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1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier OlyBond500 SpotShot Cartridge, Part 1

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

One component of a two-component system for production of polyurethane

1.3 Manufacturer and OMG, Inc.

Supplier of the 153 Bowles Road

Safety Data Sheet Agawam, Massachusetts 01001, USA

Phone: (01) 413-789-0252 Fax: (01) 413-786-1453 www.OMGRoofing.com

Contact: EHSDept@olyfast.com

1.4 Emergency Chemtrec: (01) 703-741-5970 (24-hour)

Telephone Number

2. HAZARDS IDENTIFICATION

2.1 Classifications Acute Toxicity, Inhalative, Category 4 (H332)

per Regulation Sensitization of the Respiratory Airways, Category 1 (H334)

(EC) 2015/830: Sensitization of the Skin, Category 1 (H317)

Skin Irritation, Category 2 (H315) Eye Irritation, Category 2 (H319) Carcinogenicity, Category 2 (H351)

Specific Target Organ Toxicity (Single Exposure), Category 3 (H335) Specific Target Organ Toxicity (Repeated Exposure), Category 2 (H373)

2.2 Label Elements

Symbol(s): Health Hazard

Exclamation Point

Signal Word(s): Danger

Hazard Statement(s): Harmful if inhaled. (H332)

May cause allergy/asthma symptoms or breathing difficulties if inhaled. (H334)

May cause respiratory irritation. (H335) May cause an allergic skin reaction. (H317)

Causes skin irritation (H315)

Causes serious eye irritation. (H319)

May cause damage to organs through prolonged or repeated exposure. (H373)

Suspected of causing cancer. (H351)

Precautionary Contains isocyanates. May produce an allergic reaction. (EUH204)

Statement(s): Do not breathe mist, spray, or vapors. (P260)

Use only outdoors or in a well-ventilated area. (P271)

IF INHALED: If breathing is difficult, remove person to fresh air and keep

comfortable for breathing. (P304/P340)

IF ON SKIN: Wash with plenty of water. (P302/P352)

persists, get medical advice/attention. (P305/P351/P337/P313)



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3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	CAS Number	EC No.	Percentage	Classifications
Polymeric Isocyanates	9016-87-9	618-498-9	<55	Acute Toxicity 4 (H332) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Skin Irritation 2 (H315) Eye Irritation 2 (H319) Carcinogenicity 2 (H351) STOT-SE 3 (H335) STOT-RE 2 (H373)
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	202-966-0	38	Acute Toxicity 4 (H332) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Skin Irritation 2 (H315) Eye Irritation 2 (H319) Carcinogenicity 2 (H351) STOT-SE 3 (H335) STOT-RE 2 (H373)
Diphenylmethane Diisocyanate Mixed Isomers	26447-40-5	247-714-0	<10	Acute Toxicity 4 (H332) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Skin Irritation 2 (H315) Eye Irritation 2 (H319) Carcinogenicity 2 (H351) STOT-SE 3 (H335) STOT-RE 2 (H373)

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General
information:

Exposure to this product by inhalation may cause respiratory irritation, asthma-like symptoms, and or/respiratory sensitization. Skin contact causes irritation, and may cause an allergic skin reaction. Eye contact causes moderate irritation.

This product is formulated to be mixed with another component (OlyBond500 SpotShot, Part 2. Do not handle or mix the two components together until you have read and understood that information in the Safety Data Sheets for both components.

Following eye contact:

Hold eyes open and flush with lukewarm 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.

Following skin contact:

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.

Following ingestion: DO NOT induce vomiting. If the subject is conscious, rinse mouth with water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.



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Following 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. Administer oxygen or perform artificial respiration if necessary and qualified personnel are available to do so. Call a doctor or Poison Centre if the subject feels unwell.

