



SAFETY DATA SHEET

SECTION 1- IDENTIFICATION

1.1 Product Identifier

Product Name: GAF 2-Part Roofing Adhesive Part A

1.2 Relevant identified uses of the substance or mixture and uses advised against:

General Use Low pressure polyurethane roof tile adhesive, Side-A Component, for PROFESSIONAL USE ONLY

Company name GAF
1 Campus Drive
Parsippany, NJ 07054 USA
1-800-766-3411

1.3 Emergency telephone numbers:

In the U.S.A CHEMTREC (24 hours) 1-800-424-9300
International CHEMTREC (24 hours) 1-703-527-3887

SECTION 2- HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Classification:

Skin Irritation- Category 2
Skin Sensitization- Category 1
Eye Irritation- Category 2A
Acute Toxicity Inhalation- Category 4
Respiratory Sensitizer- Category 1
Specific Target Organ Toxicity, Single Exposure -Category 2
Specific Target Organ Toxicity (respiratory irritation)- Category 3
Specific Target Organ Toxicity, Repeated Exposure- Category 1

2.2 Label elements

Labeling (Regulation (EC) No 1272/2008)

Hazard Symbols:



Signal Word:

DANGER

Hazard Statements:

H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H332 Harmful if inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 May cause respiratory irritation
H373 May cause damage to organs through prolonged or repeated exposure: respiratory system

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray
P264 Wash hands and other skin areas exposed to material thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P271 Use outdoors or in a well-ventilated area
P272 Contaminated work clothing should not be allowed out of the workplace
P280 Wear protective gloves, protective clothing and eye protection
P285 In case of inadequate ventilation wear respiratory protection

Response:

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical attention

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice.
P337+P313 If eye irritation persists: Get medical attention
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P362 Take off contaminated clothing and wash before reuse.

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3 Hazards not otherwise classified

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3-COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical characterization (preparation):

% by Weight	Ingredient	CAS No.
40-50 *	Polymeric diphenylmethane diisocyanate	9016-87-9
25-45 *	4,4' Diphenylmethane diisocyanate	101-68-8
10-15 *	Fire Retardant	Trade Secret
5-10 *	1,1,1,2- Tetrafluoroethane	811-97-2
1-5 *	Nitrogen	7727-37-9
0.5-5 *	Diphenylmethane-2,4'- Diisocyanate	5873-54-1

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4- FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove person to fresh air. Get medical attention.

Eye: Immediately flush eyes with large amounts of water for at least 15 minutes, holding the eyes open with fingers and occasionally lifting the upper and lower lids. Use lukewarm water if possible. If present and easy to do, remove contact lenses. If irritation persists, get medical attention.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Gently wipe product from skin with a damp cloth and continue rinsing for 15 minutes. Wash clothing before reuse. Call a physician if irritation persists.

Ingestion: If swallowed, rinse mouth. If you feel unwell, get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See section 11.1. Information on toxicological effects

4.3 Notes to the physician

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5- FIRE FIGHTING MEASURES

5.1 Extinguishable media

DO NOT USE WATER. In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

5.2 Special hazards arising from the substance or mixture

Cylinders may explode due to the buildup of pressure when exposed to extreme heat. Overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Hydrogen cyanide, Oxides of Nitrogen.

5.3 Advice for firefighters

Keep upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Use water spray to keep fire-exposed containers cool.

SECTION 6- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

6.2 Environmental precautions

Avoid dispersal of spilled material or run-off and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover spilled material with a large quantity of inert absorbent. Collect material and place into an approved, open-head metal container. Decontaminate the spill and waste area with a neutralization solution. Wait 15 minutes. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Allow container to vent for 72 hours to let carbon dioxide escape. Dispose of waste via a licensed waste disposal contractor in accordance with all applicable federal, state, provincial and local regulations. Ensure adequate ventilation.

Additional spill procedures- neutralization solutions (decontamination):

Use ten parts of solution for each part of the spill.

- (1) An aqueous solution containing 3-8% ammonium hydroxide or concentrated ammonia and 0.2-0.5% liquid detergent
- (2) An aqueous solution containing 5-10% sodium bicarbonate and 0.2-0.5% liquid detergent

6.4 Reference to other sections

For indications about waste treatment, see Section 13

SECTION 7- HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, well-ventilated area and away from incompatible materials (see Section 10.5). Do not store at temperatures above 95°F (35°C) or below 45°F (7.2°C). Do not expose the cylinders to open flame or temperatures above 122°F (50°C); storage at elevated temperatures can cause the container to rupture. Excessive heat can cause premature aging of components resulting in a shorter shelf life. Protect containers from physical abuse. Always store the containers in the upright position.

