Johns Manville SDS Table of Contents

Section 1 - Product and Company Identification

Hazard Label No label required

Company Information

Johns Manville
Roofing Systems
P.O. Box 5108
Denver, CO 80127 USA

Telephone: 303-978-2000 8:00AM-5:00PM M-F
Internet Address: http://www.jm.com
Emergency: 800-424-9300 (Chemtrec, In English)

Trade Names: E^3 SB

Section 2 - Hazards Identification

Inhalation

Thermal processing or heating of this product may produce vapors or fumes that may cause irritation.

Skin

Not expected under normal conditions of use.

Ingestion

This product is not intended to be ingested (eaten). If ingested, it may cause temporary irritation to the gastrointestinal (digestive) tract.

Eyes

Thermal processing or heating of this product may produce vapors or fumes that may cause irritation.

Primary Routes of Entry (Exposure)

Inhalation, skin, and eye contact.

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent
Not Available	Proprietary TPO Ingredients	43-47
Not Available	Ethylene Tetrafluoroethylene Film	53-57
Not Available	Non-hazardous adhesive (present in film)	22-25
Not Available	Lead Compounds	<0.01
Not Available	Chromium Compounds	<0.01
7440-66-6	Zinc	<0.01

General Product Description

Ethylene Tetrafluoroethylene film laminated onto white TPO membrane.

Section 4 - First Aid Measures

First Aid: Inhalation

Remove to fresh air. If symptoms persist contact a physician.

First Aid: Skin

Wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

First Aid: Eyes

Flush eyes with large amounts of water until irritation subsides. If irritation persists, seek medical attention.

Section 5 - Fire Fighting Measures

Flash Point: Not applicable
Method Used: Not applicable
Upper Flammable Limit (UFL): Not applicable
Lower Flammable Limit (LFL): Not applicable
Auto Ignition: Not determined
Flammability Classification: Not determined
Rate of Burning: Not determined

General Fire Hazards

Product is a solid material which will burn with a slow, smoldering flame upon heating to high temperatures.

Hazardous Combustion Products

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media

Dry chemical, foam, carbon dioxide.

Fire Fighting Equipment/Instructions

No special procedures are expected to be necessary for this product. Normal fire fighting procedures should be followed to avoid inhalation of smoke and gases.

NFPA Ratings: Health = 1, Fire = 1, Reactivity = 0

Section 6 - Accidental Release Measures

Clean-Up Procedures

Reroll, sweep, shovel, or vacuum up material. Place in appropriate container for disposal.

Section 7 - Handling and Storage

Handling Procedures

Avoid breathing fumes or dust from this material. Use protective equipment as described in Section 8 of this safety data sheet when handling uncontained material. Handle in accordance with good industrial hygiene and safety practices.

Storage Procedures

Warehouse storage should be in accordance with package directions, if any. Material should be kept clean, dry, and in original packaging.

Section 8 - Exposure Controls / Personal Protection

A: Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields. Wear chemical goggles for fumes which may arise from thermal processing.

Personal Protective Equipment: Skin

Leather or cotton gloves should be worn to protect against mechanical abrasion. See also Personal Protective Equipment: General, below.

Personal Protective Equipment: Respiratory

A NIOSH approved respirator must be used if vapor concentrations exceed exposure limits.

Personal Protective Equipment: General

Protective equipment should be provided as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

Section 9 - Physical & Chemical Properties

Appearance:	Solid film/sheet	**Odor:**	Characteristic odor
Physical State:	Solid	**pH:**	Not applicable
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	Not determined	**Melting Point:**	Not determined
Solubility (H_2O):	Not determined	**Specific Gravity:**	0.8-1.0
Freezing Point:	Not applicable	**Solids Content**	100%
Evaporation Rate:	Not applicable	**Percent Volatile:**	0
VOC:	Not Determined		

Section 10 - Stability & Reactivity Information

Stability

These products are not reactive.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Zinc (7440-66-6)

96 Hr LC50 Pimephales promelas: 2.16-3.05 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas:0.211-0.269 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas:2.66 mg/L [static]; 96 Hr LC50 Cyprinus carpio:30 mg/L; 96 Hr LC50 Cyprinus carpio:0.45 mg/L [semi-static]; 96 Hr LC50 Cyprinus carpio:7.8 mg/L [static]; 96 Hr LC50 Lepomis macrochirus:3.5 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:0.24 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss:0.59 mg/L [semi-static]; 96 Hr LC50 Oncorhynchus mykiss:0.41 mg/L [static]
96 Hr EC50 Selenastrum capricornutum: 30 µg/L
72 Hr EC50 water flea: 5 µg/L

Section 13 - Disposal Considerations

US EPA Waste Number & Descriptions

A: General Product Information

This product is not expected to be a hazardous waste when it is disposed of according to the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Product characterization after use is recommended to ensure proper disposal under federal and/or state requirements.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14 - Transport Information

International Transport Regulations

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

Section 15 - Regulatory Information

US Federal Regulations

A: General Product Information

SARA 311/312: This product is not classified as hazardous under SARA 311/312.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Zinc (7440-66-6)

CERCLA: 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the solid metal released is larger than 100 micrometers)

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

WARNING: This product contains a substance known to the state of California to cause cancer:
Lead (present in solder) <0.1% CAS# 7439-92-1
Quartz (SiO2) (present in adhesive) <0.1% CAS# 14808-60-7
Chlorothalonil (microbial inhibitor present in adhesive) <0.1% CAS# 1897-45-6

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Zinc	7440-66-6	Yes	No	Yes	No	Yes	Yes

TSCA Status

This product and its components are listed on the TSCA 8(b) inventory.

None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

International Regulations

A: General Product Information

These products are considered articles under both U.S. and international product regulations and as such, these products do not require registration or notification on the various country-specific inventories.

B: Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

WHMIS Classification

This is not a WHMIS controlled product. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations. This SDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information

Other Information

Prepared for:
Johns Manville
Roofing Systems
P. O. Box 5108
Denver, CO USA 80217-5108

Prepared by:
Johns Manville Technical Center
P.O. Box 625005
Littleton, CO USA 80162-5005

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Date	MSDS #	Reason
09/29/09	3311-1.0000	New MSDS authoring system.

End of Sheet 3311

JM EPDM/PVC Pourable Sealer - Part A

Version 1.3 Revision Date 01/02/2018 Print Date 01/02/2018

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM EPDM/PVC Pourable Sealer - Part A

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 number	:	1-800-424-9300 (Chemtrec, in English)
Prepared by	:	productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Non-hazardous according to 29 CFR 1910.1200, when used as intended.

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	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
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.
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

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	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. Dispose of rinse water in accordance with local and national regulations.
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

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
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	:	black
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available

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	:	1.5
Density	:	12.6 lb/gal
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, dynamic	:	No data available
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

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 information	:	No data available

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.

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	:	Not relevant
U.S. Toxic Substances Control Act (TSCA) Section	:	Not relevant

12(b) Export Notification (40 CFR 707, Subpt D)

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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 : 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

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

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

WARNING! This product contains a chemical known to the State of California to cause cancer.

crystalline silica	14808-60-7

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 : 01/02/2018

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.

JM EPDM/PVC Pourable Sealer – Part B

Version 2.0 Revision Date 05/13/2021 Print Date 05/13/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM EPDM/PVC Pourable Sealer – Part B

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	:	Sealant
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)

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

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 + H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.
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 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 must not be allowed out of the workplace.
P280 Wear protective gloves.
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

Hazardous components

Chemical name	CAS-No.	Concentration (%)
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 30 - < 60

isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	>= 30 - < 60
methylenediphenyl diisocyanate	26447-40-5	>= 1 - < 10

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 and eye irritation. May cause an allergic skin reaction. 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.
Hazardous combustion products	:	carbon oxides nitrogen oxides isocyanates hydrogen cyanide
Specific extinguishing	:	Use a water spray to cool fully closed containers.

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

Advice on protection against fire and explosion	:	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. Keep away from solvents.
Recommended storage temperature	:	16 - 24 °C
Storage period	:	12 Months
Further information on	:	Keep containers dry and tightly closed to avoid moisture

storage stability absorption and contamination.

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
		C	0.02 ppm 0.2 mg/m³	NIOSH REL
		C	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 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	:	amber
Odour	:	slight, musty
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	0 °C
Initial boiling point and boiling range	:	208 °C (7 hPa)
Flash point	:	198.8 °C Method: Pensky-Martens 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	:	< 0.00001 hPa (25 °C)
Relative vapour density	:	8.5(Air = 1.0) Heavier than air.
Relative density	:	1.24
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
Thermal decomposition	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Molecular weight	:	ca. 350 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	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 : 2,747 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : 1.67 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:

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

methylenediphenyl diisocyanate:

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

Acute inhalation toxicity : Remarks: Harmful by inhalation.

