

## SECTION 1 PRODUCT NAME AND COMPANY IDENTIFICATION

**Product Name:** PolyPUF Part A

**Recommended Use:** Construction material

**Restriction on Use:** None

**Manufacturer:**

Polyglass U.S.A. Inc.  
 1111 West Newport Center Drive  
 Deerfield Beach, Florida 33442  
 866-222-9782

SDS Date of Preparation: 4/28/17

Emergency Contact: (800) 424-9300 CHEMTREC (USA)

## SECTION 2: HAZARDS IDENTIFICATION

**Hazard Classification:**

Physical	Health
Not Hazardous	Acute Toxicity Category 4 (Inhalation) Skin Irritation Category 2 Eye Irritation Category 2B Skin Sensitizer Category 1B Respiratory Sensitization Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (respiratory irritation) Specific Target Organ Toxicity Repeated Exposure Category 2

Label Elements:

**DANGER!**



Harmful if inhaled.  
 Causes skin irritation.  
 May cause an allergic skin reaction.  
 Causes eye irritation.  
 May cause respiratory irritation.  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 May cause damage to mucous membranes of the nasal cavity and lungs through prolonged or repeated exposure by inhalation.

**Prevention**

Do not breathe mist, vapors or spray  
 Wash thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves and eye protection.  
 In case of inadequate ventilation wear respiratory protection.

**Response**

IF ON SKIN: Wash with plenty of soap and water.  
 If skin irritation or rash occurs: Get medical attention.  
 Take off contaminated clothing and wash it before reuse.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.



# Safety Data Sheet

**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 attention.

**Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

**Disposal:**

Dispose of contents and container in accordance with local and national regulations.

**Supplement Labeling:** This product contains isocyanates. Inhalation of isocyanate mists or vapors may cause respiratory irritation, breathlessness, chest discomfort and reduced pulmonary function. Overexposure well above the PEL may result in bronchitis, bronchial spasms and pulmonary edema. Long-term exposure to isocyanates has been reported to cause lung damage, including reduced lung function which may be permanent. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

<u>INGREDIENTS</u>	<u>CAS#.</u>	<u>WT.%</u>
Polymethylene polyphenyl isocyanate (P-MDI)	9016-87-9	50-75
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	10-25
Methylenediphenyl diisocyanate	26447-40-5	3-7
1,3-Diazetidine-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl]-	17589-24-1	1-3
Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha -hydro-.omega.-hydroxypoly(oxy-1,2- ethanediyl)	57636-09-6	1-3

**The exact percentage (concentration) of composition is naturally variable or has been withheld as a trade secret.**

**SECTION 4 FIRST AID MEASURERS**

**Eyes:** Immediately flush eyes with water for several minutes while lifting the upper and lower lids. Get medical attention if irritation persists.

**Skin:** Remove contaminated clothing. Wash skin thoroughly with soap and water. If irritation or rash develop, get medical attention. Launder clothing before re-use.

**Inhalation:** Immediately remove to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get immediate medical attention. Asthma-like symptoms may develop immediately or delayed up to several hours.

**Ingestion:** If conscious, rinse mouth with water. Never give anything by mouth to a person who is unconscious or convulsing. Do not induce vomiting. Get medical attention.

**Most important symptoms/effects, acute and delayed:** Irritating to eyes, skin and respiratory system. May cause allergic skin and respiratory reaction. Symptoms include respiratory irritation, breathlessness, and chest discomfort and reduced pulmonary function, bronchitis, bronchial spasms and pulmonary edema. Symptoms may be delayed. Individuals sensitized to isocyanates may have a life-threatening allergic reaction. Prolonged or repeated exposure ay cause damage to the mucous membranes of the nasal cavity and lungs.

**Indication of immediate medical attention and special treatment, if necessary:** If respiratory sensitization occurs, get immediate medical attention. Symptoms may be delayed for several hours after exposure. Respiratory sensitization may be life threatening.

## SECTION 5 FIRE FIGHTING MEASURES

**Extinguishing Media:** Use water spray, foam, carbon dioxide and dry chemical. Cool fire exposed containers with water.

**Special Protective Equipment and Precautions for Fire-fighters:** Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Do not allow run-off from firefighting to enter drains or water courses. Decontaminate equipment and protective clothing before reuse.

**Specific Hazards Arising from the Chemical:** Combustion may generate oxides of carbon and nitrogen, isocyanate vapors and other highly toxic gases.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Wear appropriate protective clothing as described in Section 8. Isolate the area and prevent access. Ventilate the area.

**Methods and Materials for Containment and Cleaning Up:** For small amounts, absorb with a suitable absorbent material (See § 40 CFR, sections 260, 264 and 265 for further information). Shovel into an open container. Cover loosely with lid. Add a decontamination solution made up of 90% water, 8% concentrated ammonia and 2% detergent to the container. Use a 1 to 10 ratio. Allow the container to vent for 48 hours to allow carbon dioxide to escape. Use decontamination solution to decontaminate the spill area. Let the solution to stand for at least 10 minutes.

