

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Trade name : JM Sprayable Bonding Adhesive Flush (Low VOC)

## Manufacturer or supplier's details

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

## Recommended use of the chemical and restrictions on use

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  
Eye irritation : Category 2A  
Skin sensitisation : Category 1  
Specific target organ toxicity : Category 3 (Central nervous system)  
- single exposure

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces.

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

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.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves/ eye protection/ face 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.  
 P363 Wash contaminated clothing 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**

Solvent

**Hazardous components**

Chemical name	CAS-No.	Concentration (%)
acetone; 2-propanone	67-64-1	>= 45 - <= 80
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6	>= 15 - <= 40
carbon dioxide	124-38-9	>= 5 - <= 30
d-limonene	5989-27-5	>= 1 - <= 5

**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

## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

In case of skin contact	:	medical attention. In case of contact, flush skin with plenty of water for at least 5 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	:	None known.

### SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO <sub>2</sub> ) Dry powder Sand
Unsuitable extinguishing media	:	Water
Hazardous combustion products	:	carbon oxides Hydrogen chloride gas Hydrogen fluoride
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 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.

## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

### 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
- Recommended storage temperature : 16 - 27 °C
- Storage period : 12 Months
- Further information on storage stability : 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
acetone; 2-propanone	67-64-1	TWA	250 ppm	ACGIH
		STEL	500 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
carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m <sup>3</sup>	NIOSH REL
		ST	30,000 ppm 54,000 mg/m <sup>3</sup>	NIOSH REL
d-limonene	5989-27-5	TWA	5,000 ppm 9,000 mg/m <sup>3</sup>	OSHA
		TWA	30 ppm	US WEEL

#### Hazardous components without workplace control parameters

Components	CAS-No.

## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6
--	---------

### 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 release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
- Hand protection  
Material : Solvent-resistant 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.
- 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 : colorless, clear
- Odour : solvent-like
- Odour Threshold : No data available
- pH : No data available
- Melting point/freezing point : not determined
- Initial boiling point and boiling : 55.8 - 56.6 °C

## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

range	
Flash point	: < -18 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Extremely flammable aerosol.
Upper explosion limit	: 13 %(V)
Lower explosion limit	: 2.6 %(V)
Vapour pressure	: 233 hPa
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.9452 g/cm <sup>3</sup> (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	: 465 °C
Thermal decomposition	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available

### 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
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: carbon oxides Hydrogen chloride gas Hydrogen fluoride

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### **Product:**

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

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

**Acute toxicity****Components:****acetone; 2-propanone:**Acute oral toxicity : LD50 (Rat, female): 5,800 mg/kg  
GLP: noAcute inhalation toxicity : LC50 (Rat, female): 76.0 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
GLP: noAcute dermal toxicity : LD50 (Guinea pig, male and female): > 7,426 mg/kg  
GLP: no**Acute toxicity****benzene, 1-chloro-4-(trifluoromethyl)-:**Acute oral toxicity : LD50 (Rat, male): 5,546 mg/kg  
GLP: noAcute inhalation toxicity : LC50 (Rat, male and female): > 32.03 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yesAcute dermal toxicity : LD50 (Rabbit): > 3,300 mg/kg  
GLP: no**Acute toxicity****d-limonene:**Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
GLP: yesAcute inhalation toxicity : Assessment: The substance or mixture has no acute  
inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): &gt; 5,000 mg/kg

**Skin corrosion/irritation****Components:****d-limonene:**Species: Rabbit  
Exposure time: 4 h  
Method: OECD Test Guideline 404  
Result: Irritating to skin.  
GLP: yes**Serious eye damage/eye irritation****Components:****acetone; 2-propanone:**

Species: Rabbit

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

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

**Respiratory or skin sensitisation****Components:****benzene, 1-chloro-4-(trifluoromethyl)-:**

Test Type: local lymph node assay (LLNA)

Exposure routes: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: The product is a skin sensitiser, sub-category 1B.

**Respiratory or skin sensitisation****d-limonene:**

Test Type: local lymph node assay (LLNA)

Exposure routes: Dermal

Species: Mouse

Method: OECD Test Guideline 429

Result: The product is a skin sensitiser, sub-category 1B.

GLP: yes

**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:****acetone; 2-propanone:**

Exposure routes: inhalation (vapour)

Target Organs: Nervous system

Assessment: May cause drowsiness or dizziness.

