


Johns Manville
Material Safety Data Sheet
UltraGard® EPDM Sealants
MSDS No. 3103-4.9
SECTION 1: PRODUCT IDENTIFICATION
Product Name: UltraGard® EPDM Sealants
Generic Name: Polyurethane Sealants
Chemical Name: Mixture

Manufacturer: Johns Manville
 Roofing Systems Group
Address: P. O. Box 5108
 Denver, CO USA 80217-5108

CAS#: Mixture/None Assigned
Formula: Mixture
Hazard Label: SL-1132-M; L-10025
Telephone: 303-978-2000
Emergency: 800-424-9300
Internet Address: http://www.jm.com

Trade Names:
 UltraGard® EPDM Sealing Mastic; Urethane Sealant

SECTION 2: INGREDIENTS

Ingredient Name	CAS #	%	Exposure Limit(s)
Polyurethane pre-polymer and filler, which contain:			
Aromatic light petroleum solvent	64742-95-6	<15	100 ppm TWA (OSHA & ACGIH)
Diisocyanates (residual), which include:			
Polymethylene polyphenyl Isocyanate (polymeric MDI)	9016-87-9	<0.5	Not established
Methylene bisphenyl Isocyanate (MBI or MDI)	101-68-8		0.02 ppm ceiling (OSHA) 0.005 ppm TWA (ACGIH)
Toluene diisocyanate (TDI)	26471-62-5		0.005 ppm TWA (OSHA & ACGIH) 0.02 ppm STEL (OSHA & ACGIH) (2,4- isomer)
Other major components include:			
Aromatic polyisocyanate resin	Trade secret		Not established
Calcium carbonate (see note)	1317-65-3		5 mg/m³ TWA respirable fraction (OSHA) 15 mg/m³ TWA total dust (OSHA) 3 mg/m³ TWA respirable fraction (ACGIH) 10 mg/m³ TWA total dust (ACGIH)
Kaolin clay (see note)	1332-58-7		5 mg/m³ TWA respirable fraction (OSHA) 10 mg/m³ TWA total dust (OSHA) 2 mg/m³ TWA respirable fraction (ACGIH)
Tackifying resin	Trade secret		Not established
Titanium dioxide (see note)	13463-67-7		10 mg/m³ TWA total dust (OSHA & ACGIH)

Note: Due to product form, exposures to hazardous dusts are not expected to occur. Exposure limits are given for reference only.

SECTION 3: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR: Thick, black or green oily liquid; petroleum solvent odor.

Vapor may cause flash fire. Use water spray to cool materials in or near a fire. Fire may be difficult to extinguish. Vapors may travel, and can be ignited by a remote source.

Inhalation of vapors may cause nausea and upper respiratory irritation-remove affected individuals to fresh air.

Skin irritation may be treated by gently washing affected area with soap and warm water.

Eye irritation may be treated by flushing eyes with large amounts of water. If irritation persists, contact a physician.

In the event of fire, use normal fire fighting procedures to prevent inhalation of smoke and gases.

Potential Health Effects

Summary:

Exposure to vapors from this product may be irritating to eyes, respiratory passages, and mucous membranes. Excessive skin contact may cause irritation and dryness. Exposure to vapors, or prolonged exposure may also result in respiratory or skin sensitization.

Acute (Short-Term) Health Effects:

Excessive exposure to the vapors from this product is irritating to the eyes, skin, and respiratory tract. It may cause fatigue, weakness, confusion, headache, dizziness, drowsiness, and numbness in limbs (arms and legs). Very high concentrations are anesthetic and may have other central nervous system (CNS) effects, including death.

Chronic (Long-Term) Health Effects:

Repeated or prolonged exposure will defat the skin, causing drying, cracking, and dermatitis. Inhalation of vapors, or prolonged skin exposure may also result in sensitization (due to isocyanate exposure) resulting in allergic type reactions upon subsequent exposures. Pulmonary (lung) sensitization can occur in some individuals, leading to asthma-type spasms. Overexposure to vapors may affect the brain and central nervous system (CNS), causing dizziness, headache, and/or nausea.

Target Organs:

Skin, eyes, lungs, central nervous system (CNS), and respiratory system.

