/eye irritation**acetone; 2-propanone:**

Species: Rabbit

Result: Eye irritation

Exposure time: 24 h

Assessment: Irritating to eyes.

Method: Draize Test

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 (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:****methyl acetate:**

Exposure routes: Inhalation

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

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STOT - single exposure**cyclohexane:**

Assessment: May cause drowsiness or dizziness.

STOT - single exposure**acetone; 2-propanone:**

Exposure routes: inhalation (vapour)

Target Organs: Nervous system

Assessment: May cause drowsiness or dizziness.

STOT - single exposure**pentane:**

Assessment: May cause drowsiness or dizziness.

Components:**cyclohexane:**

Repeated dose toxicity - : Causes skin irritation.

Assessment

Aspiration toxicity**Product:**

May be fatal if swallowed and enters airways.

Components:**cyclohexane:**

May be fatal if swallowed and enters airways.

pentane:

May be fatal if swallowed and enters airways.

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:****Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Components:**pentane:**Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 27.55 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 2.7 mg/l

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aquatic invertebrates

Exposure time: 48 h

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability**Components:****methyl acetate:**

Biodegradability : Result: Readily biodegradable.

acetone; 2-propanone:Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %**Bioaccumulative potential****Components:****methyl acetate:**Partition coefficient: n-
octanol/water : log Pow: 0.18**acetone; 2-propanone:**Partition coefficient: n-
octanol/water : log Pow: -0.24 (20 °C)**petroleum gases, liquefied:**Partition coefficient: n-
octanol/water : log Pow: 1.09 - 2.8 (20 °C)
pH: 7**carbon dioxide:**Partition coefficient: n-
octanol/water : log Pow: 0.83**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
information : Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

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Global warming potential**Global Warming Potentials - 40CFR Part 98 -Table A-1 to SubPart A.****Components:****carbon dioxide:**

100-year global warming potential: 1

Further information: Chemical-Specific GWPs

The Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC)**Components:****carbon dioxide:**

20-year global warming potential: 1

100-year global warming potential: 1

Further information: No single lifetime can be given. The impulse response function for CO₂ from Joos et al. (2013) has been used. See also Supplementary Material Section 8.SM.11.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
The hazard and precautionary statements displayed on the label also apply to any residues left in the container.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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

Land transport

USDOT: UN3501, Chemical under pressure, flammable, n.o.s. (Methyl acetate, Pentanes), 2.1

TDG: UN3501, Chemical under pressure, flammable, n.o.s. (Methyl acetate, Pentanes), 2.1

Sea transport

IMDG: UN3501, Chemical under pressure, flammable, n.o.s. (Methyl acetate, Pentanes), 2.1 (-35 °C c.c.), Marine Pollutant

Air transport

IATA/ICAO: UN3501, Chemical under pressure, flammable, n.o.s. (Methyl acetate, Pentanes), 2.1

Transport/Additional information:

Transport Canada Equivalency Certificate SU 13340 - Road, Rail - DOT-39 Cylinder

SECTION 15. REGULATORY INFORMATION

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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 (lbs)	Calculated product RQ (lbs)
cyclohexane	110-82-7	1000	3333

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)
Aspiration hazard

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:

cyclohexane	110-82-7	10 - 30 %
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Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

pentane	109-66-0	5 - 10 %
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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):

methyl acetate	79-20-9	10 - 30 %
cyclohexane	110-82-7	10 - 30 %
acetone; 2-propanone	67-64-1	7 - 13 %
pentane	109-66-0	5 - 10 %

California Prop. 65

WARNING: This product can expose you to chemicals including ethylbenzene, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

DSL : On the inventory, or in compliance with the inventory

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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.