

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: OlyBond500 Canisters, Part 1

 Supplier: OMG, Inc.
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 Agawam, MA 01001 USA
 Phone: (01) 413-789-0252
 Fax: (01) 413-786-1453
 www.OMGRoofing.com

 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 2B
 Reproductive Toxicity Category 2
 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.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause respiratory irritation.
 May cause an allergic skin reaction.
 Causes eye and skin irritation.
 Suspected of damaging fertility or the unborn child
 May cause damage to the respiratory system and/or skin through prolonged or repeated exposure.

 Precautionary Statements: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
 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 protection.
 Wash hands and forearms thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.

IF INHALED: 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 soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs, get medical advice/attention.

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

If exposed or concerned: get medical advice.

Other Hazards: Store locked up in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with applicable regulations.

None known

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 irritation. Suspected of causing adverse effects on reproduction. 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

<u>Ingredient</u>	<u>CAS Number</u>	<u>Percentage</u>	<u>Impurities</u>
Diphenylmethane Diisocyanate Isomers and homologues	9016-87-9	75 – 80	None known
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	22.5 – 40 (part of 9016-87-9)	None known
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	<10	None known

4. FIRST AID MEASURES

Eyes:	Hold eyes open and flush with lukewarm water for several minutes. Seek medical assistance if irritation persists.
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.
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5. FIREFIGHTING MEASURES

Extinguishing Media:	Water spray, carbon dioxide, dry chemical or chemical foam. DO NOT use water jet.
Fire and Explosion Hazards:	The container may burst if exposed to elevated temperatures, spilling the contents. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. If present in a fire or explosion, potential decomposition byproducts include carbon monoxide, oxides of nitrogen, isocyanates, hydrogen cyanide, hydrogen fluoride, and carbonyl halides.

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 CO₂ 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. HANDLING 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

Exposure Limits

Ingredient	OSHA PEL	ACGIH TLV	Other
4,4'-Methylene Bisphenyl Isocyanate	0.02 ppm Ceiling	0.005 ppm	
Diphenylmethane Diisocyanate, Isomers and Homologues	None	None	
2,2,4-trimethyl-1,3-pentenediol diisobutyrate	None	None	None

Ingredients Biological Limits:	<u>Ingredient</u>	<u>Biological Limit(s)</u>
	Diphenylmethane Diisocyanate, Isomers and Homologues	No ACGIH BEIs or other biological limits
	4,4'-Methylene Bisphenyl Isocyanate	No ACGIH BEIs or other biological limits
	2,2,4-trimethyl-1,3-pentanediol diisobutyrate	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 <i>Permissible Exposure Limit (PEL)</i> , 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: brown liquid	Lower Explosive Limit: not determined
Odor: aromatic	Upper Explosive Limit: not determined
Odor threshold: not determined	Vapor pressure: not determined
pH: not applicable	Vapor density: not determined
Melting point: not determined.	Evaporation Rate: not determined
Freezing point: not determined	VOCs: 50 g/L (when combined)
Boiling point: $\geq 200^{\circ}\text{F./}93^{\circ}\text{C.}$	Relative density (H_2O): approx. 1.2
Boiling range: not determined	Solubility (H_2O): reactive
Flash Point: approx. $484^{\circ}\text{F./}220^{\circ}\text{C.}$	Oil-water partition coefficient: not determined
Autoignition Point: not determined	Decomposition temperature: not determined
Flammability Class: IIIB	Viscosity: 300 cps

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	May react with water and incompatible materials
Hazardous Polymerization:	May occur at temperatures $>392^{\circ}\text{F./}200^{\circ}\text{C.}$

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, hydrogen cyanide, hydrogen fluoride, and carbonyl halides

11. TOXICOLOGICAL INFORMATION

<u>Ingredients Toxicology Data</u>	<u>LD₅₀ Oral</u>	<u>LD₅₀ Dermal</u>	<u>LC₅₀</u>
Diphenylmethane Diisocyanate, Isomers and Homologues	>10,000 mg/kg (rat)	>9400 mg/kg (rabbit)	0.49 mg/L/4h (rat)
4,4'-Methylene Bisphenyl Isocyanate	>10,000 mg/kg (rat)	>9400 mg/kg (rabbit)	2.24 mg/l. for 1 hour (rat)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	>2000 mg/kg (rat)	>2,000 mg/kg (rabbit)	>0.12 mg/L/6h (rat)

Primary Route(s) of Entry: Inhalation; ingestion

Eye Hazards: This product may cause eye irritation.