Acute dermal toxicity : LD50 Dermal (Rat, male): > 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:
Species: Rabbit
Result: Skin irritation

Skin corrosion/irritation

methylenediphenyl diisocyanate:
Assessment: Irritating to skin.
Result: Skin irritation

Serious eye damage/eye irritation

Product:

Result: Mild eye 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:
Species: Rabbit
Result: Eye irritation

Serious eye damage/eye irritation

methylenediphenyl diisocyanate:
Result: Eye irritation
Assessment: Irritating to eyes.

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

Respiratory or skin sensitisation

isocyanic acid, polymethylenepolyphenylene ester:
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

methylenediphenyl diisocyanate:
Result: May cause sensitisation by skin contact.

Result: May cause sensitisation by inhalation.

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:
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

STOT - single exposure

methylenediphenyl diisocyanate:
Exposure routes: inhalation (dust/mist/fume)
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:
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:
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: Causes damage to organs through prolonged or repeated exposure.

STOT - repeated exposure

methylenediphenyl diisocyanate:
Assessment: May cause 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-octanol/water	:	log Pow: 4.51 (20 °C) pH: 7

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).

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.
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 (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 toxicity (any route of exposure)
Skin corrosion or irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)
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:

4,4'-methylenediphenyl diisocyanate	101-68-8	30 - 60 %
isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	30 - 60 %

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	30 - 60 %

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 diisocyanate	101-68-8	30 - 60 %

California Prop. 65

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

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

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

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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 05/13/2021

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.

JM PVC Edge Sealant

Version 3.0 | Revision Date 03/19/2020 | Print Date 03/19/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM PVC Edge Sealant

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Restrictions on use	:	For professional and industrial installation and use 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 liquids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Serious eye damage	:	Category 1
Skin sensitisation	:	Category 1
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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 facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Adhesives and/or sealants

Hazardous components

Chemical name	CAS-No.	Concentration (%)
tetrahydrofuran	109-99-9	>= 80 - < 100
ethene, chloro-, homopolymer	9002-86-2	>= 10 - < 30
octabenzone	1843-05-6	>= 0.1 - <= 1

Actual concentration or concentration range is withheld as a trade secret

Relevant ingredients

Chemical name	CAS-No.	Concentration (%)
butylated hydroxytoluene	128-37-0	> 0 - < 0.2 %

SECTION 4. FIRST AID MEASURES

General advice	:	Handle in accordance with good industrial hygiene and safety practice.
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. Get medical attention immediately.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. If easy to do, remove contact lens, if worn. Protect unharmed eye. Continue rinsing eyes during transport to hospital.
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	:	Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Dry chemical Foam Water spray
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides Hydrogen chloride gas
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

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. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.
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). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Use explosion-proof equipment. Electrical equipment should be protected to the appropriate standard. Take measures to prevent the build up of electrostatic charge. Use only in area provided with appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition. Vapours are heavier than air and may spread along floors. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

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. Use explosion-proof equipment. Keep away from sources of ignition - No smoking.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage temperature	:	16 - 27 °C
Storage period	:	12 Months
Further information on storage stability	:	Protect from frost, heat and sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
tetrahydrofuran	109-99-9	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		TWA	200 ppm 590 mg/m³	NIOSH REL
		ST	250 ppm 735 mg/m³	NIOSH REL
		TWA	200 ppm 590 mg/m³	OSHA
ethene, chloro-, homopolymer	9002-86-2	TWA (Respirable fraction)	1 mg/m³	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
tetrahydrofuran	109-99-9	Tetrahydrofuran	Urine	End of shift (As soon as possible after exposure ceases)	2 mg/l	ACGIH BEI

Engineering measures : Use only in an area equipped with explosion proof exhaust ventilation.
Provide exhaust ventilation close to floor level.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required. 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	:	Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Eye protection	:	Wear safety glasses with side shields or goggles.
Skin and body protection	:	Wear protective clothing, such as long-sleeved shirts and pants. Remove and wash contaminated clothing before re-use.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Written instructions for handling must be available at the work place. Contaminated work clothing should not be allowed out of the workplace.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colorless
Odour	:	ether-like
Odour Threshold	:	No data available
pH	:	7
Melting point/range	:	-108 °C
Boiling point/boiling range	:	65 °C

Flash point	:	-21 °C
Evaporation rate	:	not determined
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	12 %(V)
Lower explosion limit	:	1.5 %(V)
Vapour pressure	:	200 hPa (20 °C)
Relative vapour density	:	ca. 2.5(Air = 1.0)
Relative density	:	No data available
Density	:	0.930 g/cm³ (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	:	230 °C
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	This product is stable with an appropriate level of butylated hydroxy toluene inhibitor (minimum 200 ppm), but reactive without.
Possibility of hazardous reactions	:	Will ignite Hazardous decomposition products formed under fire conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Strong acids and strong bases
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides

Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 300 - 2,000 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method

Acute toxicity

Components:

tetrahydrofuran:

Acute oral toxicity	:	LD50 (Rat, male and female): 1,650 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 14.7 mg/l Exposure time: 6 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity Remarks: No mortality was observed.
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

Acute toxicity

octabenzone:

Acute oral toxicity	:	LD50 (Rat, male): > 10,000 mg/kg Method: OECD Test Guideline 423
Acute dermal toxicity	:	LD50 (Rabbit, male): > 10,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Components:

octabenzone:

Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404

Serious eye damage/eye irritation

Components:

tetrahydrofuran:

Species: Rabbit
Result: Irreversible effects on the eye

Method: Draize Test
GLP: no

Serious eye damage/eye irritation

octabenzone:
Species: Rabbit
Assessment: No eye irritation
Method: OECD Test Guideline 405

Respiratory sensitisation: Not classified based on available information.

Respiratory or skin sensitisation

Components:

tetrahydrofuran:

Respiratory or skin sensitisation

octabenzone:
Test Type: Maximisation Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: The product is a skin sensitiser, sub-category 1B.

Germ cell mutagenicity

Components:

octabenzone:
Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

IARC	Group 2B: Possibly carcinogenic to humans	
	tetrahydrofuran	109-99-9
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:

tetrahydrofuran:
Exposure routes: Inhalation
Target Organs: Respiratory system
Assessment: May cause respiratory irritation.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

tetrahydrofuran:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 2,160 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203 GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 3,485 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 202 GLP: No information available.
Toxicity to algae	:	ECx (Scenedesmus quadricauda (Green algae)): 3,700 mg/l Exposure time: 8 d Test Type: static test Analytical monitoring: no
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 216 mg/l Exposure time: 33 d Test Type: flow-through test Analytical monitoring: yes GLP: No information available.

octabenzone:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l End point: mortality Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.004 mg/l End point: Immobilization Exposure time: 48 h Test Type: semi-static test Remarks: No toxicity at the limit of solubility
Toxicity to algae	:	NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201

Persistence and degradability

Components:

octabenzone:

Biodegradability	:	aerobic Inoculum: activated sludge, non-adapted Concentration: 10.7 mg/l Result: Not readily biodegradable. Biodegradation: 6 % Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

tetrahydrofuran:

Partition coefficient: n-octanol/water	:	log Pow: 0.45 (25 °C) pH: 7

octabenzone:

Partition coefficient: n-octanol/water	:	log Pow: 7.6 (25 °C) Remarks: estimated

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).

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. Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
Contaminated packaging	:	Packaging that is not properly emptied must be disposed of as the unused product. 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

Land transport
USDOT (Special Provision 149): UN1133, Adhesives, 3, II
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

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 (lbs)	Calculated product RQ (lbs)
tetrahydrofuran	109-99-9	1000	1000

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)
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Carcinogenicity
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

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop. 65

⚠**WARNING:** This product can expose you to chemicals including diisononyl phthalate, 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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 03/19/2020

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.

