



# Material Safety Data Sheet

Material Name: ULTRABOND TURF PU 2K - PART A

ID: SAH00938

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

Material Name: ULTRABOND TURF PU 2K - PART A

### Product Use

Adhesive

### Manufacturer Information

USA and Puerto Rico

**MAPEI**

1144 East Newport Center Drive

Deerfield Beach, FL 33442

Phone: 1-954-246-8888

Canada

**MAPEI**

2900 Francis-Hughes Avenue

Laval, QC H7L 3J5

Phone: 1-450-662-1212

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT, CONTACT THE FOLLOWING NUMBERS:

Emergency 24 hour numbers:

(USA) CHEMTREC 1-800-424-9300

(Canada) CANUTEC 1-613-996-6666

## \*\*\* Section 2 - Hazards Identification \*\*\*

### Emergency Overview

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

Green paste. Typical odor. This product is irritating to the eyes and skin.

### Hazard Statements

CAUTION! IRRITANT. MAY IRRITATE EYES. MAY IRRITATE SKIN. This product may cause irritation to the respiratory system. Chronic health effects (such as impaired lung function and/or cancer) should not arise unless the product is dried, a respirable airborne dust is formed, and prolonged and repeated breathing of this dried material occurs. Wear suitable gloves, eye/face protection, and respiratory protection. Wear suitable protective clothing. Keep out of the reach of children.

### Potential Health Effects: Eyes

This product is irritating to the eyes.

### Potential Health Effects: Skin

This product is irritating to the skin.

### Potential Health Effects: Ingestion

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

### Potential Health Effects: Inhalation

This product may cause irritation to the respiratory system. Chronic health effects (such as impaired lung function and/or cancer) should not arise unless the product is dried, a respirable airborne dust is formed, and prolonged and repeated breathing of this dried material occurs.

### Medical Conditions Aggravated by Exposure

Hypersensitivity to product, allergies, and skin or respiratory disorders

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## Potential Environmental Effects

None identified.

**HMIS Ratings: Health: 1\* Fire: 0 Reactivity: 1 Pers. Prot.:** Safety glasses, gloves, dust respirator

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## \*\*\* Section 3 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
471-34-1	Calcium carbonate	3-7
14808-60-7	Crystalline silica	1-5
12736-96-8	Sodium potassium aluminum silicate	1-5

## \*\*\* Section 4 - First Aid Measures \*\*\*

### First Aid: Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.

### First Aid: Skin

Flush with large amounts of water. If irritation persists, get medical attention.

### First Aid: Ingestion

Flush out mouth with water. If ingestion of a large amount does occur, seek medical attention. Do not induce vomiting.

### First Aid: Inhalation

Immediately remove the affected person to fresh air. If symptoms persist, get medical attention.

### First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

### General Fire Hazards

See Section 9 for Flammability Properties.

This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a moderate fire hazard.

### Hazardous Combustion Products

Irritating and toxic gases or fumes may be released during a fire. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

### Extinguishing Media

Dry chemical (preferred), foam, water.

### Unsuitable Extinguishing Media

None identified.

### Specific Hazards Arising From the Chemical

None identified.

### Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self contained breathing apparatus.

**NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

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## \*\*\* Section 6 - Accidental Release Measures \*\*\*

### Personal Precautions

Wear appropriate protective equipment and clothing during clean-up.

### Containment Procedures

Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Scoop up used absorbent into drums or other appropriate container.

### Environmental Precautions

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

### Clean-Up Procedures

Attempt to reclaim the free product, if this is possible. Shovel the material into waste container. Thoroughly wash the area with water after a spill or leak clean-up. Keep out of the reach of children.

### Evacuation Procedures

None identified.

### Special Procedures

Regulations vary. Consult local authorities before disposal.

## \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures

Do not get in eyes. Do not get on skin or clothing. Do not breathe dust from this material. Keep out of the reach of children. Wash hands after handling and before eating.

### Storage Procedures

Store in a cool, dry, well-ventilated area. Store at ambient temperature and atmospheric pressure. Keep out of sun.

## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### Exposure Guidelines

#### A: General Product Information

Keep formation of dusts, particulates and fumes to a minimum.