4.2 Most Important Symptoms and Effects (Acute and Delayed)

Exposure to components of this product by inhalation may cause respiratory irritation, asthma-like symptoms, and/or respiratory sensitization. Skin contact causes irritation, and may cause an allergic skin reaction. Eye contact causes serious irritation. Suspected of causing cancer.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

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 causes moderate to severe irritation. Skin contact causes 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

5.1	Extinguishing
	Media

Suitable Extinguishing Media: water spray, carbon dioxide, dry chemical or chemical foam.

Unsuitable Extinguishing Media: water jet.

5.2 Special Hazards
Arising from the
Mixture

This product may ignite if exposed to sources of ignition at temperatures above its flash point. Hazardous decomposition products are carbon monoxide, oxides of nitrogen, organic isocyanates, and hydrogen cyanide.

5.3 Advice for Firefighters

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

6.1 Personal Precautions,
Protective Equipment,
and Emergency
Procedures

Wash hands and forearms thoroughly after handling. Avoid contact with skin, eyes, and mucous membranes. Wear appropriate personal protective equipment (see Section #8) during cleanup and decontamination. Restrict unauthorized personnel from spill area during cleanup and disposal operations.

6.2 Environmental Precautions

Prevent spills from entering sewers or contaminating soil.

6.3 Methods and Material for Containment and Cleaning Up

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 CO₂ will be released. Neutralize in a well-ventilated area for at least 48 hours before sealing containers for disposal.

6.4 Reference to Other Sections

Refer to Section 8 for personal protective equipment and Section #13 for disposal information.



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7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Take off contaminated clothing and wash before reuse. Contaminated work clothing must not be allowed out of the workplace.

This product is formulated to be mixed with another component (OlyBond500 SpotShot, Part 2. Do not handle or mix the two components together until you have read and understood that information in the *Safety Data Sheets* for both components.

7.2 Conditions for Safe Storage:

Containers should be kept tightly closed to prevent contact with moisture and other chemicals. Store locked up in a dry, well-ventilated area away from sources of ignition and incompatible materials (see Section #10). Recommended range of temperatures for storage is 12.8 - 29.4 °C. Do not reuse empty containers for any purpose. 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.

7.3 Specific End Uses:

One component of a two-component system for production of polyurethane.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control	<u>Ingredient</u>	Occupational Exposure Limits (mg/m³)			
Parameters:		Country	<u>8 hr. TWA</u>	15 min. STEL	<u>Ceiling</u>
	Polymeric Isocyanates	Germany Italy	0,05 None	0,05 None	0,1 None
	1000) 4.114(00	Netherlands Spain United Kingdom	None None 0,02	None None 0,07	None None None
	4,4'-Methylene Bisphenyl Isocyanate	Germany Italy Netherlands Spain United Kingdom	0,05 None 0,05 0,052 0,02	0,05 None 0,21 None 0,07	0,1 None None None None
	Diphenylmethane Diisocyanate Mixed Isomers	Germany Italy Netherlands Spain United Kingdom	None None None None 0,02	None None None None 0,07	None None None None None

8.2 Exposure Controls

8.2.1 Engineering Controls:

Whenever natural ventilation is restricted or inadequate to maintain concentrations of all components within their *Occupational Exposure Limits* (*OELs*), use mechanical ventilation (dilution or local exhaust).



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8.2.2 Individual **Protection** Measures: Eve Protection: Wear eye/face protection when using this product. Plastic-frame spectacles with side shields, chemical goggles, or a face shield are recommended. Refer to EN 166.

Skin Protection: Wear protective gloves and clothing to prevent skin irritation or injury from contact with the product. Glove materials known to be effective include butyl rubber (#0,5 mm), nitrile rubber (#0,35 mm) and polychloroprene (#0.5 mm). Reported breakthrough times for these materials are ≥480 minutes. Refer to EN 374 (Gloves) / EN 465, 466/A1, 467 (Protective clothing)

Respiratory Protection: In case of inadequate natural and/or mechanical ventilation wear proper respiratory protection. If an exposure level to a component exceeds an applicable standard, use a respirator of a class and configuration effective for protection from the component(s) generated and having approvals from applicable EU or national authority. Where exposures exceed an applicable OEL, an airline respirator or self-contained breathing apparatus (SCBA) is recommended. Refer to EN149, EN136, EN 405.