JM Single Ply Sealing Mastic

Version 2.0 | Revision Date 02/23/2021 | Print Date 02/23/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM Single Ply Sealing Mastic

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	:	Sealant
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)

Skin irritation : Category 2

Eye irritation : Category 2A

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.
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.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
calcium carbonate	471-34-1	>= 15 - <= 40
Silicic acid, aluminum salt	1335-30-4	>= 10 - <= 30
Stoddard solvent	8052-41-3	>= 5 - <= 10
magnesium carbonate	546-93-0	>= 5 - <= 10
silicon dioxide	112926-00-8	>= 0.1 - <= 1
titanium dioxide	13463-67-7	>= 0.1 - <= 1
quartz (SiO2)	14808-60-7	>= 0.1 - <= 1
carbon black	1333-86-4	>= 0.1 - <= 1

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Handle in accordance with good industrial hygiene and safety practice. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. 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. If symptoms persist, call a physician or Poison Control Centre immediately.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. Causes serious eye damage.
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 powder Water spray Foam
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides nitrogen oxides aluminum oxides
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.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Should not be released into the environment.
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

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Keep containers tightly closed in a dry, cool place.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage temperature	:	4.4 - 32 °C
Storage period	:	12 Months
Further information on storage stability	:	Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH
		TWA	350 mg/m³	NIOSH REL
		C	1,800 mg/m³	NIOSH REL
		TWA	500 ppm 2,900 mg/m³	OSHA
magnesium carbonate	546-93-0	TWA (respirable)	5 mg/m³	NIOSH REL
		TWA (total)	10 mg/m³	NIOSH REL
		TWA (total dust)	15 mg/m³	OSHA
		TWA (respirable fraction)	5 mg/m³	OSHA
silicon dioxide	112926-00-8	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA
		TWA	6 mg/m³ (Silica)	NIOSH REL
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m³	OSHA
		TWA	10 mg/m³ (Titanium dioxide)	ACGIH
quartz (SiO2)	14808-60-7	TWA (Respirable fraction)	0.025 mg/m³	ACGIH
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA
		TWA (Respirable dust)	0.05 mg/m³	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m³	OSHA
carbon black	1333-86-4	TWA	3.5 mg/m³	ACGIH
		TWA	3.5 mg/m³	NIOSH REL
		TWA	3.5 mg/m³	OSHA
		TWA	0.1 mg/m³ (PAHs)	NIOSH REL
		TWA (inhalable fraction)	3 mg/m³	ACGIH

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
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 face-shield and protective suit for abnormal processing problems.

Skin and body protection : Wear protective clothing, such as long-sleeved shirts and pants.
Remove and wash contaminated clothing before re-use.

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	:	paste
Colour	:	grey
Odour	:	hydrocarbon-like
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6.0 %(V)
Lower explosion limit	:	1.1 %(V)
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	1.4 g/cm³ (20 °C)

Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	230 °C
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s (40 °C)

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.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides aluminum oxides nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 3,571 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : 5,000 mg/kg Method: Calculation method

Acute toxicity

Components:

calcium carbonate:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 GLP: yes
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute

inhalation toxicity

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

Acute toxicity

Silicic acid, aluminum salt:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.07 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81-3
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Information given is based on data obtained from similar substances.
No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information given is based on data obtained from similar substances.

Acute toxicity

Stoddard solvent:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.5 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3,000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity

magnesium carbonate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420

Acute toxicity

silicon dioxide:

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

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

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

Acute toxicity

titanium dioxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.09 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity

quartz (SiO2):

Acute oral toxicity	:	LD50 (Rat): > 22,500 mg/kg
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity

carbon black:

Acute oral toxicity	:	LD50 (Rat, male and female): > 10,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 5.0 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Components:

Stoddard solvent:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Serious eye damage/eye irritation

Product:

Result: irritating

Serious eye damage/eye irritation

Components:

Silicic acid, aluminum salt:
Species: chicken
Result: Irreversible effects on the eye

IARC	Group 1: Carcinogenic to humans	
	quartz (SiO2)	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	carbon black	1333-86-4
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 (29 CFR 1910 Subpart Z, Toxic and Hazardous Substances).	
NTP	Known to be human carcinogen	
	quartz (SiO2)	14808-60-7

STOT - repeated exposure

Components:

Stoddard solvent:
Exposure routes: inhalation (vapour)
Target Organs: Central nervous system
Assessment: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

Aspiration toxicity

Components:

Stoddard solvent:
May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Stoddard solvent:

Toxicity to algae	:	NOEC (Pseudokirchneriella subcapitata (algae)): 0.16 mg/l Test Type: static test Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity)	:	NOEC: 0.142 mg/l Exposure time: 30 d Remarks: The value is calculated

quartz (SiO2):

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 10,000 mg/l Exposure time: 72 h

Persistence and degradability

Components:

Stoddard solvent:

Biodegradability	:	Result: Readily biodegradable.

Bioaccumulative potential

Components:

Stoddard solvent:

Partition coefficient: n-octanol/water	:	log Pow: 3.5 - 6.4 (20 °C) Method: OECD Test Guideline 117

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).

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.
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

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards	:	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	:	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

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop. 65

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

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

TSCA	:	All substances listed as active on the TSCA inventory

DSL : All components of this product are on the Canadian DSL

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 02/23/2021

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.

JM Single Ply Membrane Cleaner (Low VOC)

Version 2.1 Revision Date 01/18/2022 Print Date 01/18/2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM Single Ply Membrane Cleaner (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 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

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

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements :

Prevention:

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.
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:

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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
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.
P235 Keep cool.
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

Cleaning agent

Hazardous components

Chemical name	CAS-No.	Concentration (%)
acetone; 2-propanone	67-64-1	>= 80 - <= 100

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	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	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. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Water spray
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	:	carbon oxides
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 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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
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.
Recommended storage temperature	:	16 - 27 °C
Storage period	:	9 - 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/m3	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m3	OSHA

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 : Impervious 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 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	:	colorless
Odour	:	sweet, pungent
Odour Threshold	:	No data available
pH	:	7
Melting point/freezing point	:	-94 °C
Boiling point/boiling range	:	56.1 °C
Flash point	:	-17 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	12.8 %(V)
Lower explosion limit	:	2.5 %(V)
Vapour pressure	:	241 hPa (20 °C)
Relative vapour density	:	No data available

Relative density	:	No data available
Density	:	0.79 g/cm³ (20 °C)
Solubility(ies)		
Water solubility	:	completely soluble
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	:	Stable under recommended storage conditions.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. Strong sunlight for prolonged periods.
Incompatible materials	:	Oxidizing agents Acids Bases Ammonia Reducing agents halogenated compounds
Hazardous decomposition products	:	Hazardous decomposition products due to incomplete combustion carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Components:

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

Serious eye damage/eye irritation

Components:

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:

acetone; 2-propanone:
Exposure routes: inhalation (vapour)
Target Organs: Nervous system
Assessment: May cause drowsiness or dizziness.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability

Components:

acetone; 2-propanone:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 %

Bioaccumulative potential

Components:

acetone; 2-propanone:

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

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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
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

Land transport
USDOT: UN1090, Acetone, 3, II
TDG: UN1090, Acetone, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 1.0 L (0.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1090, Acetone, 3, II (-20 °C c.c.)

Air transport
IATA/ICAO: UN1090, Acetone, 3, II

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 (lbs)	Calculated product RQ (lbs)
acetone; 2-propanone	67-64-1	5000	5000

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
Specific target organ toxicity (single or repeated exposure)

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

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

acetone; 2-propanone 67-64-1

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.

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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 01/18/2022

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.

JM TPO LVOC Edge Sealant – Clear

Version 2.0 | Revision Date 03/23/2020 | Print Date 03/23/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO LVOC Edge Sealant – Clear

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use	:	Sealant
Restrictions on use	:	For professional and industrial installation and use 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 liquids	:	Category 2
Skin sensitisation	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
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

Adhesives and/or sealants

Hazardous components

Chemical name	CAS-No.	Concentration (%)
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6	>= 60 - <= 80
toluene	108-88-3	>= 5 - <= 10

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 5 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	:	May cause an allergic skin reaction. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Water spray Dry chemical Foam Halons
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Vapours may form flammable mixture with air Vapours are heavier than air and may spread along floors.
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. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.
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). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Use explosion-proof equipment. Electrical equipment should be protected to the appropriate standard. Take measures to prevent the build up of electrostatic charge. Use only in area provided with appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Do not use sparking tools. Use only in area provided with appropriate exhaust ventilation. Provide exhaust ventilation close to floor level. Do not breathe vapours or spray mist. Persons with a history of 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. Use explosion-proof equipment.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.

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
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m³	NIOSH REL
		ST	150 ppm 560 mg/m³	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Engineering measures : Provide exhaust ventilation close to floor level.

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 : Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Wear safety glasses with side shields or goggles.

