SAFETY DATA SHEET

Rev. 1, 10/25/2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: OlyBond Part 1

Supplier: GAF.
1 Campus Drive
Parsippany, NJ 07054
USA
Phone: 1-800-766-3411

24-hour Emergency Response Number:
Chemtrec: 800-424-9300

Product Use(s): One component of a two-component polyurethane system

2. HAZARDS IDENTIFICATION

Classifications: Acute Toxicity, Inhalation: Hazard Category 4
Respiratory Sensitization: Hazard Category 1
Skin Sensitization: Hazard Category 1
Skin Irritation: Hazard Category 2
Eye Irritation: Hazard Category 2A
Specific Target Organ Toxicity, Single Exposure: Hazard Category 3
Specific Target Organ Toxicity, Repeated Exposure: Hazard Category 2

Symbols: Health Hazard
Exclamation Point

Signal Word: Danger

Hazard Statements: May be harmful if inhaled, and may cause allergy or asthma symptoms, breathing difficulties, and/or respiratory irritation.
May cause an allergic skin reaction.
May cause skin irritation and serious eye irritation.
May cause damage to the respiratory system and/or skin through prolonged or repeated exposure.

Precautionary Statements: Do not breathe mist, spray, or vapors.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear proper respiratory protection.
Wear protective gloves and eye/face protection.
Wash hands and forearms thoroughly after handling.
Get medical advice/attention if you feel unwell.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms or if you feel unwell, call a doctor or Poison Control Center.

IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash before reuse. Contaminated work clothing must not be allowed out of the workplace. If skin irritation or rash occurs, get medical advice/attention.

2. HAZARDS IDENTIFICATION (continued)

Precautionary Statements: (continued)

IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Store locked up in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with applicable regulations. The acute toxicities of <10% of the product's ingredients are unknown.

EMERGENCY OVERVIEW

Overexposure to components of this product by inhalation may cause respiratory irritation, asthma-like symptoms, and/or respiratory sensitization. The supplier has conducted an exposure assessment under representative working conditions, and has determined that exposure in excess of the OSHA *Permissible Exposure Limit* is not likely when the product is used in an outdoor environment in accordance with instructions and safe work practices.

Skin contact may cause irritation and/or allergy-like symptoms, and eye contact may cause severe irritation. Avoid skin and eye contact, using proper personal protective equipment as needed. See Section #7 for recommendations on proper handling and work practices, and Section #8 for recommendations on personal protective equipment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percentage	Impurities
Diphenylmethane Diisocyanate Mixed Isomers	26447-40-5	<10	None known
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	38 $\pm$ 1	None known
Polymeric Isocyanates	9016-87-9	<55	None known

4. FIRST AID MEASURES

Eyes: Hold eyes open and flush with lukewarm water for at least 15 minutes. Seek immediate medical assistance.

Skin: Remove contaminated clothing. Wash affected areas with soap and water for at least five minutes. If irritation persists or a rash occurs, seek medical attention. Launder or dry-clean clothing before reuse.

Ingestion: DO NOT induce vomiting. If the subject is conscious, wash mouth and give 2 or more cups of milk or water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

Inhalation: If signs and symptoms of respiratory toxicity are observed, remove subject from area and seek immediate medical attention. Keep the subject warm and at rest. If necessary, administer oxygen or perform artificial respiration if necessary and qualified personnel are available to do so.

Guidance for Physician or Poison Control Center: Inhalation exposure can irritate the respiratory tract and induce respiratory sensitization. Treatment of acute irritation and bronchial constriction should be done according to symptoms. Eye contact can cause moderate to severe irritation. Skin contact can cause moderate irritation, and may elicit an allergic response among susceptible individuals. Treat eye and skin irritation or injury according to symptoms. Extended medical treatment may be necessary for individuals exhibiting respiratory sensitization and/or skin disorders.

5. FIREFIGHTING MEASURES

Extinguishing Media:	Water spray, carbon dioxide, dry chemical or chemical foam. DO NOT use water jet.
Fire and Explosion Hazards:	This product may ignite if exposed to sources of ignition at temperatures in excess of its flash point. If present in a fire or explosion, potential thermal decomposition byproducts include carbon monoxide, oxides of nitrogen, organic isocyanates, and hydrogen cyanide.
Firefighting Instructions:	If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full-facepiece operated in pressure-demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Methods and Materials:	Absorb spilled material with a sorbent such as sawdust or calcium silicate hydrate. When absorbed, transfer to an impervious container. Neutralize with solution of 8-10% sodium carbonate and 2% liquid detergent in water (10:1 ratio of solution to product). Do not seal container, as CO_2 will be released. Neutralize in a well-ventilated area for at least 48 hours before sealing containers for disposal.
Personal Precautions:	Avoid contact with skin, eyes, and mucous membranes. Wear appropriate personal protective equipment (see Section #8) during cleanup and decontamination. Restrict unauthorized personnel during cleanup and disposal operations.
Environmental Precautions:	Prevent spills from entering sewers or contaminating soil.