#### B: Component Exposure Limits

##### Calcium carbonate (471-34-1)

NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Quebec:	10 mg/m3 TWAEV (total dust)
Saskatchewan:	20 mg/m3 STEL (listed under Limestone) 10 mg/m3 TWA (listed under Limestone)
Yukon:	20 mg/m3 STEL 30 mppcf TWA; 10 mg/m3 TWA

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## Crystalline silica (14808-60-7)

ACGIH:	0.025 mg/m3 TWA (respirable fraction)
OSHA:	0.1 mg/m3 TWA (respirable dust)
NIOSH:	0.05 mg/m3 TWA (respirable dust)
Alberta:	0.025 mg/m3 TWA (respirable particulate)
British Columbia:	ACGIH Category A2 - Suspected Human Carcinogen; IARC Category 1 - Human Carcinogen 0.025 mg/m3 TWA (respirable)
Manitoba:	0.025 mg/m3 TWA (respirable fraction)
New Brunswick:	0.1 mg/m3 TWA (respirable fraction)
NW Territories:	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Nova Scotia:	0.025 mg/m3 TWA (respirable fraction)
Nunavut:	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Ontario:	0.10 mg/m3 TWA (respirable fraction) 0.10 mg/m3 TWA (designated substance regulation, respirable)
Quebec:	0.1 mg/m3 TWAEV (respirable dust)
Saskatchewan:	0.05 mg/m3 TWA (respirable fraction, listed under Silica - crystalline)
Yukon:	300 particle/mL TWA (listed under Silica)

## Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

## PERSONAL PROTECTIVE EQUIPMENT

### Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields or goggles.

### Personal Protective Equipment: Skin

The use of nitrile-latex gloves is recommended.

### Personal Protective Equipment: Respiratory

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

### Personal Protective Equipment: General

Launder contaminated clothing before reuse. Use good industrial hygiene practices in handling this material.

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	Green paste	<b>Odor:</b>	Typical
<b>Physical State:</b>	Paste	<b>pH:</b>	NA
<b>Vapor Pressure:</b>	NA	<b>Vapor Density:</b>	NA
<b>Boiling Point:</b>	NA	<b>Melting Point:</b>	NA
<b>Solubility (H2O):</b>	NA	<b>Specific Gravity:</b>	1.70 - 1.80 g/cm
<b>Evaporation Rate:</b>	NA	<b>VOC:</b>	2 g/L (mixture)
<b>Octanol/H2O Coeff.:</b>	NA	<b>Flash Point:</b>	>200°F (93°C)
<b>Flash Point Method:</b>	NA	<b>Upper Flammability Limit (UFL):</b>	NA
<b>Lower Flammability Limit (LFL):</b>	NA	<b>Burning Rate:</b>	NA
<b>Auto Ignition:</b>	NA		

## Physical Properties: Additional Information

The data provided in this section is to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

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## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

Stable under normal conditions.

### Chemical Stability: Conditions to Avoid

Do not freeze.

### Incompatibility

This product may react with strong acids, bases and oxidizing agents.

### Hazardous Decomposition

Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Upon decomposition, this product may emit fumes of carbon monoxide, carbon dioxide, oxides of nitrogen, and other organic compounds.

### Possibility of Hazardous Reactions

Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Dose Effects

#### A: General Product Information

No information available for the product.

#### B: Component Analysis - LD50/LC50

##### Calcium carbonate (471-34-1)

Oral LD50 Rat 6450 mg/kg

##### Crystalline silica (14808-60-7)

Oral LD50 Rat 500 mg/kg

### Carcinogenicity

#### A: General Product Information

Exposure to quartz (the most stable and common form of crystalline silica) is responsible for the majority of clinically diagnosed silicosis. Silicosis is a fibronodular lung disease that occurs after occupational exposure to crystalline silica for 5 years or longer. Inhalation of quartz dusts may cause shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Individuals with a pre-existing disease in, or a history of ailments involving the skin or respiratory tract, are at a greater risk of developing adverse health effects when exposed to this material. There may be a relationship between silicosis and certain cancers.