**Aspiration toxicity****Components:****d-limonene:**

May be fatal if swallowed and enters airways.



## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

### Further information

#### Product:

Remarks: No data available

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **benzene, 1-chloro-4-(trifluoromethyl)-:**

- |   |   |  |
|---|---|--|
| Toxicity to fish                                    | : | LC50 (Danio rerio (zebra fish)): 3 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 2 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202                              |
| Toxicity to algae                                   | : | NOEC (Pseudokirchneriella subcapitata (green algae)): 0.41 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201        |

#### **Ecotoxicology Assessment**

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

#### **d-limonene:**

- |   |   |   |
|---|---|---|
| Toxicity to fish                                    | : | LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Method: OECD Test Guideline 203                                  |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.36 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202  |
| Toxicity to algae                                   | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 0.320 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: Regulation (EC) No. 440/2008, Annex, C.3<br>GLP: yes |
| M-Factor (Acute aquatic toxicity)                   | : | 1   |
| Toxicity to fish (Chronic toxicity)                 | : | EC10 (Pimephales promelas (fathead minnow)): 0.37 mg/l<br>Exposure time: 8 d  |
| Toxicity to daphnia and other aquatic invertebrates | : | EC10 (Daphnia magna (Water flea)): 0.153 mg/l<br>Exposure time: 21 d  |

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

(Chronic toxicity)

Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yesToxicity to microorganisms : EC50 (activated sludge): 0.209 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition  
Method: OECD Test Guideline 209  
GLP:**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

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

**Persistence and degradability****Components:****acetone; 2-propanone:**Biodegradability : Result: Readily biodegradable.  
Biodegradation: 100 %**benzene, 1-chloro-4-(trifluoromethyl)-:**Biodegradability : Result: According to the results of tests of biodegradability this product is not readily biodegradable.  
Method: OECD Test Guideline 301D**d-limonene:**

Biodegradability : Biodegradation: 100 %

**Bioaccumulative potential****Components:****acetone; 2-propanone:**

Partition coefficient: n-octanol/water : log Pow: -0.24 (20 °C)

**benzene, 1-chloro-4-(trifluoromethyl)-:**

Bioaccumulation : Bioconcentration factor (BCF): 121.8

Partition coefficient: n-octanol/water : Pow: 5,030 (25 °C)  
log Pow: 3.7 (25 °C)**carbon dioxide:**

Partition coefficient: n-octanol/water : log Pow: 0.83

**d-limonene:**

Bioaccumulation : Bioconcentration factor (BCF): 690.1

Partition coefficient: n-octanol/water : log Pow: 4.38 (37 °C)  
pH: 7.2

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

**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 : Harmful to aquatic life.  
information Toxic to aquatic life with long lasting effects.

**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 CO<sub>2</sub> 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**

## JM Sprayable Bonding Adhesive Flush (Low VOC)

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021

**Land transport**

 USDOT: UN3501, Chemical under pressure, flammable, n.o.s. (Acetone, Chlorobenzotrifluorides), 2.1  
 TDG: UN3501, Chemical under pressure, flammable, n.o.s. (Acetone, Chlorobenzotrifluorides), 2.1

**Sea transport**

IMDG: UN3501, Chemical under pressure, flammable, n.o.s. (Acetone, Chlorobenzotrifluorides), 2.1 (-18 °C c.c.), Marine Pollutant

**Air transport**

IATA/ICAO: UN3501, Chemical under pressure, flammable, n.o.s. (Acetone, Chlorobenzotrifluorides), 2.1

**Transport/Additional information:**

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

### 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) : The following substance(s) is/are subject to TSCA 12(b) export notification requirements:  
 benzene, 1-chloro-4-(trifluoromethyl)-

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

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
acetone; 2-propanone	67-64-1	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** : Flammable (gases, aerosols, liquids, or solids)  
 Serious eye damage or eye irritation  
 Respiratory or skin sensitisation  
 Specific target organ toxicity (single or repeated exposure)

**SARA 302** : This material does not contain any components with a section 302 EHS TPQ.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

**JM Sprayable Bonding Adhesive Flush (Low VOC)**

Version 1.1

Revision Date 03/12/2021

Print Date 03/12/2021


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

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):

acetone; 2-propanone	67-64-1	45 - 80 %
----------------------	---------	-----------

**California Prop. 65**

 **WARNING:** This product can expose you to chemicals including benzene, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**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 : 03/12/2021

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.