7. HANDING AND STORAGE

Handling Precautions:	Containers should be kept tightly closed to prevent contact with moisture and other chemicals. Do not reuse empty containers for any purpose. When handling the product, avoid contact with eyes, skin, and clothing, using protective equipment as needed. Do not use this product around children, and secure it away from children.
Work and Hygiene Practices:	To prevent ingestion or contact following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing and protective equipment before entering eating/drinking areas.
Storage Precautions:	Keep containers tightly sealed during storage. Store in a dry, well-ventilated area away from sources of ignition and incompatible materials (see Section #10). Recommended temperature range for storage is 55-85°F. (12.8-29.4°C.).

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ingredients Exposure Limits:

Ingredient	OSHA PEL	ACGIH TLV
Diphenylmethane Diisocyanate Mixed Isomers	None	None
4,4'-Methylene Bisphenyl Isocyanate	0.02 ppm "C"	0.005 ppm TWA
Polymeric Isocyanates	None	None

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION (continued)

Ingredients Biological Limits:

Ingredient	Biological Limit(s)
Diphenylmethane Diisocyanate Mixed Isomers	No ACGIH BEIs or other biological limits
4,4'-Methylene Bisphenyl Isocyanate	No ACGIH BEIs or other biological limits
Polymeric Isocyanates	No ACGIH BEIs or other biological limits

Engineering Controls: Use appropriate ventilation (dilution or local exhaust) whenever natural ventilation is restricted or inadequate to maintain concentrations of all components within their applicable standards.

Eye/Face Protection: Wear eye protection adequate to prevent eye contact with the product. Plastic-frame spectacles with side shields, chemical goggles, or a face shield are recommended. Do not wear contact lenses when working with this product.

Skin Protection: Wear protective gloves and clothing to prevent skin irritation or injury from contact with the product. Glove materials known to be effective against permeation by isocyanates include butyl rubber, nitrile rubber, and polychloroprene.

Respiratory Protection: If an exposure level to a component exceeds an applicable standard, use a NIOSH-approved respirator of a class and configuration effective for protection from the component(s) generated. Where exposures exceed the OSHA *Permissible Exposure Limit* (*PEL*), an airline respirator or self-contained breathing apparatus (SCBA) is recommended. Consult OSHA regulations (29CFR1910.134) and/or American National Standard Z88.2 (ANSI, New York, NY 10036, USA) for guidance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: dark brown liquid
Odor: aromatic
Odor threshold: not determined
pH: not applicable
Melting point: not determined.
Freezing point: not determined
Boiling point: ≥200°F./93°C.
Boiling range: not determined
Flash Point: approx. 484°F./220°C.
Autoignition Point: not determined
Flammability Class: IIIB
Lower Explosive Limit: not determined
Upper Explosive Limit: not determined
Vapor pressure: not determined
Vapor density: not determined
Evaporation Rate: not determined
VOCs (per EPA Method 24): 11.00 grams/liter
Relative density (H2O): approx. 1.22
Solubility (H2O): reactive
Oil-water partition coefficient: not determined
Decomposition temperature: not determined
Viscosity: 150-350 cps

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	May react with water and incompatible materials
Hazardous Polymerization:	May occur at temperatures >392°F./200°C.
Risk of Dangerous Reactions:	None reasonably foreseeable
Incompatible Materials:	Water, alcohols, acids, alkalis, and amines
Potential Decomposition Byproducts:	Carbon monoxide, carbon dioxide, nitrogen oxides, isocyanates, and hydrogen cyanide

11. TOXICOLOGICAL INFORMATION

Ingredients Toxicology Data	LD_{50} Oral	LD_{50} Dermal	LC_{50}
Diphenylmethane Diisocyanate Mixed Isomers	>5,000 mg/kg (rat)	No data available	2,240 mg/m³ for 1 hour (rat)
4,4'-Methylene Bisphenyl Isocyanate	>5,000 mg/kg (rat)	No data available	2,240 mg/m³ for 1 hour (rat)
Polymeric Isocyanates	No data available	No data available	No data available