Skin Hazards: This product may cause mild skin irritation and has the potential to cause skin sensitization among susceptible individuals.

Ingestion Hazards: The product is not classified as toxic 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: 2,2,4-trimethyl-1,3-pentanediol diisobutyrate is suspected to be damaging to fertility or to the unborn child.

Acute Toxicity Estimates: LD₅₀ (oral): >10,000 mg/kg
 LD₅₀ (dermal): >9,400 mg/kg
 LC₅₀: 2.24 mg/L/1 hr as aerosol

12. ECOLOGICAL INFORMATION

4,4'-Methylene-diphenyl Diisocyanate	Aquatic Toxicity to Fish: LC₅₀ >1,000 mg/l. for 96 h. (zebra fish) Aquatic Toxicity to Invertebrates: EC₅₀ >1,000 mg/l. for 24 h. (daphnia) Aquatic Toxicity to Plants: EC₅₀ >1,640 mg/l. for 72 h. (algae) Aquatic Toxicity to Microorganisms: EC₅₀ >100 mg/l. for 3 h. (bacteria) Toxicity to Terrestrial Organisms: EC₀ = 1,000 mg/kg for 14 d. (worms) No data available for Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.
Diphenylmethane Diisocyanate, Isomers and homologues	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.
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Aquatic Toxicity to Fish: LC₅₀ = >6 mg/l. for 96 h. (limit of solubility) Aquatic Toxicity to Invertebrates: EC₅₀ = >1.46 mg/l. for 48 h. (daphnia) (limit of solubility) Chronic Toxicity to Invertebrates: NOEC 0.7 mg/L/21d (daphnia) Readily biodegradable, not bioaccumulative
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:	Refer to Section 2 for the OSHA Hazard Classification
EPCRA Section 313 Notification:	This product contains these ingredients in concentrations ≥1% (for carcinogens ≥0.1%) regulated under Section 313 of the <i>Emergency Planning and Community Right-To-Know Act</i> of 1986 or 40 CFR 372: 1. 4,4'-Methylene Bisphenyl Isocyanate (CASRN 101-68-8)

2. Polymeric Isocyanates (CASRN 9016-87-9)

CERCLA Information: Per the 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

All ingredients in this product are listed in the Domestic Substances List (DSL).

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

16. OTHER INFORMATION

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

Note regarding PPE: OMG, Inc. 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.

National Fire Protection Association (NFPA) Ratings:	<u>Health</u> 2	<u>Flammability</u> 2	<u>Reactivity</u> 1
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Section(s) Revised: 2, 3, 4, 8, 11, 12, 15.

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: OlyBond500 Canisters Part 2

Supplier: OMG, Inc.
153 Bowles Road
Agawam, MA 01001 USA
Phone: (01) 413-789-0252
Fax: (01) 413-786-1453
www.OMGRoofing.com

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 Oral Toxicity: Hazard Category 4
Reproductive Toxicity Category 1B
Skin Sensitization Category 1
Gases Under Pressure: Compressed Gas
Physical Hazards Not Otherwise Classified: None
Health Hazards Not Otherwise Classified: None

Symbols: Exclamation Point
Gas Cylinder



Signal Word: Warning

Hazard Statements: Harmful if swallowed.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
Contains gas under pressure; may explode if heated.

Precautionary Statements: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing spray.
Contaminated work clothing must not be allowed out of the workplace.
Wash hands and forearms thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves.
If exposed or concerned: Get medical advice.
IF SWALLOWED: Call a Poison Center or doctor if you feel unwell. Rinse mouth.
IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice. Take off contaminated clothing and wash it before reuse.
Protect from sunlight. Store in a well-ventilated place. Store locked up.
Dispose of contents/container in accordance with applicable regulations.