SECTION 8- EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control Parameters

Ingredient	CAS Number	OSHA-PEL	ACGIH-TLV	Other
4,4' Diphenylmethane diisocyanate	101-68-8	0.2 mg/m ³ ; 0.02 ppm CEIL	0.051 mg/m ³ ; 0.005 ppm (8 hours TWA)	NIOSH - 0.2 mg/m ³ ; 0.02 ppm CEIL 0.051 mg/m ³ ; 0.005 ppm TWA
Polymeric diphenylmethane diisocyanate	9016-87-9	0.2 mg/m ³ ; 0.02 ppm CEIL	0.051 mg/m ³ ; 0.005 ppm (8 hours TWA)	NIOSH - 0.2 mg/m ³ ; 0.02 ppm CEIL 0.051 mg/m ³ ; 0.005 ppm TWA
Free Isocyanates	101-68-8	0.2 mg/m ³ ; 0.02 ppm CEIL	0.051 mg/m ³ ; 0.005 ppm (8 hours TWA)	NIOSH - 0.2 mg/m ³ ; 0.02 ppm CEIL 0.051 mg/m ³ ; 0.005 ppm TWA
1,1,1,2 Tetrafluoroethane	811-97-2			WEEL 1,000 ppm AIHA TWA 4240 mg/ m ³

8.2 Exposure controls:

Engineering Controls: Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

Eye/face Protection: Recommend the use of full face shield and indirect vented goggles.

Hand Protection: Use chemically resistant gloves (i.e. Nitrile gloves). Nitrile/butadiene rubber, butyl rubber, polyethylene, PVC (vinyl), or neoprene gloves are also effective. Glove selection should take into account potential body reactions to certain materials and manufacturer's instructions for use. Break through time of selected gloves must be greater than the intended use period.

Other Protective Equipment: Use clothing that protects against dermal exposure. Appropriate protective clothing varies depending on the potential for exposure. To ensure proper skin protection, wear PPE in such a manner that no skin is exposed.

Respiratory Protection: An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type (s) to reduce inhalation exposure: Half face piece or full face piece supplied-air respirator. For questions about suitability for a specific application, consult with your respirator manufacturer.

Hygiene Measures: An eye wash station or portable eye wash station should be in the area. Wash hands thoroughly after use, before eating, drinking or using the lavatory. Employees/Users should be educated and trained in the safe use and handling of this product.

Medical Surveillance: All employees/end-users who work with isocyanates should undergo a medical evaluation. A history of eczema or respiratory allergies are possible reasons for medical exclusion from working with isocyanates. Users with a prior history of isocyanate sensitization should be excluded from further work with isocyanates. Once a user is diagnosed with being sensitized to isocyanates, no further exposure should be permitted.

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties	
General Physical Form	Light brown liquid. Forms an off-white to yellowish froth when released from the container
Odor	Slightly musty
Odor Threshold	No data available
pH	No data available
Melting Point/Freezing Point	No data available
Initial Boiling Point and Boiling Range	< 0°F
Flash Point	>=200°F
Evaporation Rate	No data available
Flammability	No applicable
Lower Flammability/Explosive Limit	Not available
Upper Flammability/Explosive Limit	Not available
Vapor Pressure	85.7 psi
Vapor Density	>= 3.6 g/cm ³ @ 25°C (AIR= 1)
Density	~ 1.23 g/ml (when used as intended with Part B)
Solubility in water	Insoluble; reacts slowly with water during cure, liberating traces of CO ₂
Partition coefficient: n-octanol/water	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Oxidizing Properties	Not available
VOC Content (calculated minus exempt compounds)	0 g/L calculated SCAQMD rule 443.1 <2 g/L when mixed as intended with Part B; calculated SCAQMD rule 443.1

SECTION 10- STABILITY AND REACTIVITY

10.1 Reactivity

This material may be reactive with certain agents under certain conditions- see the remaining headings in this section.

10.2 Chemical stability

Stable under normal conditions of use and recommended storage conditions. See Section 7 for storage recommendations.

10.3 Possibility of hazardous reactions

Exposure to elevated temperatures can cause containers to rupture or explode. Avoid moisture, material reacts slowly with water releasing carbon dioxide. Chemicals are under pressure.

10.4 Conditions to avoid

Avoid heat, light and flames.

10.5 Incompatible materials

Water, amines, strong bases, aluminum, alcohols

10.6 Hazardous decomposition products

None known

Refer to section 5.2 for hazardous decomposition products due to combustion.

