

## Material Safety Data Sheets

Alumilite Corporation  
315 E. North St.  
Kalamazoo, MI 49007  
269 488-4000

Emergency Telephone: Chemtrec 1-800-424-9300

### Section 1 – Product Information

Alumilite RC-3 “A” side

**Common Chemical Name:** Blend of Polyols

**Synonyms:** N/A

**Chemical Family:** Polyol

**Molecular Weight:** Not Established

### Section 2 - Ingredients

Chemical:	CAS	Amount
Polyglycol	Proprietary	< 65%
This product is not considered to be hazardous according to OSHA Hazard Communication Standard and contains no chemical subject to Sara title III Section 313 supplier notification requirements.		
Propoxylated Amine	102-60-3	< 42%
Contains no chemical subject to Sara title III Section 313 supplier notification requirements		
Aromatic Hydrocarbon	108-88-3	< 8%

All products are not listed as Carcinogen in NTP, IARC, or OSHA 1910(z)

### Section 3- Hazardous Identification

<b>Color:</b>	Colorless
<b>Form/Appearance:</b>	Liquid
<b>Odor:</b>	Polyol
<b>Odor Intensity:</b>	Mild

#### Nature of Hazard

**Emergency Overview:** Danger! Harmful or fatal if swallowed. Pulmonary aspiration hazard. Product may enter lungs and cause damage. Harmful if mist inhaled. High vapor concentrations may cause drowsiness. May cause skin and eye irritation.

**Eye Contact:** May cause irritation.

**Skin Contact:** Frequent or prolonged contact may irritate and cause dermatitis. Occasional brief contact with the liquid will not result in significant irritation. Skin contact may aggravate an existing dermatitis condition.

**Inhalation:** High vapor or aerosol concentrations are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, central nervous system defects, brain damage, and possibly death.

**Ingestion:** Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.

### Section 4 – First Aid

**Eye:** Flush with large amounts of clean water for 15 minutes. If irritation persists, get medical attention.

**Skin:** Wash with soap and water. Get medical attention if irritation develops or persists. Wash clothing before reuse.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.  
**Ingestion:** Do not induce vomiting! Do not give liquids! Get medical attention immediately.

### Section 5 – Fire Fighting Measures

---

**Extinguishing Media:** Water spray, foam, carbon dioxide, or dry chemical  
**Fire Fighting Instructions:** Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Use water spray to cool fire exposed surfaces and to protect personnel. Wear structural fire fighting gear.  
**Flash Point:** Not Available  
**Autoignition Temp:** <1000 degrees F

### Section 6 – Accidental Release Measures

---

**General:** Spills should be contained, solidified, and placed in suitable containers for disposal at a licensed facility.  
**Waste Disposal:** Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

### Section 7 – Handling and Storage

---

**General:** Avoid breathing mist or vapors and repeated or prolonged exposure with skin. Avoid eye contact. Do not drink.  
**Storage:** Store and use in well ventilated area between 70-80F. Avoid excessive temperatures, low or high. Avoid moisture.

### Section 8 – Exposure Controls & Personal Protection

---

**Clothing:** Gloves, coveralls, apron, boots as necessary to prevent skin contact.  
**Eyes:** Chemical goggles; also wear face shield if splashing hazard exists.  
**Respiration:** Approved organic vapor mist respirator as necessary.  
**Ventilation:** Use local exhaust to control vapors/mists.

### Section 9 – Physical & Chemical Properties

---

**Color:** Colorless to light yellow  
**Form:** Liquid  
**Odor:** Polyol  
**Odor Intensity:** Mild  
**Specific Gravity:** 1.05  
**Boiling Pt:** Not Available  
**Freezing Pt:** Not Available  
**Solubility:** Partial

### Section 10 – Stability & Reactivity

---

**Stability:** Stable  
**Conditions to Avoid:** Exposure to moisture and temperatures above 130F  
**Incompatibility:** Moisture and strong oxidizers  
**Hazardous Decomposition:** CO and CO<sub>2</sub>

### Section 11 – Toxicological Information

---

No applicable data for this section.

### Section 12 – Ecological Information

---

No applicable data for this section.

### Section 13 – Disposal Information

**Waste Disposal:** Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

**Container Disposal:** Steel drums must be emptied (as defined by RCRA, Section 261.7 or state regulations that may be more stringent) and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer, or an approved landfill. Drums destined for a scrap dealer or landfill must be punctured or crushed to prevent reuse.