#### B: Component Carcinogenicity

##### Crystalline silica (14808-60-7)

ACGIH:	A2 - Suspected Human Carcinogen
NIOSH:	potential occupational carcinogen
NTP:	Known Human Carcinogen (respirable size) (Select Carcinogen)
IARC:	Monograph 100C [in preparation] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources); Monograph 68 [1997] (Group 1 (carcinogenic to humans))

### Sensitization

No information available for the product.

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## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity

#### A: General Product Information

No information available for the product.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

## \*\*\* Section 13 - Disposal Considerations \*\*\*

### US EPA Waste Number & Descriptions

#### A: General Product Information

No additional information available.

#### B: Component Waste Numbers

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

### Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

## \*\*\* Section 14 - Transportation Information \*\*\*

### International Transportation Regulations

Not regulated as dangerous goods.

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

All of the components of this product are listed on, or are exempted from listing on the U.S. EPA TSCA Inventory of Chemical Substances. All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List unless otherwise noted.

#### B: Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

### State Regulations

#### A: General Product Information

Other state regulations may apply. Check individual state requirements.

#### B: Component Analysis - State

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

Component	CAS	CA	MA	MN	NJ	PA	RI
Crystalline silica	14808-60-7	No	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):  
WARNING! This product contains a chemical known to the state of California to cause cancer.

# Material Safety Data Sheet

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## Canadian WHMIS Information

### A: General Product Information



D2A, D2B

### B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Crystalline silica	14808-60-7	1 %

## Additional Regulatory Information

### A: General Product Information

Supplier(s) of proprietary component(s) state that these components are contained on the TSCA inventory.

### B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Calcium carbonate	471-34-1	Yes	DSL	EINECS
Crystalline silica	14808-60-7	Yes	DSL	EINECS
Sodium potassium aluminum silicate	12736-96-8	Yes	DSL	EINECS

## \* \* \* Section 16 - Other Information \* \* \*

### Reference

T1-2981-51

### Other Information

**Disclaimer:** Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; BLV=Biological Limit Values; CAN = Canadian DSL and NDSL Inventories status; CAS = Chemical Abstracts Service; CC = Closed Cup; CFR = Code of Federal Regulations; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EPA = Environmental Protection Agency; EU = European Union; g/L = grams per Liter; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; mg/kg = milligrams per kilogram; mg/L = milligrams per Liter; mg/m<sup>3</sup> = milligrams per Cubic Meter; NA, N/A, S.O. = Not available or Not Applicable; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; OC = Open Cup; OSHA = Occupational Safety and Health Administration; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; TWAEV = Time Weighted Average Exposure Value; WHMIS = Workplace Hazardous Materials Information System

**Contact:** Product Safety Representative

**Contact Phone:** 1-954-246-8888

End of Sheet SAH00938



# Material Safety Data Sheet

Material Name: ULTRABOND TURF PU 2K - PART B

ID: SAH00939

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

Material Name: ULTRABOND TURF PU 2K - PART B

### Product Use

Hardener

### Manufacturer Information

USA and Puerto Rico

**MAPEI**

1144 East Newport Center Drive

Deerfield Beach, FL 33442

Phone: 1-954-246-8888

Canada

**MAPEI**

2900 Francis-Hughes Avenue

Laval, QC H7L 3J5

Phone: 1-450-662-1212

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT, CONTACT THE FOLLOWING NUMBERS:

Emergency 24 hour numbers:

(USA) CHEMTREC 1-800-424-9300

(Canada) CANUTEC 1-613-996-6666

## \*\*\* Section 2 - Hazards Identification \*\*\*

### Emergency Overview

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

Dark amber liquid. Slight odor. This product contains isocyanates. This product may cause sensitization by inhalation and skin contact. Irritating to respiratory system.

### Hazard Statements

WARNING! ALLERGEN. Vapor harmful. This product is harmful by inhalation and when in contact with the skin.

Keep container closed. This product contains isocyanates. This product may cause sensitization by inhalation and skin contact. Wear suitable gloves, eye/face protection, and respiratory protection. Wear suitable protective clothing. Keep out of the reach of children.

