

## 1. Identification

Product Identifier: **PolyFoam R-2 Rigid Casting Foam Part A**  
**PolyFoam R-3.5 Rigid Casting Foam Part A**  
**PolyFoam R-5 Rigid Casting Foam Part A**  
**PolyFoam R-8 Rigid Casting Foam Part A**  
**PolyFoam R-20 Rigid Casting Foam Part A**

Product Code(s): R2A, R3.5A, R5A, R8A, R20A

Use: Component for Polyurethane Casting/Mold Shell Foam. For Industrial/Professional use only.

Manufacturer: Polytek Development Corp.  
 55 Hilton St., Easton, PA 18042

Phone Number: 610-559-8620 (8 a.m. to 6:30 p.m. EST)

Emergency Phone: CHEMTREC 800-424-9300 or  
 +1 (703) 527-3887

E-mail: [sds@polytek.com](mailto:sds@polytek.com)

## 2. Hazards Identification

### GHS Classification:

Acute Inhalation Toxicity Category 4  
 Skin Irritation Category 2  
 Eye Irritation Category 2  
 Respiratory Sensitization Category 1  
 Skin Sensitization Category 1  
 Specific Target Organ Toxicity Single Exposure Category 3  
 Specific Target Organ Toxicity Repeated Exposure Category 2

Label Elements: Danger



### Hazard Phrases

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.  
 H336 May cause drowsiness or dizziness.  
 H373 May cause damage to organs (lungs and respiratory system) through prolonged or repeated exposure.

### Precautionary Phrases

P260 Do not breathe fumes, vapors, mists or sprays.  
 P264 Wash thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves, eye protection, and face protection.  
 P284 In case of inadequate ventilation, wear respiratory protection.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 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.  
 P317 Get medical help.  
 P319 Get medical help if you feel unwell.  
 P333+P317 If skin irritation or rash occurs: Get medical help.  
 P337+P317 If eye irritation persists: Get medical help.  
 P342+P316 If experiencing respiratory symptoms: Get emergency medical help immediately.  
 P362+P364 Take off contaminated clothing and wash before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.  
 P501 Dispose of contents and container in accordance with local, regional and national regulations.

**Supplemental Information:** Individuals sensitized to isocyanates should discontinue use. Long-term overexposure to isocyanates may cause lung damage.

This is one part of a two-part system. Read and understand the hazard information on part B before using.

## 3. Composition/Information on Ingredients

Chemical Name	CAS #	%
Polymeric methylenediphenyl diisocyanate (MDI)	9016-87-9	85-100

## 4. First-Aid Measures

**Eye Contact:** Rinse thoroughly with water for at least 15 minutes, holding the eyelids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

**Skin Contact:** Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation develops or persists. Launder clothing before re-use. Discard items that cannot be decontaminated.

**Inhalation:** Remove person to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Ingestion:** Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if you feel unwell.

**Most Important Symptoms/Effects:** Causes skin and eye irritation. Vapors or mists may cause respiratory irritation. May cause allergic skin and/or respiratory reaction in sensitized persons. Symptoms include skin rash, wheezing, shortness of breath and other asthma symptoms. Prolonged inhalation overexposure may damage the lungs and respiratory system.

**Indication of Immediate Medical Attention/Special Treatment:** Immediate medical attention is required for asthmatic symptoms or serious inhalation exposures. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Persons sensitized to isocyanates should consult a physician regarding working with respiratory irritants or sensitizers.

## 5. Fire-Fighting Measures

**Extinguishing Media:** Use water fog, foam, carbon dioxide or dry chemical. Do not use solid water stream. Solid stream of water into hot product may cause violent steam generation or eruption.

**Specific Hazards:** Not classified as flammable or combustible. Product will burn under fire conditions.

**Special Protective Equipment & Precautions for Fire-Fighters:** Wear positive pressure, self-contained breathing apparatus and full-body protective clothing. Cool fire-exposed containers with water.

## 6. Accidental Release Measures

### Personal Precautions, Protective Equipment and Emergency

**Procedures:** Remove all ignition sources. Clear non-emergency personnel from the area. Wear appropriate protective clothing to prevent eye and skin contact and avoid breathing vapors. Ventilate area. Caution – spill area may be slippery.

**Methods and Materials for Containment and Cleanup:** Cover with an inert absorbent material and collect into an appropriate container for disposal. Do not seal the container since carbon dioxide is generated on contact with moisture and dangerous pressure buildup can occur.

Decontaminate floor area with a mixture of water plus isopropyl alcohol (20%), household ammonia (10%), and detergent (2%).

## 7. Handling and Storage

**Safe Handling:** Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep container closed when not in use.

**Safe Storage:** Store indoors at temperatures between 60°F and 95°F. Store in original, unopened containers. Protect from atmospheric moisture and water since MDI reacts with water to form carbon dioxide leading to potentially dangerous pressure build up in sealed containers.

## 8. Exposure Controls/Personal Protection

### Occupational Exposure Limits:

Chemical Name	Exposure Limits
Methylenediphenyl Diisocyanate (MDI)	0.02 ppm (C) OSHA PEL 0.005 ppm TWA ACGIH TLV

**Ventilation:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Respiratory Protection:** If needed, an approved respirator with organic vapor cartridges may be used. Respirator selection and use should be based on contaminant type, form and concentration. For higher exposures or in an emergency, use a supplied-air respirator.

**Skin Protection:** Wear impervious gloves, such as butyl rubber or nitrile rubber.

**Eye Protection:** Wear chemical safety goggles.

**Other Protective Measures:** Wear impervious clothing to prevent skin contact and contamination of personal clothing. An eye wash facility and washing facility should be available in the work area. Follow applicable regulations and good Industrial Hygiene practice.