### Section 14 - Transportation Information

Not regulated by the Department of Transportation

### Section 15 - Regulatory Information

**CERCLA:** No

**SARA Title III, Section 313:** Not Listed

**State Regulatory Information:** (by component)

NJ/PA/MA

CAS: 102-60-3

Yes

Name: Quadrol Polyol

**Hazardous Rating:** Health 2      Fire 1      Reactivity 1

### Section 16 - Other Information

No Data Available.

.....

To the best of our knowledge, the information contained herein is accurate. However Alumilite does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be handled with care. Although we have described herein all of the hazards to which we are currently aware, we cannot guarantee that these are the only hazards which exist. While the descriptions, designs, data, and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Further, you expressly understand and agree that the descriptions, designs, data, and information furnished by Alumilite hereunder are given gratis and Alumilite assumes no obligation or liability for the description, designs, data, and information given or results obtained, all such being given and accepted at your risk.

.....

Updated: 7-5-06

## Material Safety Data Sheets

Alumilite Corporation  
315 E. North St.  
Kalamazoo, MI 49007  
269 488-4000

Emergency Telephone: Chemtrec 1-800-424-9300

### Section 1 – Product Information

Alumilite RC-3 “B” side

**Common Chemical Name:** Aromatic Isocyanate

**Synonyms:** MDI

**Chemical Family:** Aromatic Isocyanate

**Molecular Weight:** N/A

### Section 2 - Ingredients

Chemical:	CAS	Amount
4,4' Diphenylmethane Diisocyanate MDI	Proprietary	< 70%

All products are not listed as Carcinogen in NTP, IARC, or OSHA 1910(z)

### Section 3- Hazardous Identification

<b>Color:</b>	Translucent Brown
<b>Form/Appearance:</b>	Liquid
<b>Odor:</b>	Slightly Aromatic
<b>Odor Intensity:</b>	Mild

#### Nature of Hazard

**Emergency Overview:** May cause skin, eye, and respiratory tract irritation. Harmful if inhaled; May cause allergic respiratory reaction; May cause lung damage; toxic gases/fumes are given off during burning or thermal decomposition.

**Eye Contact:** May cause irritation.

**Skin Contact:** Frequent or prolonged contact may irritate and cause dermatitis. Occasional brief contact with the liquid will not result in significant irritation. Skin contact may aggravate an existing dermatitis condition.

**Acute Inhalation:** MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing running nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function.

**Chronic Inhalation:** As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath, or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized and individual can experience these symptoms upon exposure to dust, cold air, or other irritants. Sensitization can be temporary or permanent.

**Ingestion:** Single dose oral toxicity is considered to be low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

Neither MDI nor polymeric MDI are listed by the NTP, IARC or regulated by OSHA as carcinogens.

### Section 4 – First Aid

**Eye:** Holding eyelids open, flush with large amounts of clean water for 15 minutes. If irritation persists, get medical attention.  
**Skin:** Wash with soap and water. Get medical attention if irritation develops or persists. Wash clothing before reuse.  
**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.  
**Ingestion:** Do not induce vomiting! Do not give liquids! Get medical attention immediately.

**Notes to Physician:** Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible cornea epithelial edema impairing vision. Skin: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion: Treat symptomatically. MDI has a very low oral toxicity. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

### Section 5 – Fire Fighting Measures

---

**Extinguishing Media:** Water spray, foam, carbon dioxide, or dry chemical  
**Fire Fighting Instructions:** Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Use water spray to cool fire exposed surfaces and to protect personnel. Wear structural fire fighting gear. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 400 F polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers.

**Flash Point:** < 400 F  
**Autoignition Temp:** N/A

### Section 6 – Accidental Release Measures

---

**General:** Spills should be contained, ventilated, solidified, and placed in suitable containers for disposal at a licensed facility.  
**Waste Disposal:** Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

### Section 7 – Handling and Storage

---

**General:** Avoid breathing mist or vapors and repeated or prolonged exposure with skin. Avoid eye contact. Do not drink.  
**Storage:** Store and use in well ventilated area between 70-80F. Avoid excessive temperatures, low or high. Avoid moisture.

### Section 8 – Exposure Controls & Personal Protection

---

**Clothing:** Gloves, coveralls, apron, boots as necessary to prevent skin contact.  
**Eyes:** Chemical goggles; also wear face shield if splashing hazard exists.  
**Respiration:** Approved organic vapor mist respirator as necessary.  
**Ventilation:** Use local exhaust to control vapors/mists.