EMERGENCY OVERVIEW

Harmful if swallowed. There are no known serious health effects from inhalation or skin contact. See Section #7 for recommendations on proper handling and work practices, and Section #8 for recommendations on personal protective equipment.

This product is formulated to be mixed with another component (OlyBond Canisters Part 1) that, if handled improperly, may cause potentially serious health effects such as respiratory irritation, asthma-like symptoms, and/or respiratory sensitization. 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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS Number</u>	<u>Percentage</u>	<u>Impurities</u>
Polypropylene Glycol	25322-69-4	30-40	None known
Trans-1,3,3,3-Tetrafluoroprop-1-ene	29118-24-9	10-15	None known
Dibutyltin dilaylmercaptide	1185-81-5	<0.5	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 or rash occurs or persists, 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:	None of the components of this product are acutely toxic by inhalation. Harmful if swallowed. Eye contact can cause mild irritation. Skin contact can cause mild irritation. May cause allergic skin reaction with itching and hives. Ingestion is unlikely to occur in industrial use, but if ingestion occurs it may cause nausea, vomiting, and gastrointestinal irritation. May damage fertility or the unborn child.

5. FIREFIGHTING MEASURES

Extinguishing Media:	Water spray, carbon dioxide, dry chemical or chemical foam. DO NOT use water jet.
Fire and Explosion Hazards:	The container may burst if exposed to elevated temperatures, spilling the contents. This product may ignite if exposed to sources of ignition at temperatures above its flash point. If present in a fire or explosion, potential thermal decomposition byproducts include carbon monoxide, hydrogen fluoride, carbonyl halides, smoke, and irritant decomposition byproducts.

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, vermiculite, or calcium silicate hydrate. When absorbed, transfer to an impervious container.

Personal Precautions: Avoid contact with skin, eyes, and mucous membranes. Wear appropriate personal protective equipment (see Section #8) during cleanup and decontamination.

Environmental Precautions: Prevent spills from entering sewers or contaminating soil.

7. HANDLING 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: Store containers tightly sealed in a dry, well-ventilated, area away from 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

Exposure Limits

Ingredient	OSHA PEL	ACGIH TLV	Other
Polypropylene Glycol	None	None	
Trans-1,3,3,3-Tetrafluoroprop-1-ene	None	None	800 ppm (manufacturer recommended)
Dibutyltin dilaylmercaptide	0.1 mtg/m ³ TWA (as Sn)	0.1 mg/m ³ TWA (as Sn) 0.2 mg/m ³ STEL (as Sn)	

Ingredients

Ingredient

Biological Limit(s)

Biological Limits:	Polypropylene Glycol	No ACGIH BEIs or other biological limits
	Trans-1,3,3,3-Tetrafluoroprop-1-ene	No ACGIH BEIs or other biological limits
	Dibutyltin dilaylmercaptide	No ACGIH BEIs or other biological limits
Engineering Controls:	Use appropriate ventilation (dilution or local exhaust) whenever this product is used in conjunction with OlyBond Canisters, Part 1 in conditions where natural ventilation is restricted.	
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.	
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 this product include butyl rubber, nitrile rubber, and polyvinyl alcohol.	
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. 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: red viscous liquid	Lower Explosive Limit: not determined
Odor: mildly sweet	Upper Explosive Limit: not determined
Odor threshold: not determined	Vapor pressure: >200 psi
pH: not determined	Vapor density: not determined
Melting point: not determined	Evaporation Rate: not determined
Freezing point: not determined	VOCs: <25 grams/liter (when combined)
Boiling point: not determined	Relative density (H ₂ O): approx. 1.03
Boiling range: not applicable	Solubility (H ₂ O): partial
Flash Point: >120°C / 248 °F (liquid portion)	Oil-water partition coefficient: not determined
Autoignition Point: not determined	Decomposition temperature: not determined
Flammability Class: not applicable	Viscosity: not determined