### Potential Health Effects: Eyes

This product may cause irritation to the eyes. Symptoms may include irritation, redness, scratching to the cornea, and tearing.

### Potential Health Effects: Skin

This product may cause irritation to the skin. Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

### Potential Health Effects: Ingestion

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.



# Material Safety Data Sheet

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## Potential Health Effects: Inhalation

This product is harmful by inhalation. This product may cause sensitization by inhalation. MDI vapors or mist can cause irritation of upper respiratory tract. Previous repeated overexposures or a single large dose may cause certain individuals to develop isocyanate sensitization (chemical asthma), which will cause them to react to a later exposure to isocyanate at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be either temporary or permanent.

## Medical Conditions Aggravated by Exposure

Hypersensitivity to product, allergies, and skin or respiratory disorders

## Potential Environmental Effects

None identified.

**HMIS Ratings: Health: 2\* Fire: 1 Reactivity: 0 Pers. Prot.:** Safety glasses, gloves, synthetic apron, vapor respirator  
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## \*\*\* Section 3 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
101-68-8	Methylene bis(phenylisocyanate)	15-40
9016-87-9	Polymethylene polyphenylene isocyanate	30-60
26447-40-5	Generic MDI, mixed isomers	7-13

## \*\*\* Section 4 - First Aid Measures \*\*\*

### First Aid: Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

### First Aid: Skin

Immediately take off all contaminated clothing. Flush with large amounts of water. If irritation persists, get medical attention.

### First Aid: Ingestion

Do not induce vomiting. Flush out mouth with water. Get medical attention or advice.

### First Aid: Inhalation

Immediately remove the affected person to fresh air. Seek medical attention.

### First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

### General Fire Hazards

See Section 9 for Flammability Properties.

Closed containers may rupture due to a build-up of pressure when exposed to extreme heat.

### Hazardous Combustion Products

Irritating and toxic gases or fumes may be released during a fire. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

### Extinguishing Media

Dry chemical (preferred), foam, water.

### Unsuitable Extinguishing Media

None identified.

# Material Safety Data Sheet

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## Specific Hazards Arising From the Chemical

None identified.

## Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self contained breathing apparatus.

## NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

## \* \* \* Section 6 - Accidental Release Measures \* \* \*

### Personal Precautions

Wear appropriate protective equipment and clothing during clean-up. Use with adequate ventilation.

### Containment Procedures

Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Scoop up used absorbent into drums or other appropriate container.

### Environmental Precautions

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

### Clean-Up Procedures

Attempt to reclaim the free product, if this is possible. Shovel the material into waste container. Thoroughly wash the area with water after a spill or leak clean-up. Wear appropriate protective equipment and clothing during clean-up.

### Evacuation Procedures

Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

### Special Procedures

Regulations vary. Consult local authorities before disposal.

## \* \* \* Section 7 - Handling and Storage \* \* \*

### Handling Procedures

Do not inhale vapors or mists of this product. Do not get in eyes. Do not get on skin or clothing. Keep out of the reach of children. Use this product with adequate ventilation. Wash hands after handling and before eating.

### Storage Procedures

Store at ambient temperature and atmospheric pressure. Store away from strong oxidizers. Keep out of sun.

# Material Safety Data Sheet

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## \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### A: Component Exposure Limits

