

**Guardian Energy Technologies**  
**2033 Milwaukee Ave #136**  
**Riverwoods IL 60015 USA**  
**1-800-516-0949**

FOR EMERGENCY, CALL CHEMTREC:  
OUTSIDE U.S.A., CALL COLLECT:

1-800-424-9300  
001-(703) 527-3887

DATE OF PREPARATION:  
PREPARED BY:

January 30, 2009  
Mark Munns

## **MATERIAL SAFETY DATA SHEET**

### **SECTION 1 - PRODUCT IDENTIFICATION**

Name of product:

**FOAM IT GREEN Kits 202 and 602 SLOW RISE  
Component A**

### **SECTION 2 - CHEMICAL COMPOSITION**

<u>CHEMICAL</u>	<u>CAS #</u>	<u>CONCENTRATION</u>
Polymethylene polyphenyl isocyanate	9016-87-9	80% to 100%
Containing 4,4 Methylene bisphenylisocyanate (MDI) (Approximately 40% - 50% MDI)	101-68-8	
Tetrafluoroethane (134a)	811-97-2	<15%

### **SECTION 3 - HAZARDS IDENTIFICATION**

**CAUTION!!** CONTENTS UNDER PRESSURE. Reacts slowly with water, releasing carbon dioxide, which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this process.

#### POTENTIAL HEALTH EFFECTS

Eyes: May cause moderate eye irritation. May cause very temporary corneal injury.  
Skin: Prolonged or repeated exposure may cause slight irritation. May cause allergic skin reaction in susceptible individuals. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization. May stain skin. A single prolonged exposure is not likely to result in the material being absorbed in harmful amounts.  
Ingestion: No hazards anticipated from swallowing small amounts.  
Inhalation: At room temperature, there are minimal vapors. Excessive exposure may cause irritation to upper respiratory tract and lungs. May cause respiratory sensitization to susceptible individuals. Symptoms may include coughing, difficult breathing and tightness in the chest. Effects may be delayed.

### **SECTION 4 - FIRST AID PROCEDURES**

In all cases, seek additional medical attention.

#### EYE CONTACT

Flush with clean, low pressure water for 15 minutes while holding eyelids open.

#### SKIN CONTACT

Remove contaminated clothing. Immediately wash skin with soap and warm water.

#### INHALATION

Remove from contaminated area to fresh air. If not breathing, administer artificial respiration or oxygen.

#### INGESTION

In case of excessive ingestion, give large amounts of liquids. DO NOT INDUCE VOMITING

### **SECTION 5 - FIRE FIGHTING MEASURES**

Flash Point

>400°F/>204°C (estimated)

Extinguishing Media

Carbon dioxide, dry chemical, foam, water fog or fine spray.

Special Protective Equipment

Positive pressure self contained breathing apparatus (SCBA) and protective fire fighting clothing.

Hazardous Decomposition Products

During combustion, Carbon Monoxide and Carbon Dioxide, Nitrogen Oxides, Ammonia, Hydrochloric Acid, Hydrofluoric Acid, Chlorine, Fluorine, Phosgene, Phosphorous oxides and trace amounts of Hydrogen Cyanide are given off.

### **SECTION 6 - HANDLING AN ACCIDENTAL RELEASE OR SPILL**

Provide adequate ventilation.

Wear suitable personal protective clothing and equipment.

Contain spill and collect using suitable absorbent material, such as sawdust or vermiculite. Shovel into waste container adding 10%-20% decontaminate solution (90% water, 7% ammonia and 3% liquid detergent). Leave uncovered for 24 hours prior to disposal. Dispose of as ordinary industrial waste in compliance with pertinent regulations.

**SECTION 7 – HANDLING AND STORAGE**

**CAUTION!!** Contents under pressure.  
 Avoid open flames and contact with water.  
 Storage temperature: <120° F (<49° C) ; 75° F (24° C) is ideal  
 Do not puncture or incinerate.