### Section 9 – Physical & Chemical Properties

---

**Color:** Translucent brown  
**Form:** Liquid  
**Odor:** Aromatic slightly musty odor  
**Odor Intensity:** Mild  
**Specific Gravity:** 1.05  
**Boiling Pt:** Not Available  
**Freezing Pt:** Not Available  
**Solubility:** Partial

## Section 10 – Stability & Reactivity

---

<b>Stability:</b>	Stable
<b>Conditions to Avoid:</b>	Exposure to temperatures above 400F
<b>Incompatibility:</b>	Moisture, amines, strong bases, alcohols.
<b>Hazardous Polymerization:</b>	Temperatures above 400 F and fire.

## Section 11 – Toxicological Information

---

Acute Toxicity:	
Oral:	Greater than 10,000 mg/kg (rat)
Dermal:	Greater than 6,200 mg/kg (rabbit)
Inhalation:	4 hour LC50 for polymeric MDI in rats ranges from 370 to 190 mg/m <sup>3</sup> . The 4 hour LC50 for monomeric MDI in rats was estimated to be between 172 and 187 mg/m <sup>3</sup> .
Eye:	Slight to moderate irritation (rabbit)
Skin:	Slight to moderate irritation (rabbit)
Sensitization:	MDI has been shown to produce dermal sensitization in laboratory animals. Evidence of respiratory sensitization has also been observed in guinea pigs. In addition, there is some evidence suggestive of cross-sensitization between different types of diisocyanates.
Chronic Toxicity:	In a combined chronic inhalation toxicity/oncogenicity study, rats were exposed to an aerosol of polymeric MDI for 6 hours per day, 5 days per week for one or two years. The exposure concentrations were 0, .2, 1, and 6 mg/m <sup>3</sup> . Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1 and 6 mg/m <sup>3</sup> . The No Observable Effect Level (NOEL) was .2 mg/m <sup>3</sup> .

## Section 12 – Ecological Information

---

Aquatic Toxicity:	Greater than 500 mg/liter for Daphnia magna, Limnea Stagnalis, and Zebra fish for both polymeric and monomeric MDI.
-------------------	---

## Section 13 – Disposal Information

---

<b>Waste Disposal:</b>	Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.
<b>Container Disposal:</b>	Steel drums must be emptied (as defined by RCRA, Section 261.7 or state regulations that may be more stringent) and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer, or an approved landfill. Drums destined for a scrap dealer or landfill must be punctured or crushed to prevent reuse. Do not heat or cut empty containers with electric or gas torch. Gases may be highly toxic.

## Section 14 - Transportation Information

---

<b>Technical Shipping Name:</b>	Methylene diphenyl diisocyanate solution
<b>Freight Class Bulk:</b>	Methylene diphenyl diisocyanate solution
<b>Freight Class Package:</b>	Chemicals, NOI (Isocyanate), NMFC 60000
<b>Product Label:</b>	Product Label Establishment
<b>Hazardous Class or Division:</b>	9
<b>UN/NA Number:</b>	NA 3080
<b>Packing Group:</b>	III
<b>Hazardous Substance:</b>	MDI (Methylene diphenyl diisocyanate)
<b>DOT Product RQ lbs:</b>	11,111 lbs
<b>Hazard label:</b>	Class 9
<b>Hazard Placard:</b>	Class 9

\*\*\*\*When in individual containers of less than the product RQ (793 gallons), this material ships as NON-REGULATED\*\*\*

### IMO / IMDG Code (Ocean)

Hazardous Class Division Number: Non Regulated

### ICAO / IATA (Air)

Hazardous Class Division Number: Non Regulated

## Section 15 - Regulatory Information

---

This product is hazardous under the criteria of the Federal OSHA Hazardous Communication Standard 29 CFR 1910.1200

<b>CERCLA:</b>	Reportable Quantity: Over 5,000 lbs
<b>SARA Title III, Section 302:</b>	Not Listed
<b>Section 311/312:</b>	Immediate Health Hazard, Delayed Health Hazard
<b>Section 313:</b>	Polymeric MDI
<b>Hazardous Rating: Health 2</b>	Fire 1                  Reactivity 1

## Section 16 - Other Information

---

No Data Available.

---

To the best of our knowledge, the information contained herein is accurate. However Alumilite does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be handled with care. Although we have described herein all of the hazards to which we are currently aware, we cannot guarantee that these are the only hazards which exist. While the descriptions, designs, data, and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Further, you expressly understand and agree that the descriptions, designs, data, and information furnished by Alumilite hereunder are given gratis and Alumilite assumes no obligation or liability for the description, designs, data, and information given or results obtained, all such being given and accepted at your risk.

---

Updated: 7-5-06