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

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	:	liquid
Colour	:	colorless
Odour	:	pleasant, acetone-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/range	:	not determined
Initial boiling point and boiling range	:	139 °C
Flash point	:	4 °C
Evaporation rate	:	2 (n-Butyl acetate = 1.0)
Flammability (solid, gas)	:	Not applicable

Upper explosion limit	:	10.5 %(V)
Lower explosion limit	:	0.9 %(V)
Vapour pressure	:	40 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.20 g/cm³ (20 °C)
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	480 °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 normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Strong acids and strong bases Amines Ammonia Copper halogenated compounds isocyanates
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

Not classified based on available information.

Product:

Acute inhalation toxicity : Acute toxicity estimate : > 200 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : > 2,000 mg/kg
Method: Calculation method

Acute toxicity

Components:

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

Acute oral toxicity : LD50 (Rat, male): 5,546 mg/kg
GLP: no

Acute 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: yes

Acute dermal toxicity : LD50 (Rabbit): > 3,300 mg/kg
GLP: no

Acute toxicity

toluene:

Acute oral toxicity : LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Skin corrosion/irritation

Components:

toluene:

Species: Rabbit
Result: Irritating to skin.

Respiratory sensitisation: Not classified based on available information.

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.

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.
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.

STOT - single exposure

Components:

toluene:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

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

Aspiration toxicity

Not classified based on available information.

Components:

toluene:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks:	Prolonged skin contact may defat the skin and produce dermatitis.

Further information

Product:

Remarks: Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

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

Ecotoxicology Assessment

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

Persistence and degradability

Components:

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

Bioaccumulative potential

Components:

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)

toluene:

Partition coefficient: n-octanol/water	:	Pow: 2.7

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 with long lasting effects.

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.
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 (Special Provision 149): UN1133, Adhesives, 3, II
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

SECTION 15. REGULATORY INFORMATION

TSCA list

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)-

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

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	*

*: 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)
Respiratory or skin sensitisation
Reproductive toxicity
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 : The following components are subject to reporting levels established by SARA Title III, Section 313:

toluene 108-88-3 5 - 10 %

Clean Air Act

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

toluene 108-88-3 5 - 10 %

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):

toluene 108-88-3 5 - 10 %

California Prop. 65

WARNING: This product can expose you to chemicals including benzene, 1-chloro-4-(trifluoromethyl)-, which is/are known to the State of California to cause cancer, and toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. 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

SECTION 16. OTHER INFORMATION

Further information
Revision Date : 03/23/2020

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.

JM TPO LVOC Edge Sealant – White

Version 2.0 | Revision Date 03/23/2020 | Print Date 03/23/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO LVOC Edge Sealant – White

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use	:	Sealant
Restrictions on use	:	For professional and industrial installation and use 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 liquids	:	Category 2
Skin sensitisation	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
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

Hazardous components

Chemical name	CAS-No.	Concentration (%)
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6	>= 60 - <= 80
toluene	108-88-3	>= 5 - <= 10
titanium dioxide	13463-67-7	>= 1 - <= 5

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 5 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.
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) Water spray Dry chemical Foam Halons
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Vapours may form flammable mixture with air Vapours are heavier than air and may spread along floors.
Hazardous combustion products	:	carbon oxides Hydrogen chloride gas Hydrogen fluoride titanium/titanium oxides
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. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.
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). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Use explosion-proof equipment. Electrical equipment should be protected to the appropriate standard. Take measures to prevent the build up of electrostatic charge. Use only in area provided with appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Do not use sparking tools. Use only in area provided with appropriate exhaust ventilation. Provide exhaust ventilation close to floor level. Do not breathe vapours or spray mist. Persons with a history of 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. Use explosion-proof equipment.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage	:	16 - 27 °C

temperature

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
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m³	NIOSH REL
		ST	150 ppm 560 mg/m³	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m³	OSHA
		TWA	10 mg/m³ (Titanium dioxide)	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Engineering measures : Provide exhaust ventilation close to floor level.

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	:	Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Eye protection	:	Wear safety glasses with side shields or goggles.
Skin and body protection	:	Wear protective clothing, such as long-sleeved shirts and pants.
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	:	liquid
Colour	:	white
Odour	:	pleasant, acetone-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/range	:	not determined
Boiling point/boiling range	:	139 °C
Flash point	:	4 °C
Evaporation rate	:	2 (n-Butyl acetate = 1.0)

Flammability (solid, gas)	:	No data available
Upper explosion limit	:	10.5 %(V)
Lower explosion limit	:	0.9 %(V)
Vapour pressure	:	40 hPa (20 °C)
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	No data available
Density	:	1.22 g/cm³ (20 °C)
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	480 °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 normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Strong acids and strong bases Amines Ammonia Copper halogenated compounds isocyanates
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides Hydrogen chloride gas Hydrogen fluoride titanium/titanium oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 200 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method

Acute toxicity

Components:

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

Acute oral toxicity	:	LD50 (Rat, male): 5,546 mg/kg GLP: no
Acute 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: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 3,300 mg/kg GLP: no

Acute toxicity

toluene:

Acute oral toxicity	:	LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Acute toxicity

titanium dioxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.09 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Components:

toluene:
Species: Rabbit
Result: Irritating to skin.

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.

IARC	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
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.

STOT - single exposure

Components:

toluene:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

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

Aspiration toxicity

Components:

toluene:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks:	Prolonged skin contact may defat the skin and produce dermatitis.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

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

Ecotoxicology Assessment

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

Persistence and degradability

Components:

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

Bioaccumulative potential

Components:

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

Bioaccumulation	:	Bioconcentration factor (BCF): 121.8
Partition coefficient: n-	:	Pow: 5,030 (25 °C)

octanol/water log Pow: 3.7 (25 °C)

toluene:

Partition coefficient: n-octanol/water : Pow: 2.7

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 with long lasting effects.

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.

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 (Special Provision 149): UN1133, Adhesives, 3, II
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

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)
toluene	108-88-3	1000	*

*: 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)
Respiratory or skin sensitisation
Reproductive toxicity
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 : The following components are subject to reporting levels established by SARA Title III, Section 313:

toluene 108-88-3 5 - 10 %

Clean Air Act

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

toluene 108-88-3 5 - 10 %

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):

toluene 108-88-3 5 - 10 %

California Prop. 65

⚠**WARNING:** This product can expose you to chemicals including benzene, 1-chloro-4-(trifluoromethyl)-, which is/are known to the State of California to cause cancer, and toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. 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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 03/23/2020

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.

JM TPO LVOC Edge Sealant – White

Version 2.0 | Revision Date 03/23/2020 | Print Date 03/23/2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO LVOC Edge Sealant – White

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use	:	Sealant
Restrictions on use	:	For professional and industrial installation and use 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 liquids	:	Category 2
Skin sensitisation	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - repeated exposure	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
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

Hazardous components

Chemical name	CAS-No.	Concentration (%)
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6	>= 60 - <= 80
toluene	108-88-3	>= 5 - <= 10
titanium dioxide	13463-67-7	>= 1 - <= 5

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 5 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.
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) Water spray Dry chemical Foam Halons
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Vapours may form flammable mixture with air Vapours are heavier than air and may spread along floors.
Hazardous combustion products	:	carbon oxides Hydrogen chloride gas Hydrogen fluoride titanium/titanium oxides
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. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Should not be released into the environment.
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). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Use explosion-proof equipment. Electrical equipment should be protected to the appropriate standard. Take measures to prevent the build up of electrostatic charge. Use only in area provided with appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Do not use sparking tools. Use only in area provided with appropriate exhaust ventilation. Provide exhaust ventilation close to floor level. Do not breathe vapours or spray mist. Persons with a history of 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. Use explosion-proof equipment.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage	:	16 - 27 °C

temperature

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
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m³	NIOSH REL
		ST	150 ppm 560 mg/m³	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m³	OSHA
		TWA	10 mg/m³ (Titanium dioxide)	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI

Engineering measures : Provide exhaust ventilation close to floor level.

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	:	Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Eye protection	:	Wear safety glasses with side shields or goggles.
Skin and body protection	:	Wear protective clothing, such as long-sleeved shirts and pants.
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	:	liquid
Colour	:	white
Odour	:	pleasant, acetone-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/range	:	not determined
Boiling point/boiling range	:	139 °C
Flash point	:	4 °C
Evaporation rate	:	2 (n-Butyl acetate = 1.0)

Flammability (solid, gas)	:	No data available
Upper explosion limit	:	10.5 %(V)
Lower explosion limit	:	0.9 %(V)
Vapour pressure	:	40 hPa (20 °C)
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	No data available
Density	:	1.22 g/cm³ (20 °C)
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	480 °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 normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Strong acids and strong bases Amines Ammonia Copper halogenated compounds isocyanates
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides Hydrogen chloride gas Hydrogen fluoride titanium/titanium oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 200 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method

Acute toxicity

Components:

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

Acute oral toxicity	:	LD50 (Rat, male): 5,546 mg/kg GLP: no
Acute 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: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 3,300 mg/kg GLP: no

Acute toxicity

toluene:

Acute oral toxicity	:	LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Acute toxicity

titanium dioxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.09 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Components:

toluene:
Species: Rabbit
Result: Irritating to skin.