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	Polymerizes with isocyanate-containing substances
Hazardous Polymerization:	Will not occur
Risk of Dangerous Reactions:	None reasonably foreseeable
Incompatible Materials:	Oxidizing agents
Potential Decomposition Byproducts:	Carbon monoxide, carbon dioxide, hydrogen fluoride, carbonyl halides, smoke, and irritant decomposition byproducts

11. TOXICOLOGICAL INFORMATION

<u>Ingredients Toxicology Data</u>	<u>LD₅₀ Oral</u>	<u>LD₅₀ Dermal</u>	<u>LC₅₀</u>
Polypropylene Glycol	500-2000 mg/kg (rat)	>10,000 mg/kg (rabbit)	No data available
Trans-1,3,3,3-Tetrafluoroprop-1-ene	No data available	No data available	>207000 ppm/4h (rat)
Dibutyltin dilaylmercaptide	>2000 mg/kg	1000-2000 mg/kg	No data available

Primary Route(s) of Entry: Inhalation; ingestion

Eye Hazards:	This product may cause mild eye irritation.
Skin Hazards:	This product may cause mild skin irritation. Irritation may be more pronounced on abraded skin. May cause an allergic skin reaction with itching and hives.
Ingestion Hazards:	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 may cause respiratory irritation.
Delayed Effects from Long Term Overexposure:	None known.
Carcinogenicity:	No ingredients are classified as potential or confirmed human carcinogens by OSHA, NTP, or IARC.
Germ Cell Mutagenicity:	No ingredients have been determined to be germ cell mutagens.
Reproductive Toxicity:	Dibutyltin dilaylmercaptide may damage fertility or the unborn child.
Acute Toxicity Estimates:	LD ₅₀ (oral): 1124 mg/kg LD ₅₀ (dermal): >10,000 mg/kg LC ₅₀ : no data available
Interactive Effects of Components:	No data available

12. ECOLOGICAL INFORMATION

Polypropylene Glycol	Aquatic Toxicity to Fish: LC ₅₀ = >100 mg/l. for 96 h. (bluegill sunfish) Aquatic Toxicity to Invertebrates: EC ₅₀ = >100 mg/l. for 48 h. (daphnia) Not readily biodegradable
Trans-1,3,3,3-Tetrafluoroprop-1-ene	Aquatic Toxicity to Fish: LC ₅₀ >117 mg/l. for 96 h. (carp) Aquatic Toxicity to Invertebrates: EC ₅₀ >160 mg/l. for 48 h. (daphnia) Aquatic Toxicity to Plants: EC ₅₀ >170 mg/l. for 72 h. (algae) Not readily biodegradable. No bioaccumulation is expected. No data available for Aquatic Toxicity to Microorganisms, Toxicity to Terrestrial

Organisms, 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

Proper Shipping Name: Chemical Under Pressure, n.o.s.

(trans-1,3,3,3-Tetrafluoroprop-1-ene, Nitrogen)

Identification Number: UN3500

Hazard Class: 2.2

Packing Group: not applicable

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA Information: All ingredients of this product are listed in the TSCA Registry.

SARA Hazard
Classes: Refer to Section 2 for the OSHA Hazard Classification

EPCRA Section
313 Notification: This product contains no ingredients in concentrations $\geq 1\%$ ($\geq 0.1\%$ for carcinogens) regulated under Section 313 of the *Emergency Planning and Community Right-To-Know Act* of 1986 or 40 CFR 372.

Canadian Regulatory Information

All ingredients in this product are listed in the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).

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

16. OTHER INFORMATION

Hazardous Materials Information System (HMIS III) Ratings (Legend):	<u>Health</u> 1*	<u>Flammability</u> 1	<u>Physical Hazard</u> 0	<u>PPE</u> See Note
	(slight hazard, "***" indicating potential for chronic effects)	(slight hazard)	(minimal hazard)	

Note regarding PPE: OMG, Inc. 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.

16. OTHER INFORMATION (continued)

National Fire Protection Association (NFPA) Ratings:	<u>Health</u> 1	<u>Flammability</u> 1	<u>Reactivity</u> 0
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