Primary Routes of Entry (Exposure):

Inhalation, skin, and eye contact.

Medical Conditions Which May Be Aggravated:

Pre-existing respiratory and skin diseases or conditions, and prior isocyanate sensitization.

Symptoms Of Overexposure

Inhalation:

Irritation of the upper respiratory tract. Fatigue, weakness, drowsiness, and headache. Allergic or asthma-type reactions may occur following sensitization to isocyanates.

Skin:

Drying of skin, and dermatitis may occur following prolonged exposures. Allergic type reactions may occur following sensitization to isocyanates.

Absorption:

No symptoms reported.

Ingestion:

This product is not intended to be ingested or eaten under normal conditions of use. If ingested, it may cause temporary irritation of the gastrointestinal (GI) tract, especially the stomach.

Eye:

Irritation, redness, and burning in eyes.

SECTION 4: FIRST AID MEASURES

Inhalation:

Remove affected individual to fresh air and administer artificial respiration or oxygen as necessary.

Skin:

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

Absorption:

Same as skin contact.

Ingestion:

Product is not intended to be ingested or eaten. If this product is ingested, do not induce vomiting. Seek medical attention.

Eye:

Flush eyes with plenty of water for 15-20 minutes. Seek medical attention.

Notes to Physician:

This product contains isocyanates, which may cause health effects as noted in Sections 3 and 11. Treatment for inhalation, skin contact, or ingestion should be symptomatic.

SECTION 5: FIRE FIGHTING MEASURES

Summary:

Use water spray or fog to cool materials in or near fire. If possible, move burning material outside. Fire is difficult to extinguish. Use NIOSH approved self-contained breathing apparatus operating in the pressure demand mode and full fire fighting protective clothing. Avoid inhalation of vapors, which may include isocyanates.

Unusual Fire/Explosion Hazards:

Moderate fire hazard when exposed to heat.

Extinguishing Media:

Water, carbon dioxide (CO₂), dry chemical, foam.

Flammable Properties and Explosive Limits:

Flash Point: 66°C/150°F
FP Test Method: FMCC
Flame Classification: Not determined
Flame Propagation: Not determined

Lower Explosive Limit (LEL): Not determined
Upper Explosive Limit (UEL): Not determined
Autoignition Temperature: Not determined
Decomposition Temperature: Not determined

SECTION 6: ACCIDENTAL SPILL/RELEASE MEASURES

Containment Procedures:

Remove all sources of ignition. Evacuate and ventilate spill area. Dam spill area with sand, earth, or other suitable absorbant. Prevent entry of material into sewers, water sources, or land areas. Wear full protective clothing and respiratory protection as required to maintain exposures during clean-up below the Permissible Exposure Limits (PEL). Shovel absorbed material into containers in well ventilated area.

Disposal:

Dispose of material in accordance with federal, state, and local regulations in a permitted hazardous waste management facility. Incineration is the preferred method of disposal. Empty containers must be handled with care due to product residue. Decontaminate empty containers prior to disposal. Do not heat or cut empty containers with electric or gas torch. Pursuant to the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261), this product is classified a hazardous waste: Ignitable, Waste # D001.

SECTION 7: HANDLING AND STORAGE

Conditions to Avoid:

Store in a cool, dry area. Keep away from ignition sources, such as heat, sparks, pilot lights, static electricity, and open flames. Store in tightly closed containers to prevent contamination. Containers exposed to elevated temperatures may develop pressure build-up and rupture.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Summary:

Protective equipment should be provided as necessary to prevent inhalation of vapors, and prolonged skin contact.

Eye:

Safety glasses with sideshields, or a face shield is recommended.

Skin:

Rubber gloves should be used to help prevent excessive skin contact.

Respiratory:

If isocyanate vapors are present above the established exposure limits, a NIOSH-approved self-contained breathing apparatus or air line respirator must be used. Poor warning properties of isocyanates preclude the use of any air purifying respirator. A respirator should be used if ventilation is unavailable, or is inadequate for keeping vapor levels below the applicable exposure limits.