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.

IARC	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
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.

STOT - single exposure

Components:

toluene:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

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

Aspiration toxicity

Components:

toluene:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks:	Prolonged skin contact may defat the skin and produce dermatitis.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

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

Ecotoxicology Assessment

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

Persistence and degradability

Components:

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

Bioaccumulative potential

Components:

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

Bioaccumulation	:	Bioconcentration factor (BCF): 121.8
Partition coefficient: n-	:	Pow: 5,030 (25 °C)

octanol/water log Pow: 3.7 (25 °C)

toluene:

Partition coefficient: n-octanol/water : Pow: 2.7

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 with long lasting effects.

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.

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 (Special Provision 149): UN1133, Adhesives, 3, II
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

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)
toluene	108-88-3	1000	*

*: 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)
Respiratory or skin sensitisation
Reproductive toxicity
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 : The following components are subject to reporting levels established by SARA Title III, Section 313:

toluene 108-88-3 5 - 10 %

Clean Air Act

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

toluene 108-88-3 5 - 10 %

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):

toluene 108-88-3 5 - 10 %

California Prop. 65

⚠**WARNING:** This product can expose you to chemicals including benzene, 1-chloro-4-(trifluoromethyl)-, which is/are known to the State of California to cause cancer, and toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. 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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 03/23/2020

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.

JM Membrane Bonding Adhesive (TPO & EPDM)

Version 2.0 | Revision Date 07/02/2019 | Print Date 07/02/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM Membrane Bonding Adhesive (TPO & EPDM)

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

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 liquids	:	Category 2
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 2
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
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 through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
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.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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 facility in

accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
toluene	108-88-3	>= 30 - <= 60
n-hexane	110-54-3	>= 10 - <= 30
acetone	67-64-1	>= 10 - <= 30

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.
Wash off with soap and 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.

Most important symptoms and effects, both acute and delayed : irritant effects

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical
Halons

Water spray

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	:	carbon oxides
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 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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
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.

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
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA
n-hexane	110-54-3	TWA	50 ppm	ACGIH
		TWA	50 ppm 180 mg/m3	NIOSH REL
		TWA	500 ppm 1,800 mg/m3	OSHA
acetone	67-64-1	TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
		TWA	250 ppm 590 mg/m3	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m3	OSHA

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 : Impervious 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 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
Color	:	yellow
Odor	:	aromatic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	> 35 °C
Flash point	:	-18 °C
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	:	0.86 g/cm3
Solubility(ies)		
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	:	900 - 4,000 mPa.s
Viscosity, kinematic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO2) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute dermal toxicity	:	Acute toxicity estimate : 4,400 mg/kg Method: Calculation method

Acute toxicity

Components:

toluene:

Acute oral toxicity	:	LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Acute toxicity

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

acetone:

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

Skin corrosion/irritation

Components:

toluene:
Species: Rabbit
Result: Irritating to skin.

Skin corrosion/irritation

n-hexane:
Result: Skin irritation

Serious eye damage/eye irritation

Components:

acetone:
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.
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

n-hexane:
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 - 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.

Aspiration toxicity

Components:

toluene:
May be fatal if swallowed and enters airways.

n-hexane:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks: Prolonged skin contact may defat the skin and produce dermatitis.

n-hexane:
Repeated or prolonged exposure may cause irritation of eyes and skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Components:

acetone:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 %

Bioaccumulative potential

Components:

toluene:

Partition coefficient: n-octanol/water	:	Pow: 2.7

acetone:

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

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 with long lasting effects.

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

Land transport
USDOT (Special Provision 383): UN1133, Adhesives, 3, III
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

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 (lbs)	Calculated product RQ (lbs)
toluene	108-88-3	1000	1667

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
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Aspiration 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:

toluene	108-88-3
n-hexane	110-54-3

Clean Air Act

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

toluene	108-88-3	30 - 60 %
n-hexane	110-54-3	10 - 30 %

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):

toluene	108-88-3	30 - 60 %
acetone	67-64-1	10 - 30 %

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

⚠**WARNING:** This product can expose you to chemicals including toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

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

SECTION 16. OTHER INFORMATION

Further information
Revision Date : 07/02/2019

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.

Single Ply LVOC Caulk

Version 1.2 | Revision Date 01/18/2017 | Print Date 06/01/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	Single Ply LVOC Caulk - Black, Single Ply LVOC Caulk - White

Manufacturer or supplier's details

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 2
Acute toxicity (Inhalation)	:	Category 4
Germ cell mutagenicity	:	Category 1B
Carcinogenicity	:	Category 1B
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H332 Harmful if inhaled.
H340 May cause genetic defects.
H350 May cause cancer.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

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 (%)
Solvent naphtha (petroleum), light aliph.	64742-89-8	>= 10 - < 25

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 : 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.

		Get medical attention immediately if irritation develops and persists.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 5 minutes. Keep eye wide open while rinsing. Remove contact lenses. Protect unharmed eye. 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 swallowed, call a poison control centre or doctor immediately.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Dry chemical Sand
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	:	Carbon oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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 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	:	Use personal protective equipment. Ensure adequate ventilation.

emergency procedures		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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum),	64742-89-8	TWA	500 ppm	OSHA

light aliph.			2,000 mg/m3	

Personal protective equipment

Respiratory protection : If used and stored as directed, no special protective equipment is necessary.
In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : Solvent-resistant gloves 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

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	:	paste
Colour	:	white, black
Odour	:	hydrocarbon-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/range	:	not determined
Boiling point/boiling range	:	98 ℃
Flash point	:	-4 ℃
Evaporation rate	:	not determined
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6.7 %(V)
Lower explosion limit	:	1.1 %(V)

Vapour pressure	:	48 hPa (20 °C)
Relative vapour density	:	not determined
Relative density	:	not determined
Density	:	1.428 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	not determined
Auto-ignition temperature	:	232 °C
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	1,100,000 mPa.s
Viscosity, kinematic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air. No decomposition if stored and applied as directed.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute inhalation toxicity	:	Acute toxicity estimate : 18889 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method

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

Acute toxicity

Components:

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

Germ cell mutagenicity

Components:

Solvent naphtha (petroleum), light aliph.:
Germ cell mutagenicity- Assessment : In vivo tests showed mutagenic effects

Carcinogenicity

Components:

Solvent naphtha (petroleum), light aliph.:
Carcinogenicity - Assessment : Possible human carcinogen

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.

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.

Aspiration toxicity

Components:

Solvent naphtha (petroleum), light aliph.:
May be fatal if swallowed and enters airways.

Further information

Product:

Remarks: Solvents may degrease the skin.

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 information	:	No data available

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.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

US DOT: UN 1133, Adhesives, 3, II.

LIMITED QUANTITY if shipped in packages less than or equal to 0.3 gallons (1.0 liters).

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.
US. 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)
benzene	71-43-2	10	*

*: 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 : Fire 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 : 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

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).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Massachusetts Right To Know

benzene 71-43-2

Pennsylvania Right To Know

Solvent naphtha (petroleum), light aliph. 64742-89-8
benzene 71-43-2

New Jersey Right To Know

Solvent naphtha (petroleum), light aliph. 64742-89-8

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.
benzene 71-43-2
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
benzene 71-43-2

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	:	01/18/2017

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.