## 9. Physical and Chemical Properties

**Appearance:** Brown liquid

**Odor:** Musty

**Odor Threshold:** 0.4 ppm (MDI)

**pH:** Not applicable

**Melting Point:** No data available

**Boiling Point:** No data available

**Flash Point:** >204°C (Literature)

**Evap. Rate:** No data available

**Flamm. Limits:** No data available

**Vapor Pressure:**  $\leq 0.00001$  mm Hg @ 25°C (Literature)

**Vapor Density:** No data available

**Relative Density:** 1.2 @ 25°C

**Solubility:** Insoluble in water

**Partition Coefficient: n-octanol/Water:** Reacts with water

**Auto-Ignition Temp:** No data available

**Decomposition Temp:** No data available

**Viscosity:** 150-200 cps @ 25°C

## 10. Stability and Reactivity

**Reactivity:** Diisocyanates react with many materials and the rate of reaction increases with temperature. Reaction with water generates carbon dioxide and heat.

**Chemical Stability:** Stable under recommended conditions.

**Possibility of Hazardous Reactions:** Elevated temperatures can cause hazardous polymerization. Polymerization can be catalyzed by strong bases or water. Reaction with water generates carbon dioxide, and results in heat and pressure buildup in closed systems.

**Conditions to Avoid:** Avoid moisture and temperatures below 60°F and above 95°F to protect product integrity and prevent pressure build up in closed containers.

**Incompatible Materials:** Avoid contact with water, acids, bases, alcohols, strong oxidizers, and some metals (e.g., aluminum, zinc, brass, tin copper).

**Hazardous Decomposition Products:** Possibly isocyanate vapor, carbon monoxide, nitrogen oxides, and traces of hydrogen cyanide. Gases are released during decomposition.

## 11. Toxicological Information

**Eye Contact:** Causes serious eye irritation.

**Skin Contact:** Causes skin irritation. May cause an allergic skin reaction.

**Inhalation:** At room temperature, vapors are minimal due to low volatility. Vapors or aerosols (e.g., generated during heating or spraying) may cause respiratory irritation and possibly pulmonary edema. May cause respiratory sensitization. For individuals sensitized to isocyanates, exposure may result in allergic respiratory reactions (e.g., coughing, wheezing, difficulty breathing).

**Ingestion:** No data available.

**Chronic Health Effects:** Repeated or prolonged exposure to isocyanates above exposure limits may cause an allergic sensitization of the respiratory tract causing an asthma-like response upon re-exposure. Repeated overexposure to isocyanates has been associated with decreased lung function. Repeated or prolonged dermal contact with this product may cause allergic skin sensitization in some individuals.

**Acute Toxicity Values:** For MDI (CAS 9016-87-9):

Oral LD<sub>50</sub> (rat): >10,000 mg/kg

Dermal LD<sub>50</sub> (rabbit): >2,000 mg/kg

Inhalation LC<sub>50</sub> (rat): 0.49 mg/L/4 hr (aerosol)

**Germ Cell Mutagenicity:** Components are not classified as mutagens.

**Carcinogenicity:** Components are not classified as carcinogens.

**Reproductive Toxicity:** Components are not classified as reproductive toxins.

**Specific Target Organ Toxicity:** Causes respiratory irritation, drowsiness or dizziness from prolonged or repeated exposure.

## 12. Ecological Information

**Ecotoxicity:** No data available. Avoid release to the environment.

**Persistence and Degradability:** Diisocyanates are not readily biodegradable.

**Bioaccumulative Potential:** Diisocyanates are not expected to bioaccumulate.

**Mobility in Soil:** In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

## 13. Disposal Considerations

Dispose according to local, state and federal regulations. Upon exposure to moisture, product forms an inert, non-hazardous solid.

## 14. Transport Information

Not regulated for transport in any mode.

EMERGENCY SHIPPING: CHEMTREC, 800-424-9300 or +1-703-527-3887

## 15. Regulatory Information

### U.S. FEDERAL REGULATIONS:

**CERCLA 103 Reportable Quantity:** Not subject to reporting under CERCLA. Some states have more stringent reporting requirements.

Report all spills in accordance with local, state, and federal regulations.

### SARA TITLE III

**Section 311/312:** Acute Health, Chronic Health

**Section 313 Toxic Chemicals:** Contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Diisocyanates Category (N120) 85-100%

**Section 302 Extremely Hazardous Substances (TPQ):** None

**EPA Toxic Substances Control Act (TSCA) Status:** All of the chemical substances in this product are listed on TSCA.

**STATE REGULATIONS:**

**California Proposition 65:** These products do NOT contain substances known to the State of California to cause cancer and/or reproductive harm.

## 16. Other Information

**Training Advice:** All personnel using/handling this product should be trained in proper chemical handling and the need for and use of engineering controls and protective equipment.

**Recommended Uses and Restrictions:** This product is intended for industrial or professional use only.

**SDS Revision Notes:** Added product/updated GHS Precautionary statements, New GHS Classification and format. Combined PolyFoam Rigid and Flexible Part As onto one SDS (excepte f-5A is on a separate SDS): July 13, 2018; Review: August 1, 2018; Added Product: August 14, 2018; Reviewed and updated: December 8, 2021

**Disclaimer:** The information contained herein is considered accurate; however, Polytek® Development Corp. makes no warranty regarding the accuracy of the information. The user must determine the suitability of the product for the intended use and accepts all risk and liability associated with that use.