#### Methylene bis(phenylisocyanate) (101-68-8)

ACGIH:	0.005 ppm TWA
OSHA:	0.02 ppm Ceiling; 0.2 mg/m <sup>3</sup> Ceiling
NIOSH:	0.005 ppm TWA; 0.05 mg/m <sup>3</sup> TWA 0.020 ppm Ceiling (10 min); 0.2 mg/m <sup>3</sup> Ceiling (10 min)
Alberta:	0.005 ppm TWA; 0.05 mg/m <sup>3</sup> TWA
British Columbia:	Sensitizer 0.005 ppm TWA 0.01 ppm Ceiling Skin notation
Manitoba:	0.005 ppm TWA
New Brunswick:	0.005 ppm TWA; 0.051 mg/m <sup>3</sup> TWA
NW Territories:	0.02 ppm Ceiling; 0.2 mg/m <sup>3</sup> Ceiling
Nova Scotia:	0.005 ppm TWA
Nunavut:	0.02 ppm Ceiling; 0.2 mg/m <sup>3</sup> Ceiling
Ontario:	0.005 ppm TWA (listed under Isocyanates, organic compounds); 0.02 ppm Ceiling (listed under Isocyanates, organic compounds) 0.005 ppm TWA (designated substance regulation, listed under Isocyanates, organic compounds); 0.005 ppm TWA (applies to workplaces to which the designated substance regulation does not apply) 0.02 ppm Ceiling (designated substances regulation, listed under Isocyanates, organic compounds)
Quebec:	0.005 ppm TWAEV; 0.051 mg/m <sup>3</sup> TWAEV
Saskatchewan:	0.015 ppm STEL 0.005 ppm TWA
Yukon:	0.02 ppm Ceiling; 0.2 mg/m <sup>3</sup> Ceiling

#### Polymethylene polyphenylene isocyanate (9016-87-9)

Alberta:	0.005 ppm TWA; 0.07 mg/m <sup>3</sup> TWA
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### Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

### PERSONAL PROTECTIVE EQUIPMENT

#### Personal Protective Equipment: Eyes/Face

Wear chemical goggles; face shield (if splashing is possible).

#### Personal Protective Equipment: Skin

The use of nitrile-latex gloves is recommended. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Replace ripped or damaged gloves immediately. May cause sensitization by skin contact.

#### Personal Protective Equipment: Respiratory

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

#### Personal Protective Equipment: General

Launder contaminated clothing before reuse. Use good industrial hygiene practices in handling this material.

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## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	Dark amber liquid	<b>Odor:</b>	Aromatic odor
<b>Physical State:</b>	Liquid	<b>pH:</b>	NA
<b>Vapor Pressure:</b>	0.00016 mmHg (20°C)	<b>Vapor Density:</b>	NA
<b>Boiling Point:</b>	200 °C	<b>Melting Point:</b>	NA
<b>Solubility (H2O):</b>	Reacts with water	<b>Specific Gravity:</b>	1.22 g/cc @ 25°C
<b>Evaporation Rate:</b>	NA	<b>VOC:</b>	2 g/L (mixture)
<b>Octanol/H2O Coeff.:</b>	NA	<b>Flash Point:</b>	220°C
<b>Flash Point Method:</b>	(Open Cup)	<b>Upper Flammability Limit (UFL):</b>	NA
<b>Lower Flammability Limit (LFL):</b>	NA	<b>Burning Rate:</b>	NA
<b>Auto Ignition:</b>	NA		

### Physical Properties: Additional Information

The data provided in this section is to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Chemical Stability

This is a stable material.

### Chemical Stability: Conditions to Avoid

Do not freeze. Avoid moisture

### Incompatibility

This product may be incompatible to water, alcohols, and strong bases.

### Hazardous Decomposition

Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

### Possibility of Hazardous Reactions

Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Dose Effects

#### A: General Product Information

Inhalation LC50 Rat: >2.240 mg/L/1H;

Oral LD50 Rat: 10,000 mg/kg

#### B: Component Analysis - LD50/LC50

##### Methylene bis(phenylisocyanate) (101-68-8)

Oral LD50 Rat 9200 mg/kg

##### Polymethylene polyphenylene isocyanate (9016-87-9)

Inhalation LC50 Rat 490 mg/m<sup>3</sup> 4 h; Oral LD50 Rat 49 g/kg; Dermal LD50 Rabbit >9400 mg/kg

##### Generic MDI, mixed isomers (26447-40-5)

Inhalation LC50 Rat 0.369 mg/L 4 h; Oral LD50 Rat >7400 mg/kg; Dermal LD50 Rabbit >6200 mg/kg

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## Carcinogenicity

### A: General Product Information

No information available for the product.