Ventilation:

Local exhaust or general dilution ventilation may be required to maintain exposures below the applicable exposure limits. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

Special Considerations for Repair/Maintenance of Contaminated Equipment:

Use personal protective equipment as discussed above.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F/°C):	Not determined.
Evaporation Rate (Butyl acetate = 1) :	<1
Melting Point:	Not determined
pH:	Not applicable
Saturation in Air (%):	Not applicable
Solids Content:	Not determined
Specific Gravity (Water = 1):	1.20
Vapor Density (Air = 1):	>1
Vapor Pressure:	Not determined.
Viscosity:	Not determined
VOCs (g/liter):	Not determined
Volatile by Volume (%):	14%
Water Solubility (%):	0

Appearance and Odor:

Thick, black or green oily liquid; petroleum solvent odor.

SECTION 10: STABILITY AND REACTIVITY

Product is stable.

Hazardous polymerization will not occur.

Reactivity:

Strong oxidizers and reducing agents, strong acids and alkalies.

Hazardous Decomposition Products:

The decomposition products from this material are those that would be expected from any organic (carbon-containing) material, and are mainly derived from pyrolysis, or burning, of the polymer. These decomposition products may include carbon dioxide, carbon monoxide, carbon particles, nitrogen oxides, hydrogen cyanide, and hydrocarbons.

SECTION 11: TOXICOLOGICAL AND EPIDEMIOLOGICAL DATA

This product has not been tested as a separate entity. Therefore, the hazards must be evaluated on the basis of the individual ingredients, and those hazards must be assumed to be additive in the absence of complete information. The hazards described in this document have been evaluated based on a threshold of 1.0% for all hazardous ingredients and 0.1% for all carcinogens.

UltraGard® EPDM Sealants
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Skin, eye, and upper respiratory irritation may occur after contact with liquid. Breathing vapors may cause headache, dizziness, and drowsiness. Ingestion may produce irritation of the gastrointestinal tract.

Toxicity (LD₅₀):

The LD₅₀ and LC₅₀ (dose or concentration lethal to 50% of a population of test animals) for this product have not been determined.

Chronic Effects:

Repeated, prolonged skin contact will defat the skin, causing drying and dermatitis. Exposure to vapors, or prolonged skin contact may result in sensitization to isocyanate products.

The International Agency for Research on Cancer (IARC) has classified polymethylene polyphenyl isocyanate (polymeric MDI) as a Group 3 substance, not classifiable as to its carcinogenicity to humans.

IARC has also classified toluene diisocyanate (TDI) as a Group 2B substance, possibly carcinogenic to humans. Based on the IARC classification, the Occupational Safety and Health Administration (OSHA) has classified TDI as a possible select carcinogen.

The National Toxicology Program (NTP) has classified TDI as reasonably anticipated to be a carcinogen.

References:

"Suspect Chemicals Sourcebook: A Guide to Industrial Chemicals Covered Under Major Regulatory and Advisory Programs," Ciansky, K. B., editor, Roytech Publications, 1989.

"Chemical Safety Data Guide," Joseph, E.Z., Editor, The Bureau of National Affairs, Washington D.C., 1985.

NIOSH, "Pocket Guide to Chemical Hazards," U.S. Department of Health and Human Services, NIOSH Publication 90-117, 1990.

R.P.M. MAMERCO Intl., material safety data sheet, 4475 E. 175th St., Cleveland, OH, March 4, 1994.

"Handbook of Toxic and Hazardous Chemicals and Carcinogens," 2nd Edition, Sittig, M., Editor, Noyes Publications, Park Ridge, NJ, 1985.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

This product has not been tested.

SECTION 13: DISPOSAL CONSIDERATIONS

Summary:

Dispose of material in accordance with federal, state, and local regulations in a permitted hazardous waste management facility. Incineration is the preferred method of disposal. Empty containers must be handled with care due to product residue. Decontaminate empty containers prior to disposal. Do not heat or cut empty containers with electric or gas torch.

SECTION 14: TRANSPORT INFORMATION

Transportation Summary:

This product is not regulated as a hazardous material for transport.

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SECTION 15: REGULATORY INFORMATION

U. S. REGULATIONS**Federal Regulations:**

The Occupational Safety and Health Administration (OSHA), National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), and American Conference of Governmental Industrial Hygienists (ACGIH) have not classified this product as a carcinogen. The following is information on carcinogen classifications of this product's components:

NTP Suspect Carcinogen: toluene diisocyanate (TDI).