SECTION 11- TOXICOLOGICAL INFORMATION

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:

Single exposure may cause target organ effects:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Additional Information:

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation- Vapor (4 hr)		No data available; calculated ATE 10 - 20 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Polymeric Diphenylmethane Diisocyanate	Inhalation-Vapor		LC50 estimated to be 10 -20 mg/l
Polymeric Diphenylmethane Diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Polymeric Diphenylmethane Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
Polymeric Diphenylmethane Diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
Fire Retardant	Dermal	Rabbit	LD50 >2,000 mg/kg
Fire Retardant	Inhalation-Dust/Mist (4 hours)	Rat	LC50 estimated to be between 5-12.5 mg/l
Fire Retardant	Ingestion	Rat	LD50 1,101 mg/kg
4,4' -Diphenylmethane Diisocyanate	Inhalation-Vapor		LC50 estimated to be 10 -20 mg/l
4,4' -Diphenylmethane Diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
4,4' -Diphenylmethane Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
4,4' -Diphenylmethane Diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
1,1,1,2-Tetrafluoroethane	Inhalation-Gas (4 hours)	Rat	LC50 > 359,300 ppm
Nitrogen	Dermal		LD50 estimated to be >5,000 mg/kg
Nitrogen	Inhalation- Gas		LC50 estimated to be >50,000 ppm
Nitrogen	Ingestion		LD50 estimated to be >5,000 mg/kg
Diphenylmethane-2,4'-Diisocyanate	Inhalation-Vapor		LC50 estimated to be 10 -20 mg/l
Diphenylmethane-2,4'-Diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Diphenylmethane-2,4'-Diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
Diphenylmethane-2,4'-Diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg

Skin Corrosion/Irritation

Name	Species	Value
Polymeric Diphenylmethane Diisocyanate	official classification	Irritant
4,4' -Diphenylmethane Diisocyanate	official classification	Irritant
1,1,1,2-Tetrafluoroethane	Rabbit	No significant irritation
Diphenylmethane-2,4'-Diisocyanate	official classification	Irritant
Nitrogen	Professional Judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Polymeric Diphenylmethane Diisocyanate	official classification	Severe Irritant
4,4' -Diphenylmethane Diisocyanate	official classification	Severe Irritant
1,1,1,2-Tetrafluoroethane	Rabbit	No significant irritation
Diphenylmethane-2,4'-Diisocyanate	official classification	Severe Irritant
Nitrogen	Professional Judgement	No significant irritation

Skin Sensitization

Name	Species	Value
Polymeric Diphenylmethane Diisocyanate	official classification	Sensitizing
4,4' -Diphenylmethane Diisocyanate	official classification	Sensitizing
Diphenylmethane-2,4'-Diisocyanate	official classification	Sensitizing

Respiratory Sensitization

Name	Species	Value
Polymeric Diphenylmethane Diisocyanate	Human	Sensitizing
4,4' -Diphenylmethane Diisocyanate	Human	Sensitizing
Diphenylmethane-2,4'-Diisocyanate	Human	Sensitizing

Germ Cell Mutagenicity

Name	Species	Value
Polymeric Diphenylmethane Diisocyanate	In Vitro	Some positive data exists, but the data are not sufficient for classification
4,4' -Diphenylmethane Diisocyanate	In Vitro	Some positive data exists, but the data are not sufficient for classification Severe Irritant
Diphenylmethane-2,4'-Diisocyanate	In Vitro	Some positive data exists, but the data are not sufficient for classification Severe Irritant

Carcinogenicity

Name	Route	Species	Value
Polymeric Diphenylmethane Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification
4,4' -Diphenylmethane Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification Severe Irritant
Diphenylmethane-2,4'-Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification Severe Irritant

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Species	Value	Test Result	Exposure Duration
Polymeric Diphenylmethane Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification	NOAEL 0.004 mg/l	During Organogenesis
4,4' -Diphenylmethane Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification Severe Irritant	NOAEL 0.004 mg/l	During Organogenesis
Diphenylmethane-2,4'-Diisocyanate	Inhalation	Rat	Some positive data exists, but the data are not sufficient for classification Severe Irritant	NOAEL 0.004 mg/l	During Organogenesis
Fire Retardant	Ingestion	Rat	Some positive data exists, but the data are not sufficient for classification Severe Irritant	LOAEL 99 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity- single exposure