JM Single Ply Sealing Mastic

Version 2.0 | Revision Date 02/23/2021 | Print Date 02/23/2021

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM Single Ply Sealing Mastic

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	:	Sealant
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)

Skin irritation : Category 2

Eye irritation : Category 2A

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.
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.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
calcium carbonate	471-34-1	>= 15 - <= 40
Silicic acid, aluminum salt	1335-30-4	>= 10 - <= 30
Stoddard solvent	8052-41-3	>= 5 - <= 10
magnesium carbonate	546-93-0	>= 5 - <= 10
silicon dioxide	112926-00-8	>= 0.1 - <= 1
titanium dioxide	13463-67-7	>= 0.1 - <= 1
quartz (SiO2)	14808-60-7	>= 0.1 - <= 1
carbon black	1333-86-4	>= 0.1 - <= 1

Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Handle in accordance with good industrial hygiene and safety practice. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. 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. If symptoms persist, call a physician or Poison Control Centre immediately.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. Causes serious eye damage.
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 powder Water spray Foam
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides nitrogen oxides aluminum oxides
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.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Should not be released into the environment.
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

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Keep containers tightly closed in a dry, cool place.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage temperature	:	4.4 - 32 °C
Storage period	:	12 Months
Further information on storage stability	:	Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH
		TWA	350 mg/m³	NIOSH REL
		C	1,800 mg/m³	NIOSH REL
		TWA	500 ppm 2,900 mg/m³	OSHA
magnesium carbonate	546-93-0	TWA (respirable)	5 mg/m³	NIOSH REL
		TWA (total)	10 mg/m³	NIOSH REL
		TWA (total dust)	15 mg/m³	OSHA
		TWA (respirable fraction)	5 mg/m³	OSHA
silicon dioxide	112926-00-8	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA
		TWA	6 mg/m³ (Silica)	NIOSH REL
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m³	OSHA
		TWA	10 mg/m³ (Titanium dioxide)	ACGIH
quartz (SiO2)	14808-60-7	TWA (Respirable fraction)	0.025 mg/m³	ACGIH
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA
		TWA (Respirable dust)	0.05 mg/m³	NIOSH REL
		TWA (Respirable dust)	0.05 mg/m³	OSHA
carbon black	1333-86-4	TWA	3.5 mg/m³	ACGIH
		TWA	3.5 mg/m³	NIOSH REL
		TWA	3.5 mg/m³	OSHA
		TWA	0.1 mg/m³ (PAHs)	NIOSH REL
		TWA (inhalable fraction)	3 mg/m³	ACGIH

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
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 face-shield and protective suit for abnormal processing problems.

Skin and body protection : Wear protective clothing, such as long-sleeved shirts and pants.
Remove and wash contaminated clothing before re-use.

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	:	paste
Colour	:	grey
Odour	:	hydrocarbon-like
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6.0 %(V)
Lower explosion limit	:	1.1 %(V)
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	1.4 g/cm³ (20 °C)

Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	230 °C
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s (40 °C)

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.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides aluminum oxides nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 3,571 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : 5,000 mg/kg Method: Calculation method

Acute toxicity

Components:

calcium carbonate:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 GLP: yes
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute

inhalation toxicity

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

Acute toxicity

Silicic acid, aluminum salt:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.07 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81-3
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Information given is based on data obtained from similar substances.
No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Information given is based on data obtained from similar substances.

Acute toxicity

Stoddard solvent:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.5 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3,000 mg/kg
Method: OECD Test Guideline 402

Acute toxicity

magnesium carbonate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420

Acute toxicity

silicon dioxide:

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

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

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

Acute toxicity

titanium dioxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.09 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity

quartz (SiO2):

Acute oral toxicity	:	LD50 (Rat): > 22,500 mg/kg
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity

carbon black:

Acute oral toxicity	:	LD50 (Rat, male and female): > 10,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 5.0 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Method: Expert judgement Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Components:

Stoddard solvent:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Serious eye damage/eye irritation

Product:

Result: irritating

Serious eye damage/eye irritation

Components:

Silicic acid, aluminum salt:
Species: chicken
Result: Irreversible effects on the eye

IARC	Group 1: Carcinogenic to humans	
	quartz (SiO2)	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	carbon black	1333-86-4
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 (29 CFR 1910 Subpart Z, Toxic and Hazardous Substances).	
NTP	Known to be human carcinogen	
	quartz (SiO2)	14808-60-7

STOT - repeated exposure

Components:

Stoddard solvent:
Exposure routes: inhalation (vapour)
Target Organs: Central nervous system
Assessment: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.

Aspiration toxicity

Components:

Stoddard solvent:
May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Stoddard solvent:

Toxicity to algae	:	NOEC (Pseudokirchneriella subcapitata (algae)): 0.16 mg/l Test Type: static test Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity)	:	NOEC: 0.142 mg/l Exposure time: 30 d Remarks: The value is calculated

quartz (SiO2):

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 10,000 mg/l Exposure time: 72 h

Persistence and degradability

Components:

Stoddard solvent:

Biodegradability	:	Result: Readily biodegradable.

Bioaccumulative potential

Components:

Stoddard solvent:

Partition coefficient: n-octanol/water	:	log Pow: 3.5 - 6.4 (20 °C) Method: OECD Test Guideline 117

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).

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.
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

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards	:	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	:	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

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop. 65

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

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

TSCA	:	All substances listed as active on the TSCA inventory

DSL : All components of this product are on the Canadian DSL

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 02/23/2021

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.

JM TPO Membrane Cleaner

Version 3.0 | Revision Date 06/25/2019 | Print Date 06/25/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO Membrane Cleaner

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

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 liquids	:	Category 3
Acute toxicity (Dermal)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Skin irritation	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)
Specific target organ toxicity - repeated exposure	:	Category 2
Reproductive toxicity	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P235 Keep cool.
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

Hazardous components

Chemical name	CAS-No.	Concentration (%)
m-xylene	108-38-3	>= 30 - <= 60
p-xylene	106-42-3	>= 10 - <= 30
ethylbenzene	100-41-4	>= 10 - <= 30
o-xylene	95-47-6	>= 5 - <= 30
toluene	108-88-3	>= 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.
Do not leave the victim unattended.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
If breathing has stopped, apply artificial respiration.

In case of skin contact : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention immediately if irritation develops and persists.

In case of eye contact : Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.
Keep eye wide open while rinsing.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Do NOT induce vomiting.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.
If swallowed, call a poison control centre or doctor immediately.

Most important symptoms and effects, both acute and delayed : None known.

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

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Foam

		Halons Water spray
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not use a solid water stream as it may scatter and spread fire. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	carbon oxides
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 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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
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.

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
m-xylene	108-38-3	TWA	100 ppm 435 mg/m3	NIOSH REL
		ST	150 ppm 655 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
p-xylene	106-42-3	TWA	100 ppm 435 mg/m3	NIOSH REL
		ST	150 ppm 655 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	NIOSH REL
		ST	125 ppm 545 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA

o-xylene	95-47-6	ST	150 ppm 655 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA

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 : Tightly fitting safety goggles
Safety glasses with side-shields

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
Color	:	colourless
Odor	:	pleasant
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	>= 136.67 °C
Flash point	:	26.11 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
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
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	0.59 mPa.s
Viscosity, kinematic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 1,000 - 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : 16843 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method

Acute toxicity

Components:

p-xylene:

Acute oral toxicity	:	LD50 (Rat): 4,029 mg/kg LD50 (Rat): 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 4550 ppm Exposure time: 4 h LC50 (Mouse): 3900 ppm Exposure time: 6 h

Acute toxicity

ethylbenzene:

Acute oral toxicity	:	LD50 (Rat): 3,500 mg/kg
Acute inhalation toxicity	:	Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	:	LD50 (Rabbit): ca. 17,800 mg/kg

Acute toxicity

toluene:

Acute oral toxicity	:	LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Skin corrosion/irritation

Components:

p-xylene:
Species: Rabbit
Exposure time: 4 h
Result: Skin irritation

Skin corrosion/irritation

toluene:
Species: Rabbit
Result: Irritating to skin.

IARC	Group 2B: Possibly carcinogenic 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.

STOT - single exposure

Components:

toluene:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

ethylbenzene:
Target Organs: Sensory organs
Assessment: May cause damage to organs through prolonged or repeated exposure.

STOT - repeated exposure

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

Aspiration toxicity

Components:

ethylbenzene:
May be fatal if swallowed and enters airways.

toluene:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks:	Prolonged skin contact may defat the skin and produce dermatitis.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability

Components:

ethylbenzene:

Biodegradability	:	Result: Readily biodegradable.

Bioaccumulative potential

Components:

p-xylene:

Partition coefficient: n-octanol/water	:	log Pow: 3.15

ethylbenzene:

Bioaccumulation	:	Bioconcentration factor (BCF): 110
Partition coefficient: n-octanol/water	:	log Pow: 3.6 (20 °C) pH: 7.84

toluene:

Partition coefficient: n-octanol/water	:	Pow: 2.7

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	:	No data available

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. Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
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: UN 1993, Flammable liquid, n.o.s. (Xylenes, Ethylbenzene), 3, III.

LIMITED QUANTITY if shipped in packages less than or equal to 1.3 gallons (5.0 liters).