For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

## SECTION 7 HANDLING and STORAGE

**Precautions for Safe Handling:** Do not breathe vapors or mists. Use only with adequate ventilation. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties are not adequate to prevent overexposure from inhalation. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling.

Provide suitable exhaust ventilation at the processing machines. Avoid aerosol formation.

Empty containers retain product residues can be hazardous. Follow all SDS precautions when handling empty containers.

**Storage:** Store in a dry, well ventilated area. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. If bulging of drum occurs, transfer to well-ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing. Empty containers should be filled with dry, inert gas at atmospheric pressure to avoid reaction with moisture.

## SECTION 8 EXPOSURE CONTROLS and PERSONAL PROTECTION

### Exposure Guidelines:

INGREDIENTS	EXPOSURE LIMITS
Polymethylene polyphenyl isocyanate (P-MDI)	None Established
Diphenylmethane-4,4'-diisocyanate (MDI)	0.005 ppm TWA ACGIH TLV 0.02 ppm Ceiling OSHA PEL
Methylenediphenyl diisocyanate	None Established
1,3-Diazetidione-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl]-	None Established

## Safety Data Sheet

Isocyanic acid, polymethylenepolyphenylene ester, polymer with alpha.-hydro-.omega.-hydroxypoly(oxy-1,2- ethanediyl)

None Established

**Appropriate Engineering Controls:** Use with adequate general or local exhaust ventilation to maintain exposures below the occupational exposure limits.

**Respiratory Protection:** If the exposure limits are exceeded or if exposure levels are unknown, an approved positive pressure air supplied respirator with a full facepiece or air supplied hood should be used. In some situations where exposure levels are known to be below 10 times the exposure limit an air purifying respirator (organic vapor with particulate prefilter) can be used. A change schedule for cartridges is required. Selection and use of respiratory equipment must be in accordance with appropriate regulations and good industrial hygiene practice.

**Gloves:** Wear impervious gloves such as neoprene, nitrile rubber, chlorinated polyethylene, polyvinylchloride or butyl rubber to prevent skin contact.

**Eye Protection:** Chemical safety goggles recommended to prevent eye contact.

**Other Protective Equipment:** Wear protective clothing as need to prevent skin contact. Suitable materials may include, saran-coated materials. Wash contaminated clothing or dispose of properly. A safety shower and eye wash should be available in the immediate work area.

**Medical Surveillance:** Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Preemployment and periodic medical examinations with respiratory function tests are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

### SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

**Appearance And Odor:** Dark amber liquid, faint aromatic odor.

<b>Boiling Point (@ 760 mmHg):</b> 392°F (200°C)	<b>Freezing Point:</b> 37.4°F (3°C)
<b>Odor Threshold:</b> 0.384 (MDI)	<b>Viscosity:</b> Not applicable
<b>Relative density (H2O=1):</b> 1.22	<b>Vapor Pressure:</b> 0.00016 @ 20°C
<b>VOC:</b> Not determined	<b>Vapor Density (AIR=1):</b> Not applicable
<b>Evaporation Rate:</b> Not available	<b>Solubility In Water:</b> Reacts with water
<b>pH:</b> Not applicable	<b>Partition Coefficient n-Octanol/Water:</b> Not determined
<b>Flash Point:</b> 428°F (220°C) (open cup)	<b>Autoignition Temperature:</b> > 482°F (>250°C)
<b>Decomposition Temperature:</b> Not determined	<b>Flammability (solid, gas):</b> Not applicable
<b>Flammable Limits: (vol % in air)</b>	<b>LEL – Not applicable      UEL – Not applicable</b>

### SECTION 10 STABILITY and REACTIVITY

**Reactivity:** Reacts with water to form carbon dioxide.

**Chemical Stability:** Stable under normal storage and handling conditions

**Possibility of Hazardous Reactions:** Reacts with water to produce carbon dioxide and a risk of bursting containers. Reacts with alcohols, acids, alkalies and amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness with subsequent loss in strength

**Conditions to avoid:** Avoid contamination with moisture.

**Incompatible materials:** Avoid water, alcohols, acids, alkalies, amines and substance or products that react with isocyanates.

**Hazardous decomposition products:** Thermal decomposition may produce carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates gases and vapors

### SECTION 11 TOXICOLOGICAL INFORMATION

**Eye** May cause irritation with redness, tearing, stinging and swelling. Diphenylmethane-4,4'-diisocyanate has been shown to cause irritation to rabbit eyes.

**Skin:** Skin contact may cause irritation with redness, itching and swelling. May cause allergic skin reaction. Diphenylmethane-4,4'-diisocyanate has been shown to be irritating to rabbit skin. May cause skin sensitization. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapor-only exposure. Animal tests have indicated that respiratory sensitization can result from skin contact with isocyanates.