Name	Route	Target Organ	Species	Value	Test Result	Exposure Duration
Polymeric Diphenylmethane Diisocyanate	Inhalation	Respiratory Irritation	Official classification	May cause respiratory irritation	NOAEL Not available	
4,4' -Diphenylmethane Diisocyanate	Inhalation	Respiratory Irritation	Official classification	May cause respiratory irritation	NOAEL Not available	
Diphenylmethane-2,4'-Diisocyanate	Inhalation	Respiratory Irritation	Official classification	May cause respiratory irritation	NOAEL Not available	
Fire Retardant	Inhalation	Nervous System	Rat	Some positive data exists, but the data are not sufficient for classification	NOAEL Not available	4 hours
Fire Retardant	Ingestion	Nervous System	Rat	Some positive data exists, but the data are not sufficient for classification	NOAEL Not available	
1,1,1,2-Tetrafluoroethane	Inhalation	Cardiac sensitization	Dog		NOAEL 40,000 ppm	5 minutes

Specific Target Organ Toxicity- repeated exposure

Name	Route	Target Organ	Species	Value	Test Result	Exposure Duration
Polymeric Diphenylmethane Diisocyanate	Inhalation	Respiratory system	Rat	Causes damage to organs through prolonged or repeated exposure	LOAEL	13 weeks
4,4' - Diphenylmethane Diisocyanate	Inhalation	Respiratory system	Rat	Causes damage to organs through prolonged or repeated exposure	LOAEL	13 weeks
Diphenylmethane-2,4'-Diisocyanate	Inhalation	Respiratory system	Rat	May cause respiratory irritation	LOAEL	13 weeks

Aspiration Hazard

For the compound/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12- ECOLOGICAL INFORMATION**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 13- DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods****DISPOSAL PROCEDURES:**

- 1) Do not puncture or incinerate cylinder tanks while under pressure.
- 2) After cylinders are empty, they must be vented.

CAUTION: Tanks will still be under pressure. Eye protection and impervious gloves MUST be worn during the procedure. With tank valve in opposite position of use, slowly open the tank valve, point tank AWAY from face and allow excess chemical to drain into a lined trash can and pressure to completely vent.

CAUTION: Empty tank could contain potential vapor toxicity hazard. Provide adequate ventilation or respiratory protection (consult SDS).

- 3) Once cylinder is empty and vented, carefully puncture the friable disc on the top of the cylinder.

4) DISPOSE OF EMPTY CYLINDERS AND EXCESS CHEMICAL ACCORDING TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

EPA Hazardous Water Number (RCRA): Not Regulated

SECTION 14- TRANSPORTATION

Note: Transportation information is for reference only. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

	Containers Greater Than 1000 cu. cm. (1 liter)
Ground	UN3500 Chemical Under Pressure n.o.s. (1,1,1,2 Tetrafluoroethane, Nitrogen) 2.2 (Non-Flammable Gas Label)
Air	UN3500 Chemical Under Pressure n.o.s. (1,1,1,2 Tetrafluoroethane, Nitrogen) 2.2 (Non-Flammable Gas Label) Packing Instruction (Cargo & Passenger) 218
Water	UN3500 Chemical Under Pressure n.o.s. (1,1,1,2 Tetrafluoroethane, Nitrogen) 2.2 (Non-Flammable Gas Label)

SECTION 15- REGULATORY

15.1 Safety, health, and environmental regulations/legislations specific for the substance or mixture

U.S. Federal Regulations:

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories:

Fire Hazard- No Pressure Hazard-Yes Reactivity Hazard- Yes Immediate Hazard- Yes Delayed Hazard- Yes

SARA 313 Information: MDI and PMDI are subject to reporting levels established by Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: No components of the product exceed the threshold (de minimis) reporting levels established by these sections of the Title III of SARA.

SARA 302/304 Emergency Planning & Notification: No components of the product exceed the threshold (de minimis) report levels established by these sections of the Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following CERCLA reportable substances: 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8), RQ- 2,268 kg (5,000 lbs).

Clean Air Act (CAA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b). This product does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act (CWA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Substance under the CWA. None of the chemicals in these products are listed as Priority Pollutants under the CWA. None of the chemicals listed in these products are listed as Toxic Pollutants under the CWA.

U.S. State Regulations:

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains trace amount of substances known to the State of California to cause cancer or other reproductive harm.

Other U.S. State Inventories:

4, 4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NJ, PA, WA, WI

Polymeric MDI (CAS #9016-87-9) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, NJ, MN

1,1,1,2- Tetrafluoroethane (CAS #811-97-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: ME, WI

15.2 Chemical safety assessment: For this product a chemical safety assessment was not carried out

SECTION 16- OTHER

NFPA: Health Hazard 2; Flammability 1; Reactivity 1

Hazard Rating: 0=minimal, 1= slight, 2=moderate, 3=severe, 4= extreme

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.

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Revision-May 20, 2016 (Date of Preparation) Version 2.0

Issue date	05-15-2016
Version #	1
NFPA ratings	Health: 2 Flammability: 1 Physical hazard: 1

Disclaimer

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, **no representation, warranty or**

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Revision Information

NA