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 (lbs)	Calculated product RQ (lbs)
xylene	1330-20-7	100	100
p-xylene	106-42-3	100	333

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)
Acute toxicity (any route of exposure)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation

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:

m-xylene	108-38-3
p-xylene	106-42-3
ethylbenzene	100-41-4
o-xylene	95-47-6
toluene	108-88-3

Clean Air Act

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

m-xylene	108-38-3	30 - 60 %
p-xylene	106-42-3	10 - 30 %
o-xylene	95-47-6	5 - 30 %
toluene	108-88-3	0.1 - 0.9999 %

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):

m-xylene	108-38-3	30 - 60 %
p-xylene	106-42-3	10 - 30 %
ethylbenzene	100-41-4	10 - 30 %
o-xylene	95-47-6	5 - 30 %
toluene	108-88-3	0.1 - 0.9999 %

California Safe Drinking Water and Toxic Enforcement Act (Proposition 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.

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

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

DSL : All components of this product are on the Canadian DSL

SECTION 16. OTHER INFORMATION

Further information
Revision Date : 06/25/2019

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.

JM Single Ply Membrane Cleaner (Low VOC)

Version 2.1 Revision Date 01/18/2022 Print Date 01/18/2022

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM Single Ply Membrane Cleaner (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 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

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

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements :

Prevention:

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.
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:

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.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
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.
P235 Keep cool.
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

Cleaning agent

Hazardous components

Chemical name	CAS-No.	Concentration (%)
acetone; 2-propanone	67-64-1	>= 80 - <= 100

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	:	Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	:	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. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Water spray
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	:	carbon oxides
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 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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
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.
Recommended storage temperature	:	16 - 27 °C
Storage period	:	9 - 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/m3	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m3	OSHA

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 : Impervious 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 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	:	colorless
Odour	:	sweet, pungent
Odour Threshold	:	No data available
pH	:	7
Melting point/freezing point	:	-94 °C
Boiling point/boiling range	:	56.1 °C
Flash point	:	-17 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	12.8 %(V)
Lower explosion limit	:	2.5 %(V)
Vapour pressure	:	241 hPa (20 °C)
Relative vapour density	:	No data available

Relative density	:	No data available
Density	:	0.79 g/cm³ (20 °C)
Solubility(ies)		
Water solubility	:	completely soluble
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	:	Stable under recommended storage conditions.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. Strong sunlight for prolonged periods.
Incompatible materials	:	Oxidizing agents Acids Bases Ammonia Reducing agents halogenated compounds
Hazardous decomposition products	:	Hazardous decomposition products due to incomplete combustion carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Components:

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

Serious eye damage/eye irritation

Components:

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:

acetone; 2-propanone:
Exposure routes: inhalation (vapour)
Target Organs: Nervous system
Assessment: May cause drowsiness or dizziness.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability

Components:

acetone; 2-propanone:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 100 %

Bioaccumulative potential

Components:

acetone; 2-propanone:

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

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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
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

Land transport
USDOT: UN1090, Acetone, 3, II
TDG: UN1090, Acetone, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 1.0 L (0.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1090, Acetone, 3, II (-20 °C c.c.)

Air transport
IATA/ICAO: UN1090, Acetone, 3, II

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 (lbs)	Calculated product RQ (lbs)
acetone; 2-propanone	67-64-1	5000	5000

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
Specific target organ toxicity (single or repeated exposure)

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

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

acetone; 2-propanone 67-64-1

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.

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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 01/18/2022

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.

JM TPO Pourable Sealer – Part A

Version 2.0 | Revision Date 11/18/2019 | Print Date 11/19/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO Pourable Sealer – Part A

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

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)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	Remove person to fresh air. If signs/symptoms continue, get medical attention.

		If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	:	In case of contact, flush skin with plenty of water for at least 5 minutes. 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 5 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	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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	:	carbon oxides
Specific extinguishing methods	:	None known.
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.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and	:	Use personal protective equipment.

emergency procedures

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

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	Stable at normal ambient temperature and pressure.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Material	:	Impervious 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 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	:	paste
Color	:	white
Odor	:	mild, mint-like
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	No data available
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	:	< 1 hPa
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	No data available
Density	:	0.92 g/cm3
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, dynamic	:	No data available
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

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.

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 information	:	No data available

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.

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

This material does not contain any components with a CERCLA RQ.

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 : 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

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

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

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 : 11/18/2019

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.

JM TPO Pourable Sealer-Part B

Version 1.4 | Revision Date 12/14/2017 | Print Date 12/14/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM TPO Pourable Sealer-Part B

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 number	:	1-800-424-9300 (Chemtrec, in English)
Prepared by	:	productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

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

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H320 Causes 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 Tract, Skin) through prolonged or repeated exposure.

Precautionary statements :

Prevention:

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 eye protection/ face protection.
P280 Wear protective gloves.
P285 In case of inadequate ventilation wear respiratory protection.
P270 Do not eat, drink or smoke when using this product.

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

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	>= 30 - < 50
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. 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

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/m3	NIOSH REL
		C	0.02 ppm 0.2 mg/m3	NIOSH REL
		C	0.02 ppm 0.2 mg/m3	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	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
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
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-	:	No data available

octanol/water

Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity, dynamic	:	No data available
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 : 11.83 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/mist

Acute 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 401

Acute inhalation toxicity : LC50 (Rat, male): 0.368 mg/l

Exposure time: 4 h
Test atmosphere: dust/mist
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.

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
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 information	:	No data available

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.

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 : Not relevant

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) : Not relevant

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 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:

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

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 SOCMI 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

Revision Date : 12/14/2017

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.

JM EPDM Tape Primer Plus (Low VOC)

Version 1.0 Revision Date 07/25/2019 Print Date 07/25/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM EPDM Tape Primer Plus (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 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	:	+1-800-424-9300 (CHEMTREC)

Recommended use of the chemical and restrictions on use

Recommended use	:	Primers
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 liquids	:	Category 2
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Skin sensitisation	:	Category 1
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 2
Aspiration hazard	:	Category 1

GHS label elements

JM EPDM Tape Primer Plus (Low VOC)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
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.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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 facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6	>= 45 - <= 80
toluene	108-88-3	>= 10 - <= 30

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.
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.
Get medical attention immediately.
If breathing is irregular or stopped, administer artificial respiration.

Most important symptoms : May be fatal if swallowed and enters airways.

and effects, both acute and delayed	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Dry powder Water spray
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides Hydrogen chloride gas Hydrogen fluoride phenol Formaldehyde
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. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Ventilate the area.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. Do not allow uncontrolled discharge of product into the environment.
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	:	Normal measures for preventive fire protection.

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Avoid formation of aerosol. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from fire, sparks and heated surfaces. Use only with adequate ventilation.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards. Keep containers tightly closed in a dry, cool and well-ventilated place.
Materials to avoid	:	Keep away from oxidizing agents and strongly acid or alkaline materials.
Recommended storage temperature	:	4.4 - 32.2 °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
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA

Hazardous components without workplace control parameters

Components	CAS-No.
benzene, 1-chloro-4-(trifluoromethyl)-	98-56-6

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis

toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	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 : Nitrile rubber

Material : Chloroprene

Remarks : Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Wear safety glasses with side shields or goggles.

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

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	:	liquid
Color	:	grey
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	not determined
Initial boiling point and boiling range	:	110 °C
Flash point	:	4 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	7.0 %(V)
Lower explosion limit	:	1.2 %(V)
Vapour pressure	:	29.0 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	1.2
Bulk density	:	9.8 lb/gal
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	535.0 °C
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	<= 20.5 mm2/s (40 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Strong acids and strong bases
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: carbon oxides Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute inhalation toxicity	:	Acute toxicity estimate : 140.5 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : 3,378 mg/kg Method: Calculation method

Acute toxicity

Components:

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

Acute oral toxicity	:	LD50 (Rat, male): 5,546 mg/kg GLP: no
Acute 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: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 3,300 mg/kg GLP: no

Acute toxicity

toluene:

Acute oral toxicity	:	LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Skin corrosion/irritation

Components:

toluene:
Species: Rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Result: Irritating to eyes.

Respiratory sensitisation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

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.

Reproductive toxicity

Components:

toluene:
Reproductive toxicity - Assessment : Suspected of damaging the unborn child., Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

toluene:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

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

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

toluene:
May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:
Skin contact:

Remarks:	Prolonged skin contact may defat the skin and produce dermatitis.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

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

Components:

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

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 3 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): 2 mg/l

aquatic invertebrates		Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 0.41 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Ecotoxicology Assessment

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

Persistence and degradability

Components:

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

Bioaccumulative potential

Components:

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)

toluene:

Partition coefficient: n-octanol/water	:	Pow: 2.7

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	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Disposal of residual product : 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.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

Land transport
USDOT: UN1133, Adhesives, 3, II
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

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)
toluene	108-88-3	1000	3333

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

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:

toluene 108-88-3 10 - 30 %

Clean Air Act

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

toluene	108-88-3	10 - 30 %

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):

toluene	108-88-3	10 - 30 %

California Safe Drinking Water and Toxic Enforcement Act (Proposition 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.