8.2.3 Environmental **Exposure** Controls:

Neutralize any spilled product in accordance with the guidelines in Section 6.3. 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 EU. National, and local regulations for proper disposal.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: dark brown liquid Lower/Upper Explosive Limits: no information available

Odor: aromatic Vapor pressure: <0,00001 hPa @ 20 ℃. Odor threshold: no information available Vapor density: no information available

Evaporation Rate: no information available pH: not applicable (decomposes in water) Melting point: no information available VOCs (per USEPA Method 24): 11,00 grams/liter Relative density (H₂O): approx. 1,22 @ 20 ℃. Freezing point: no information available

Boiling point: ≥93°C. Solubility (H₂O): reactive (hydrolyzes)

Boiling range: no information available Octanol-water partition coefficient: no information available Flash Point: approx. 220 ℃.

Decomposition temperature: no information available

Explosive properties: not explosive Autoignition Point: no information available Viscosity: 150-350 cps Oxidizing properties: not oxidizing

10. STABILITY AND REACTIVITY

10.1 Reactivity: May react with water and incompatible materials.

Hydrolyzes in water

10.2 Chemical Stability: Under storage at normal temperatures, product is stable.

10.3 Possibility of Hazardous Reactions: May polymerize at temperatures >200 °C.

10.4 Conditions to Avoid; None reasonably foreseeable.

10.5 Incompatible Materials: Water, alcohols, acids, alkalis, and amines

Carbon monoxide, carbon dioxide, isocyanates, nitrogen 10.6 Potential Decomposition

Byproducts: oxides, and hydrogen cyanide

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

11.1.1 Diphenylmethane Diisocyanate, Mixed Isomers (including 4,4'-Methylene Bisphenyl Isocyanate)



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Acute toxicity, oral: $LD_{50} > 5000 \text{ mg/kg (rat)}$

Based on available data, the classification criteria are not met.

LD₅₀ >9000 mg/kg (rabbit) Acute toxicity, dermal:

Based on available data, the classification criteria are not met.

Acute toxicity, inhalation: $LC_{50} = 2240$ mg/l. for 1 hour (rat). Test concentration can be achieved only

experimentally, not under conditions encountered in actual application.

Harmful by inhalation (EU Harmonized Classification).

Skin corrosion/ irritation: Slightly irritation (rabbit)

Skin Irritation, Category 2 (EU Harmonized Classification).

Serious eve

damage/irritation: Eye Irritation, Category 2 (EU Harmonized Classification).

Skin sensitization: Local Lymph Node Assay: positive (mouse)

Sensitization of the Skin, Category 1 (EU Harmonized Classification).

Respiratory sensitization: Respiratory sensitization positive (rat)

Sensitization of the Respiratory Airways, Category 1

(EU Harmonized Classification).

Carcinogenicity, Category 2 (EU Harmonized Classification). There is limited Carcinogenicity:

> evidence of carcinogenicity in experimental animal studies. Epidemiological studies of humans occupationally exposed to isocyanates have found no strong

association or consistent pattern with respect to carcinogenicity.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Study parameters: Form: inhalative; Species: rat, female; Form: aerosol; Reproductive toxicity:

Doses: 1–12 mg/m³; Frequency: 6 hrs. /day for 10 days.

Results: No teratogenic effects or other reproductive toxicity observed.

Based on available data, the classification criteria are not met.

STOT, single exposure: Route of Exposure: Inhalative; Target Organ(s): Respiratory tract

Assessment: Specific Target Organ Toxicity (Single Exposure), Category 3

(EU Harmonized Classification).