**SECTION 8 - PERSONAL PROTECTION**

**EYE PROTECTION** Wear safety goggles.  
**SKIN PROTECTION** Wear protective clothing and chemical resistant gloves.  
**RESPIRATORY PROTECTION** Use only in well ventilated areas. When atmospheric levels may exceed exposure guideline, use a approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. In situations of insufficient ventilation, or in situations where the potential exists for exceeding the TLV, wear self-contained breathing apparatus.

EXPOSURE GUIDELINES: Methylene bisphenyl isocyanate (MDI): ACGIH TLV is 0.005 ppm TWA and OSHA PEL is 0.02 ppm ceiling.  
 Tetrafluoroethane (HFC-134a): TLV is 1000 ppm

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Vapor Pressure(70°F/21°C)	<25 psi @ 25° C
Vapor Density	Heavier Than Air
Boiling Point	Not Available
Specific Gravity	1.24
VOC Content (lb./gal)	0
Appearance and Color	Dark brown, frothy liquid with mild musty odor

**SECTION 10 - REACTIVITY AND STABILITY**

**STABILITY** Stable under recommended storage conditions  
**REACTIVITY** Reacts with water. Avoid alkalis, acids, alcohol, ammonia, bases, moist air and strong oxidizers. Reaction may be violent at elevated temperatures. Avoid open flames and storage temperatures above 120° F (49°C). DO NOT INCINERATE CYLINDERS.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

Concentration of components (Sec. 2) must be considered to determine effects of this mixture.  
**MDI: LD50 2000mg/kg (rats,); ingestion**

**SECTION 12 – ECOLOGICAL INFORMATION**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50 >100 mg/L)  
 The LC50 in earthworm Eisenia foetida is >1000 mg/kg

**SECTION 13 - DISPOSAL INFORMATION**

Prior to disposal, cylinders must be properly vented. Do not puncture or incinerate cylinders. Once pressure has been relieved, empty cylinders can be disposed of as ordinary industrial waste in compliance with pertinent regulations. Dispose of leftover chemical by following instructions under Section 6 "Handling an accidental release or spill".

**SECTION 14 – TRANSPORTATION INFORMATION**

UN 1956, Compressed Gas n.o.s. (Fluorinated Hydrocarbon, Nitrogen), Class 2.2, PKG GRP N/A

**SECTION 15 - REGULATORY INFORMATION**

SARA 313: Contains: Methylene Bisphenylisocyanate (MDI) CAS Number 101-68-8  
 Polymeric Diphenylmethane Diisocyanate CAS Number 9016-87-9

SARA 311/312 Categories: An immediate health hazard  
 A delayed health hazard

All ingredients are on the TSC Inventory

This product is defined as a "Hazardous Chemical" under OSHA Hazard Communication Standard, 29 CFR 1910.1200

**SECTION 16 – OTHER INFORMATION**

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## MATERIAL SAFETY DATA SHEET

### SECTION 1 - PRODUCT IDENTIFICATION

Name of product:

**FOAM IT GREEN Kits 202 and 602 SLOW RISE  
Component B**

### SECTION 2 - CHEMICAL COMPOSITION

<u>CHEMICAL</u>	<u>CAS #</u>	<u>CONCENTRATION</u>
Amine catalyst	Proprietary	0% - 2%
Oxyethylated aliphatic amine	62476-52-2	0% - 15%
Aromatic phosphates triaryl phosphates, isopropylated	Proprietary	0% - 2%
Triphenyl phosphate	115866	0% - 1%
Tetrafluoroethane (134a)	811-97-2	10% - 20%

<sup>2</sup> Different raw materials sources - proprietary mixture

### SECTION 3 - HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

**CAUTION!!** CONTENTS UNDER PRESSURE

Eyes: May cause slight eye irritation  
Skin: Not likely to cause significant skin irritation.  
Ingestion: Swallowing small amounts not likely to cause injury. Larger amounts may cause injury  
Inhalation: Single exposure is not likely to be hazardous. High concentrations may cause respiratory irritation

### SECTION 4 - FIRST AID PROCEDURES

In all cases, seek additional medical attention.