IARC Group 2B Possibly Carcinogenic to Humans: toluene diisocyanate (TDI).

The Permissible Exposure Limits (PELs) reported in this MSDS are from the air contaminants standard OSHA issued in 1989. While an appeals court eventually vacated this standard, it was without authority to reverse state law under which states, operating with their own OSHA programs, had adopted the 1989 standard. Below is a list of states enforcing the 1989 standard. Please also refer to 29 CFR 1910.1000 and to relevant state statutes for other applicable exposure limits.

State Regulations:**States Enforcing 1989 Air Contaminants Standard:**

AK, CA, CT, ME, MI, MN, NM, TN, WA, WI.

Component	CAS #	State(s)
Methylenebis (phenyl isocyanate) (MBI or MDI)	101-68-8	CA, FL, MA, MN, NJ, PA
Calcium carbonate (limestone)	1317-65-3	MA, MN, PA
Kaolin (clay)	1332-58-7	MA, MN, PA

California Safe Drinking Water and Toxics Enforcement Act (Proposition 65):

Warning. This product contains the following substance(s) known to the state to cause cancer: toluene diisocyanate (TDI).

Environmental Regulations:

Component	CAS #	Percent	SARA 313	SARA 302 TPQ(lbs)	CERCLA	CERCLA RQ(lbs)
Methylenebis (phenyl isocyanate) (MBI or MDI)	101-68-8	0-60	Yes	NA	Yes	5,000
Toluene diisocyanate (mixed isomers)	26471-62-5	0-60	Yes	NA	Yes	100

Toxic Substances Control Act Inventory (TSCA 8(b)):

This product and its components are listed.

INTERNATIONAL REGULATIONS**Canada Workplace Hazardous Materials Information System (WHMIS):**

Controlled Product Classification: D2A, based on the IARC classification for toluene diisocyanate.

Canada Environmental Protection Act Domestic Substance List (Section 25(1) DSL):

This product and its components are listed.

SECTION 16: OTHER INFORMATION

For additional information concerning this product, contact the Johns Manville Product Information Center at PO Box 5108, Denver, CO USA 80217-5108, or call toll-free 800-654-3103 within the US or Canada. Otherwise, call 303-978-4900 collect.

**UltraGard® EPDM Sealants
MSDS No. 3103-4.9****MSDS Revision Summary:**

Date	MSDS #	Reason
01/31/92	3103-1.0	Format revision. Changed pdate, publisher.
06/01/92	3103-2.0	Manufacturer name change
11/15/92	3103-3.0	Sects. 2,11 Revision
06/15/93	3103-4.0	Sects. 1,2,4,8,11: Editorial changes; Sects. 2,11: Regulatory changes (Exposure limits, Transportation Information)
12/31/93	3103-4.1	Sect. 1: Header & Product Names
01/31/94	3103-4.2	Exposure limit change(s) Sect. 1: Trade name
03/31/94	3103-4.3	Sect. 3: Emergency overview
04/15/94	3103-4.4	Sect. 2: Trade Name Sect. 11: DOT
05/01/95	3103-4.5	Conversion to ANSI 16 section format; Section 1 Trade Name: added Urethane Sealant, removed Expand-O-Flash® Tab Sealant (product never labeled and sold as such, rather as SPM® Sealing Mastic and Urethane Sealant); Sections 3 and 9 Appearance and Odor: corrected product color.
05/11/95	3103-4.6	Section 5 Flash Point: corrected Fahrenheit/Celsius temperature conversion error.
07/19/95	3103-4.7	Section 1 Hazard Label: added label number to cross-reference label and MSDS.
12/31/97	3103-4.8	Company name change; Section 1: added warning label number L-10025 for Urethane Sealant; Section 2: increased percent composition of aromatic light petroleum solvent; Section 15 Environmental Information: updated methylenebis phenylisocyanate (MBI or MDI) CERCLA RQ.
03/11/99	3103-4.9	Section 1: replaced SPM® with UltraGard® EPDM.

Prepared for:

Johns Manville
Roofing Systems Group
P. O. Box 5108
Denver, CO USA 80217-5108

Prepared by:

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

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