STOT, repeated

Route of Exposure: Inhalative; Target Organ(s): Respiratory System exposure:

Assessment: Specific Target Organ Toxicity (Repeated Exposure), Category 2

(EU Harmonized Classification).

Aspiration toxicity: Based on available data, the classification criteria are not met.

11.1.2 Polymeric Isocyanates

Acute toxicity, oral: LD₅₀ >5000 mg/kg (rat) (Based on similar material).

Based on available data, the classification criteria are not met.

LD₅₀ >2000 mg/kg (rabbit) (Based on similar material). Acute toxicity, dermal:

Based on available data, the classification criteria are not met.

Acute toxicity, inhalation: Harmful by inhalation (Based on similar material).

Skin corrosion/ irritation: Slightly irritation (rabbit)

Skin Irritation, Category 2 (Based on similar material).

Serious eye damage/

irritation: Eye Irritation, Category 2 (Based on similar material).

Sensitization of the Skin, Category 1 (Based on similar material). Skin sensitization:

Respiratory sensitization: Sensitization of the Respiratory Airways, Category 1 (Based on similar

material).



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Carcinogenicity: Inhalative study parameters: Species: rat, male/female; Form: aerosol;

Doses: 0,2-6 mg/m³; Frequency: 6 hrs. /day, 5 days/week.

Results: A malignant tumor 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. Carcinogenicity, Category 2 (EU Harmonized Classification).

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT, single exposure: Route of Exposure: Inhalative; Target Organ(s): Respiratory tract

Assessment: Specific Target Organ Toxicity (Single Exposure), Category 3

(Based on similar material).

STOT, repeated Route of Exposure: Inhalative; Target Organ(s): Respiratory System

Assessment: Specific Target Organ Toxicity (Repeated Exposure), Category 2

(Based on similar material).

Aspiration toxicity: Based on available data, the classification criteria are not met.

Other hazard classes: No data available

Acute Toxicity Estimates (ATEs): LD₅₀ (oral): >2000 mg/kg; LD₅₀ (dermal): >2000 mg/kg; LC₅₀: 0,5 mg/l

Interactive effects of ingredients: No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

exposure:

Diphenylmethane
Diisocyanate, Isomers
and Homologues
including 4,4'-Methylene
Bisphenyl Isocyanate)

Acute Aquatic Toxicity to Fish: $LC_{50} > 1000$ mg/l. for 96 h. (zebra fish) Acute Aquatic Toxicity to Crustacea: $EC_{50} > 1000$ mg/l. for 24 h. (daphnia) Acute Aquatic Toxicity to Plants: $EC_{50} > 1640$ mg/l. for 72 h. (algae)

(including 4,4'-Methylene Acute Aquatic Toxicity to Microorganisms: EC₅₀ >100 mg/l. for 3 h. (bacteria)

Chronic Aquatic Toxicity to Fish: No data available

Chronic Aquatic Toxicity to Crustacea: NOEC >10 mg/l. for 21 d. (daphnia)

Chronic Aquatic Toxicity to Plants: No data available

Chronic Aquatic Toxicity to Microorganisms: No data available

Toxicity to Terrestrial Organisms: NOEC = 1000 mg/kg for 14 d. (worms) Toxicity to Terrestrial Plants: NOEC > 1000 mg/kg for 14 d. (lettuce)

Polymeric Isocyanates No data available for aquatic or chronic toxicity to fish, invertebrates, plants, or

microorganisms; toxicity to terrestrial organisms or terrestrial plants.

12.2 Persistence and Degradability

Diphenylmethane Diisocyanate, Isomers and Homologues Biodegradability: Not readily biodegradable in activated sludge.

Stability in water: Rapidly hydrolyzes in water

Photodegradation: Moderately degraded by photochemical processes

(including 4,4'-Methylene (T_½. 0.9 d.). Bisphenyl Isocyanate)

Polymeric Isocyanates No data available for biodegradability, stability in water, or photodegradation.

12.3 Bioaccumulative Potential



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Diphenylmethane Diisocyanate, Isomers and Homologues Octanol-water partition coefficient: no information available.