EYE CONTACT

Flush with clean, low pressure water for 15 minutes while holding eyelids open.

SKIN CONTACT

Remove contaminated clothing. Wash skin with soap and warm water.

INHALATION

Remove from contaminated area to fresh air.

INGESTION

In case of excessive ingestion, give large amounts of liquids. DO NOT INDUCE VOMITING.

### SECTION 5 - FIRE FIGHTING MEASURES

Flash Point >300° F/>149° C (estimated)  
Extinguishing Media Carbon dioxide, dry chemical, foam, water fog or fine spray  
Special Protective Equipment Positive pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing  
Hazardous Decomposition Products During combustion, Carbon Monoxide and Carbon Dioxide, Nitrogen Oxides, Ammonia, Hydrochloric Acid, Hydrofluoric Acid, Chlorine, Fluorine, Phosgene, Phosphorus oxides and trace amounts of Hydrogen Cyanide are given off.

### SECTION 6 - HANDLING AND ACCIDENTAL RELEASE OR SPILL

Provide adequate ventilation.  
Wear suitable personal protective clothing and equipment. Contain spill and collect using a suitable absorbent material such as sawdust or vermiculite. Dispose of as ordinary industrial waste in compliance with pertinent regulations. Wash areas with residue with warm water and soap.

## **SECTION 7 – HANDLING AND STORAGE**

**CAUTION!!** Contents under pressure.  
Keep away from sparks, flame and sources of heat.  
Protect containers from physical abuse. Do not puncture or incinerate.  
Avoid direct sunlight.  
Storage temperature: <120° F (<49°C), 75° F (24° C) is ideal

## **SECTION 8 - PERSONAL PROTECTION**

**EYE PROTECTION** Wear safety goggles.  
**SKIN PROTECTION** Wear protective clothing and chemical resistant gloves  
**RESPIRATORY PROTECTION** Use only in well-ventilated areas. With insufficient ventilation, wear suitable respiratory protection. When used with Component "A", follow recommendation for respiratory protection for Component "A".

## **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Flash Point >300° F/>149° C  
Vapor Pressure (70°F/21°C) 2500 mmHg  
Specific Gravity 1.2  
Appearance and Color Brown to light yellow frothy liquid with mild odor

## **SECTION 10 - REACTIVITY AND STABILITY**

**STABILITY** Stable under normal use and recommended storage conditions  
**REACTIVITY** Avoid open flames, storage temperatures above 120°F/49°C. DO NOT INCINERATE CYLINDERS.

## **SECTION 11 - TOXICOLOGICAL INFORMATION**

Concentration of components (Sec.2) must be considered to determine effects of this mixture.  
**LD50 >3000 mg/kg (rats), skin and ingestion**

## **SECTION 12 – ECOLOGICAL INFORMATION**

None available

## **SECTION 13 - DISPOSAL INFORMATION**

Prior to disposal, cylinders must be properly vented. Do not puncture or incinerate. Once pressure has been relieved, empty cylinders can be disposed of as ordinary industrial waste in compliance with pertinent regulations. Cylinders containing chemical must be emptied prior to disposal, and chemicals should be disposed of by following instructions in Section 6

## **SECTION 14 – TRANSPORTATION INFORMATION**

UN 1956, Compressed Gas n.o.s. (Fluoronated Hydrocarbon, Nitrogen), Class 2.2, PKG GRP N/A

## **SECTION 15- REGULATORY INFORMATION**

SARA 313:  
SARA 311/312 Categories: Immediate health hazard  
Delayed health hazard  
All ingredients are on the TSC Inventory.

This product is defined as a "Hazardous Chemical" under OSHA Hazard Communication Standard, 29 CFR 1910.1200

## **SECTION 16 – OTHER INFORMATION**