**Inhalation:** Inhalation of vapors or mists may cause mucous membrane and respiratory irritation. Diphenylmethane-4,4'-diisocyanate has been shown to cause respiratory sensitization. Symptoms include dryness of the throat, tightness of chest and difficulty in breathing, breathlessness, chest discomfort, reduced pulmonary function, bronchitis, bronchial spasms and pulmonary edema. Symptoms may be delayed for several hours after exposure. This product can produce asthmatic sensitization upon a single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. The allergic respiratory reaction may be life threatening.

**Ingestion:** Swallowing may cause gastrointestinal irritation abdominal pain, nausea, vomiting and diarrhea. .

**Sensitization:** This product may cause skin sensitization.

**Chronic Effects:** Prolonged exposure to Diphenylmethane-4,4'-diisocyanate may cause chronic irritation, decreased lung function and lung damage and conjunctivitis. 4,4'-Diphenylmethane has been shown to cause damage to the olfactory epithelium after repeated inhalation in a repeat dose study in rats.

**Carcinogenicity:** None of the other components are listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

**Reproductive effects:** Diphenylmethane-4,4'-diisocyanate has been shown to cause developmental toxicity only at doses that were maternally toxic.

**Mutagenicity:** Diphenylmethane-4,4'-diisocyanate was negative the in the AMES test (with/without metabolic activation) and in an in vivo micronucleus assay.

### Numerical Measures of Toxicity:

Polymethylene polyphenyl isocyanate (P-MDI): No acute toxicity data available

Diphenylmethane-4,4'-diisocyanate (MDI): Oral rat LD50 >2,000 mg/kg; Inhalation rat LC10 > 2.24 mg/L/1 hr; Dermal rabbit LD50 >9,400 mg/kg.

Methylenediphenyl diisocyanate: No toxicity data available

1,3-Diazetidone-2,4-dione, 1,3-bis[4-[(4- isocyanatophenyl)methyl]phenyl]-: No toxicity data available

Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly(oxy-1,2- ethanediyl): No toxicity data available

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity:

Polymethylene polyphenyl isocyanate (P-MDI): No data available

Diphenylmethane-4,4'-diisocyanate (MDI): 96 hr LC50 *Oryzias latipes* > 3000 mg/L; 48 hr EC50 *daphnia magna* 129.7 mg/L; 72 hr EC50 *Desmodesmus subspicatus* > 1640 mg/L (structurally similar chemical)

Methylenediphenyl diisocyanate: No data available

1,3-Diazetidone-2,4-dione, 1,3-bis[4-[(4- isocyanatophenyl)methyl]phenyl]-: No data available

Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly(oxy-1,2- ethanediyl): No data available

**Persistence and degradability:** The product is poorly biodegradable. In contact with water it will hydrolyze slowly.

**Bioaccumulative potential:** 4,4'-Diphenylmethane diisocyanate has a calculated BCF of 200. Significant accumulation in organisms is not to be expected.

**Mobility in soil:** The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

**Other adverse effects:** There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms. The statement has been derived from substances/products of a similar structure or composition.



## Safety Data Sheet

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose in accordance with all local, state and federal regulations. Incineration is the preferred method

**Container disposal:** Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers

### SECTION 14: TRANSPORT INFORMATION

**Proper Shipping Name:** Not Regulated

**UN Number:** None

**Hazard Class/Packing Group:** None

**Labels Required:** None

**Environmental hazards:** None known

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable

**Special precautions:** None known

### SECTION 15: REGULATORY INFORMATION

**SARA Hazard Category (311/312):** See OSHA Hazard Classification in Section 2

**EPA SARA 313:** This product contains the following chemicals regulated under SARA Title III, section 313:

Polymethylene polyphenyl isocyanate (P-MDI)	9016-87-9	50-75
Diphenylmethane-4,4'-diisocyanate (MDI)	101-68-8	10-25

**CERCLA Hazardous Substances (Section 103)/RQ:** This product has a Reportable Quantity (RQ) of 20,000 lbs. (based on the RQ for Diphenylmethane-4,4'-diisocyanate of 5,000 lbs). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under applicable federal, state and local regulations.

**Toxic Substances Control Act:** All of the components of this product are listed on the TSCA inventory.

**California Proposition 65:** This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity (birth defects): None known

### SECTION 16: OTHER INFORMATION

<b>NFPA Rating:</b>	Health = 2	Fire = 1	Instability = 1
<b>HMIS Rating:</b>	Health = 2*	Fire = 1	Physical Hazard = 1

**SDS Date of Preparation:** 04/28/17

**Revision Summary:** New SDS

#### NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Polyglass U.S.A. Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.



## Safety Data Sheet

This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.