Bioaccumulation study parameters: Species: Cyprinus carpio;

(including 4,4'-Methylene Bisphenyl Isocyanate)

Concentration = 0,2 mg/l.; Duration: 42 d.; Bioconcentration factor: <14

Assessment: Hydrolyzes rapidly in water. Accumulation of ingredients and/or

degradation byproducts not to be expected in aquatic organisms.

Polymeric Isocyanates

No data available for bioaccumulative potential.

12.4 Mobility in Soil

No data is available for any ingredient of this product with respect to mobility in soil.

12.5 Results of PBT and vPvB Assessment

This product does not meet the criteria for classification as PBT or vPvB.

12.6 Other Adverse Effects

This product neither contains nor is manufactured with any chemicals known to deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

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. Do not reuse containers of waste product.

13.2 Sewage Disposal:

Disposal of product in sewage is discouraged, and may be in violation of relevant national or regional regulations.

13.3 Personal Protective

Equipment:

Avoid contact with eyes, skin, and clothing, using protective equipment as needed. Recommendations for personal protective equipment are listed in

Section 8.2.2.

14. TRANSPORTATION INFORMATION

		ADR/RID	<u>ADN</u>	<u>ICAO</u>	<u>IMDG</u>
14.1	UN Number:	Not applicable	Not applicable	Not applicable	Not applicable
14.2	UN Proper Shipping Name:	Not applicable	Not applicable	Not applicable	Not applicable
14.3	Transport Hazard Class:	Not applicable	Not applicable	Not applicable	Not applicable
14.4	Packing Group:	Not applicable	Not applicable	Not applicable	Not applicable
14.5	Environmental Hazards:	Not applicable	Not applicable	Not applicable	Not applicable
14.6	Special Precautions for User:	Keep away from foodstuffs and incompatible materials (see Section 10).			
14.7	Acronyms for Regulatory Instruments	ADR: International Carriage of Dangerous Goods by Road RID: International Carriage of Dangerous Goods by Rail ADN: International Carriage of Dangerous Goods by Inland Waterway ICAO: Instructions for the Safe Transport of Dangerous Goods by Air			



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IMDG: International Maritime Dangerous Goods Code

15. REGULATORY INFORMATION

15.1 Safety, Health, and Environmental Regulations Specific for the Product

15.1.1 EU Regulations: EU Directive 96/82 ED (Seveso II Directive, 2003): not applicable

15.1.2 Authorizations: None applicable.

15.1.3 Restrictions: Preparations containing MDI at concentrations >0,1% shall not be

marketed to the general public unless:

• It contains protective gloves per Council Directive 89/686/EEC.

 The packaging is legibly and indelibly marked indicating that persons already sensitized to diisocyanates may develop allergic reactions when using this product.

 The packaging is legibly and indelibly marked indicating that persons suffering from asthma, eczema, or skin problems should avoid contact, including dermal contact, with this product.

 The product shall not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter, i.e., type A1 according to standard EN14387 is worn.

15.1.4 Federal Republic of

Substance Identifiers: 635: 8322

Germany Regulations: Water Hazard Class: WGK 1 (low hazard to waters) Technical Instructions on Air Quality Control (TA Luft)

• Organic Substances, Class 1 (100%)

• Exhaust gas limitations: 0,10 kg/hr (mass flow) or 20 mg/m³ (mass concentration)

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this product by the manufacturer/supplier.

16. OTHER INFORMATION

16.1 Relevant Hazard Statements

<u>Code</u>	Hazard Statement
H322	Harmful if inhaled.
H334	May cause allergy/asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated
	exposure.
H351	Suspected of causing cancer.

16.2 Publication/Revision Information

Publication date: 03 April 2020

Revision summary: General revision for content. Changes to format. Minor changes to Sections 3, 4, 8, 10, & 11.



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Date of prior SDS: 01 December 2016

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