Primary Route(s) of Entry:	Inhalation; ingestion
Eye Hazards:	This product may cause moderate to severe eye irritation.
Skin Hazards:	This product may cause mild to moderate skin irritation and has the potential to cause skin sensitization among susceptible individuals.
Ingestion Hazards:	The product is nontoxic by ingestion, but ingestion may cause nausea, vomiting, and/or gastrointestinal irritation.
Inhalation Hazards:	Inhalation of toxicologically-significant quantities of ingredients is unlikely when the product is used in a well-ventilated area and in accordance with instructions.
Symptoms Related to Overexposure:	Inhalation overexposure to isocyanates may cause respiratory irritation, breathing difficulties, and asthma-like symptoms.
Delayed Effects from Long Term Overexposure:	Long-term inhalation overexposure to this product may result in respiratory sensitization, which may be irreversible.
Carcinogenicity:	A single inhalation study exposing rats to aerosolized polymeric 4,4'-Methylene Bisphenyl Isocyanate identified a single malignant pulmonary tumor among 60 animals exposed at the highest exposure level. Observations of pulmonary fibrosis and other pathological anomalies in the test animals precluded definitive determination as to the cause(s) of the tumor. Epidemiological studies of humans occupationally exposed to the isocyanates in this product have found no strong association or consistent pattern with respect to carcinogenicity.
Germ Cell Mutagenicity:	No ingredients have been determined to be germ cell mutagens.
Reproductive Toxicity:	No ingredients have been determined to be damaging to fertility or to the unborn child.

11. TOXICOLOGICAL INFORMATION (continued)

Acute Toxicity Estimates:	LD_{50} (oral): no data available LD_{50} (dermal): no data available LC_{50}: no data available Interactive effects of components: no data available

12. ECOLOGICAL INFORMATION

Diphenylmethane Diisocyanate, Isomers and Homologues:	Aquatic Toxicity to Fish: LC_{50} >1,000 mg/l. for 96 h. (zebra fish) Aquatic Toxicity to Invertebrates: EC_{50} >1,000 mg/l. for 24 h. (daphnia) Aquatic Toxicity to Plants: EC_{50} >1,640 mg/l. for 72 h. (algae) Aquatic Toxicity to Microorganisms: EC_{50} >100 mg/l. for 3 h. (bacteria) Toxicity to Terrestrial Organisms: NOEC=1,000 mg/kg for 14 d. (worms) No data available for Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.
Polymeric Isocyanates:	No data available for Aquatic Toxicity to Fish, Invertebrates, Plants, or Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.
Ozone Depletion Potential:	This product neither contains nor is manufactured with any ingredients known to deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Empty containers should be decontaminated prior to disposal. Consult applicable Federal, State/Provincial, and local regulations.

14. TRANSPORTATION INFORMATION

Transport of the product is not regulated by USDOT, TDG (Canada), IATA, or IMO.

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA Information:	All ingredients of this product are listed in the TSCA Registry.
SARA Hazard Classes:	Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard
EPCRA Section 313 Notification:	This product contains these ingredients in concentrations ≥1% (for carcinogens ≥0.1%) regulated under Section 313 of the *Emergency Planning and Community Right-To-Know Act* of 1986 or 40 CFR 372: 1. 4,4'-Methylene Bisphenyl Isocyanate (CASRN 101-68-8) 2. Polymeric Isocyanantes (CASRN 9016-87-9)
CERCLA Information:	Under requirements of the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), 4,4'-Methylene Bisphenyl Isocyanate (CASRN 101-68-8) has a *Reportable Quantity* of 5,000 lbs. Any spill or release above this *RQ* must be reported to the National Response Center (800-424-8802).

Canadian Regulatory Information

This product has been classified in accordance with Canada's *Hazardous Products Regulations* (SOR/DORS/2015-15).

16. OTHER INFORMATION

	Health	Flammability	Physical Hazard	PPE
Hazardous Materials Information System (HMIS III) Ratings (Legend):	2* (moderate hazard, "*" indicating potential for chronic effects)	1 (slight hazard)	1 (slight hazard)	See Note

Note regarding PPE: GAF recommends use of protective eyewear and skin protection (Personal Protection Index "B") as standard PPE for the anticipated conditions of use of this product. However, HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes should be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

	Health	Flammability	Reactivity
National Fire Protection Association (NFPA) Ratings:	2	2	1

Revision Information: Date of Prior SDS: not applicable

DISCLAIMER

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