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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 07/25/2019

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.

JM LVOC Membrane Adhesive (TPO & EPDM)

Version 2.1 | Revision Date 07/02/2019 | Print Date 07/02/2019

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM LVOC Membrane Adhesive (TPO & EPDM)

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	:	+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	:	+1-800-424-9300 (CHEMTREC)

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 liquids	:	Category 2
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 2
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
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/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
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.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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 facility in

accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	CAS-No.	Concentration (%)
tert-butyl acetate	540-88-5	>= 30 - <= 60
acetone	67-64-1	>= 10 - <= 30
toluene	108-88-3	>= 5 - <= 10

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
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 : 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.
Wash off with soap and 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 : irritant effects

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)
Dry chemical
Water spray

Halons
Foam

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	:	carbon oxides
Specific extinguishing methods	:	Standard procedure for chemical fires. Use a water spray to cool fully closed containers.
Further information	:	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 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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

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	:	Prevent unauthorized access. 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.
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
tert-butyl acetate	540-88-5	TWA	200 ppm	ACGIH
		TWA	200 ppm 950 mg/m3	NIOSH REL
		TWA	200 ppm 950 mg/m3	OSHA
acetone	67-64-1	TWA	250 ppm	ACGIH
		STEL	500 ppm	ACGIH
		TWA	250 ppm 590 mg/m3	NIOSH REL
		TWA	1,000 ppm 2,400 mg/m3	OSHA
toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		ST	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA
		CEIL	300 ppm	OSHA
		Peak	500 ppm (10 minutes)	OSHA

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
acetone	67-64-1	Acetone	Urine	End of shift (As soon as possible after exposure ceases)	25 mg/l	ACGIH BEI
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	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.
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	:	Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product. Written instructions for handling must be available at the work place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	yellow
Odor	:	strong, sweet
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	> 37.8 °C
Flash point	:	-4 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	Not applicable
Lower explosion limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.91 g/cm3
Solubility(ies) Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	not determined

Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	1,500 - 3,500 mPa.s
Viscosity, kinematic	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents Acids and bases
Hazardous decomposition products	:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). nitrogen oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 200 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method

Acute toxicity

Components:

tert-butyl acetate:

Acute oral toxicity	:	LD50 (Rat, male): 4,100 mg/kg GLP: yes
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 2.23 mg/l Exposure time: 4 h Test atmosphere: vapour GLP: yes

Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
GLP: yes

Acute toxicity

acetone:

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

toluene:

Acute oral toxicity : LD50 Oral (Rat, male): 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): > 12,267 mg/kg

Skin corrosion/irritation

Components:

toluene:
Species: Rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

acetone:
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.
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.

STOT - single exposure

Components:

acetone:

Exposure routes: inhalation (vapour)
Target Organs: Nervous system
Assessment: May cause drowsiness or dizziness.

STOT - single exposure

toluene:

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

toluene:

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

Aspiration toxicity

Components:

toluene:

May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

toluene:

Skin contact:

Remarks: Prolonged skin contact may defat the skin and produce dermatitis.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

Components:

acetone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %

Bioaccumulative potential

Components:

tert-butyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1.64 (21.7 °C)

acetone:

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

toluene:

Partition coefficient: n-octanol/water : Pow: 2.7

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 : No data available

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

Land transport
USDOT (Special Provision 383): UN1133, Adhesives, 3, III
TDG: UN1133, Adhesives, 3, II

LIMITED QUANTITY if shipped in inner packagings not over 5.0 L (1.3 gallons) net capacity each, packed in a strong outer packaging.

Sea transport
IMDG: UN1133, Adhesives, 3, II

Air transport
IATA/ICAO: UN1133, Adhesives, 3, II

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 (lbs)	Calculated product RQ (lbs)
tert-butyl acetate	540-88-5	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
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
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:

toluene	108-88-3	5 - 10 %

Clean Air Act

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

toluene	108-88-3	5 - 10 %

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):

acetone	67-64-1	10 - 30 %
toluene	108-88-3	5 - 10 %

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

WARNING: This product can expose you to chemicals including toluene, which is/are known to the State of California to cause birth defects or other reproductive harm. 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

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 07/02/2019

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.

JM Single Ply Caulk

Version 1.5 | Revision Date 11/15/2016 | Print Date 11/15/2016

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM Single Ply Caulk

Manufacturer or supplier's details

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Carcinogenicity	:	Category 2
Flammable solids	:	Category 1
Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irritation	:	Category 2A

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H228 Flammable solid.
H350 May cause cancer.
H315 Causes skin irritation.
H319 Causes serious eye 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.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P264 Wash skin thoroughly after handling.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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 (%)
limestone	1317-65-3	>= 20 - < 30
Solvent naphtha (petroleum), light aliph.	64742-89-8	>= 20 - < 30
titanium dioxide	13463-67-7	>= 5 - < 10
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 1 - < 5
calcium oxide	1305-78-8	>= 1 - < 5
silicon, amorphous	112945-52-5	>= 1 - < 5

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.

Most important symptoms and effects, both acute and delayed	:	None known.

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 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	:	Contain spillage, and then collect with non-combustible

containment and cleaning up	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 protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
limestone	1317-65-3	TWA (total dust)	15 mg/m3	OSHA
		TWA (Total dust)	15 mg/m3	OSHA
		TWA (respirable dust fraction)	5 mg/m3	OSHA
		TWA (respirable fraction)	5 mg/m3	OSHA
Solvent naphtha (petroleum), light aliph.	64742-89-8	TWA	500 ppm 2,000 mg/m3	OSHA

		TWA	400 ppm 1,600 mg/m3	OSHA
titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m3	OSHA
		TWA (Total dust)	10 mg/m3	OSHA
		TWA	10 mg/m3 (Titanium dioxide)	ACGIH
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m3	OSHA
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
		TWA (Mist)	5 mg/m3	OSHA
		TWA (Mist)	5 mg/m3	NIOSH REL
		ST (Mist)	10 mg/m3	NIOSH REL
calcium oxide	1305-78-8	TWA	2 mg/m3	ACGIH
		TWA	2 mg/m3	NIOSH REL
		TWA	5 mg/m3	OSHA
		TWA	5 mg/m3	OSHA
silicon, amorphous	112945-52-5	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA
		TWA	6 mg/m3 (Silica)	NIOSH REL

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	:	solid
Colour	:	white
Odour	:	hydrocarbon-like
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	104 ℃
Flash point	:	18 ℃
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6.7 %(V)
Lower explosion limit	:	0.9 %(V)
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
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, dynamic	:	No data available
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. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Hazardous decomposition products	:	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute inhalation toxicity	:	Acute toxicity estimate : 17000 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method

Acute toxicity

Components:

limestone:

Acute oral toxicity	:	LD50 (Rat): > 6,450 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

titanium dioxide:

Acute inhalation toxicity	:	LC50 (Rat): 6,820 mg/m3 Exposure time: 4 h

Acute toxicity

calcium oxide:

Acute oral toxicity	:	No data available :
Acute inhalation toxicity	:	No data available :
Acute dermal toxicity	:	No data available :

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Germ cell mutagenicity

Components:

Solvent naphtha (petroleum), light aliph.:

Germ cell mutagenicity-Assessment : In vivo tests showed mutagenic effects

Carcinogenicity

Components:

Solvent naphtha (petroleum), light aliph.:

Carcinogenicity - Assessment : Possible human carcinogen

IARC	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
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.	

Aspiration toxicity

Components:

Solvent naphtha (petroleum), light aliph.:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks: Solvents may degrease the skin.

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 information	:	No data available

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

DOT Shipping Name: UN1325, Flammable solids, organic, n.o.s. (solvent naphtha), 4.1, PG II, ERG 133

May be reclassified as "Consumer commodity, ORM-D" when shipped by ground in the US in inner packagings not over 1.0 kg (2.2 pounds) net capacity each, packed in a strong outer packaging.

SECTION 15. REGULATORY INFORMATION

TSCA list

TSCA - 5(a) Significant New Use Rule List of Chemicals	:	Not relevant
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)	:	Not relevant

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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 : 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

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).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
quartz (SiO2)	14808-60-7
titanium dioxide	13463-67-7

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

TSCA : On TSCA Inventory

DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

: limestone

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 11/15/2016

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.