### B: Component Carcinogenicity

#### Methylene bis(phenylisocyanate) (101-68-8)

IARC:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))
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#### Polymethylene polyphenylene isocyanate (9016-87-9)

IARC:	Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))
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#### Generic MDI, mixed isomers (26447-40-5)

IARC:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))
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## Sensitization

This product may cause sensitization by inhalation and skin contact. Respiratory tract sensitization, characterized by asthma-like symptoms such as tightness in the chest, difficulty breathing, and wheezing may result from prolonged or repeated inhalation of dust/processing fumes of this product. Skin sensitization, characterized by redness, inflammation, itching and/or burning may result from prolonged or repeated contact with this material.

## \* \* \* Section 12 - Ecological Information \* \* \*

## Ecotoxicity

### A: General Product Information

No information available for the product.

### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

#### Generic MDI, mixed isomers (26447-40-5)

Test & Species		Conditions
96 Hr EC50 Skeletonema costatum	3230 mg/L	
24 Hr EC50 Daphnia magna	>1000 mg/L	

## \* \* \* Section 13 - Disposal Considerations \* \* \*

## US EPA Waste Number & Descriptions

### A: General Product Information

No additional information available.

### B: Component Waste Numbers

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

## Disposal Instructions

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

## \* \* \* Section 14 - Transportation Information \* \* \*

## International Transportation Regulations

Not regulated as dangerous goods.

# Material Safety Data Sheet

Material Name: ULTRABOND TURF PU 2K - PART B

ID: SAH00939

## \*\*\* Section 15 - Regulatory Information \*\*\*

### US Federal Regulations

#### A: General Product Information

All of the components of this product are listed on, or are exempted from listing on the U.S. EPA TSCA Inventory of Chemical Substances. All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List unless otherwise noted.

#### 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).

##### Methylene bis(phenylisocyanate) (101-68-8)

SARA 313:	1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)
CERCLA:	5000 lb final RQ; 2270 kg final RQ

##### Polymethylene polyphenylene isocyanate (9016-87-9)

SARA 313:	1.0 % de minimis concentration (listed under Chemical Category N120, Diisocyanates)
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### State Regulations

#### A: General Product Information

Other state regulations may apply. Check individual state requirements.

#### B: Component Analysis - State

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

Component	CAS	CA	MA	MN	NJ	PA	RI
Methylene bis(phenylisocyanate)	101-68-8	Yes	Yes	Yes	Yes	Yes	No
Polymethylene polyphenylene isocyanate	9016-87-9	No	No	No	Yes	No	No

### Canadian WHMIS Information

#### A: General Product Information



D1B, D2A, D2B

#### B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Methylene bis(phenylisocyanate)	101-68-8	0.1 %

### Additional Regulatory Information

#### A: General Product Information

Supplier(s) of proprietary component(s) state that these components are contained on the TSCA inventory.

# Material Safety Data Sheet

Material Name: ULTRABOND TURF PU 2K - PART B

ID: SAH00939

## B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Methylene bis(phenylisocyanate)	101-68-8	Yes	DSL	EINECS
Polymethylene polyphenylene isocyanate	9016-87-9	Yes	DSL	No
Generic MDI, mixed isomers	26447-40-5	Yes	DSL	EINECS

## \* \* \* Section 16 - Other Information \* \* \*

### Reference

T1-2982-51

### Other Information

**Disclaimer:** Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

### MSDS History

This MSDS has been revised in the following section(s): Section 2 - Hazards Identification Section 4 - First Aid Measures Section 15 - Regulatory Information Section 16 - Other Information

### Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; BLV=Biological Limit Values; CAN = Canadian DSL and NDSL Inventories status; CAS = Chemical Abstracts Service; CC = Closed Cup; CFR = Code of Federal Regulations; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EPA = Environmental Protection Agency; EU = European Union; g/L = grams per Liter; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; mg/kg = milligrams per kilogram; mg/L = milligrams per Liter; mg/m<sup>3</sup> = milligrams per Cubic Meter; NA, N/A, S.O. = Not available or Not Applicable; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; OC = Open Cup; OSHA = Occupational Safety and Health Administration; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; TWAEV = Time Weighted Average Exposure Value; WHMIS = Workplace Hazardous Materials Information System

**Contact:** Product Safety Representative

**Contact Phone:** 1-954-246-8888

End of Sheet SAH00939