



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** AKWASEAL™ UVA  
**Version #** 05  
**Revision date** 24-February-2011  
**Chemical description** Liquid  
**CAS #** Mixture  
**Manufacturer information** CETCO  
Building Materials Group  
2870 Forbs Avenue  
Hoffman Estates, IL 60192 US  
safety.data@amcol.com  
http://www.cetco.com/  
General Information (800) 527-9948  
CHEMTREC® (800) 424-9300

## 2. Hazards Identification

**Emergency overview** Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact. Prolonged or repeated exposure increases the risk.

**Potential health effects**

**Routes of exposure** Inhalation. Skin contact.

**Eyes** Irritating to eyes. Symptoms include itching, burning, redness and tearing.

**Skin** Substance causes moderate skin irritation. May cause sensitization by skin contact.

**Inhalation** May cause irritation of respiratory tract. May cause sensitization by inhalation.

**Ingestion** Irritating to mouth, throat, and stomach. Ingestion of this product may cause nausea, vomiting and diarrhea.

**Signs and symptoms** Cough. Discomfort in the chest. Shortness of breath.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI)	101-68-8	20 - 40
1,1'-Methylenebis (isocyanato-) benzene	26447-40-5	10 - 20
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	9016-87-9	10 - 20

**Composition comments** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## 4. First Aid Measures

### First aid procedures

**Eye contact** Immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if irritation develops or persists.

**Skin contact** Wash off immediately with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops or persists.

**Inhalation** Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention immediately.

**Ingestion** If material is ingested, immediately contact a physician or poison control center. Do not induce vomiting without medical advice. If swallowed, rinse mouth with water (only if the person is conscious).

**Notes to physician** Symptoms may be delayed. Keep under medical supervision for at least 48 hours. Provide general supportive measures and treat symptomatically.

**General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

<b>Flammable properties</b>	Containers may explode when heated.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Carbon dioxide (CO <sub>2</sub> ). Alcohol foam. Water spray. Dry chemical. Foam.
<b>Protection of firefighters</b>	
<b>Protective equipment and precautions for firefighters</b>	Move containers from fire area if you can do it without risk. Do not scatter spilled material with high pressure water streams. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. ALWAYS stay away from tanks engulfed in flame. Cool containers with flooding quantities of water until well after fire is out.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do it without risk. Do not scatter spilled material with high pressure water streams. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. ALWAYS stay away from tanks engulfed in flame. Cool containers with flooding quantities of water until well after fire is out.
<b>Specific methods</b>	In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental Release Measures

<b>Personal precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for containment</b>	Stop leak if you can do so without risk. Dike the spilled material, where this is possible.
<b>Methods for cleaning up</b>	Dike far ahead of liquid spill for later disposal. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After removal flush contaminated area thoroughly with water. Ventilate the contaminated area.

## 7. Handling and Storage

<b>Handling</b>	Wash hands after handling and before eating. When using do not eat or drink. Avoid contact with skin and eyes. Do not get this material in your eyes, on your skin, or on your clothing. Do not handle or store near an open flame, heat or other sources of ignition.
<b>Storage</b>	Keep locked-up. Keep out of the reach of children. Keep this material away from food, drink and animal feed. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Keep away from heat, sparks, and flame.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### ACGIH

##### Components

	Type	Value
METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (101-68-8)	TWA	0.0050 ppm

#### U.S. - OSHA

##### Components

	Type	Value
METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (101-68-8)	Ceiling	0.0200 ppm
		0.2000 mg/m <sup>3</sup>

<b>Engineering controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If these are not sufficient to maintain concentrations of particulates and solvent vapor below the OEL, suitable respiratory protection must be worn.
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### Personal protective equipment

#### Eye / face protection

Wear safety glasses with side shields (or goggles) and a face shield.

#### Skin protection

Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Use of butyl rubber or nitrile gloves is recommended

#### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

#### General hygiene considerations

Keep away from food and drink. When using do not smoke. Use good industrial hygiene practices in handling this material. Eye wash fountain and emergency showers are recommended.

## 9. Physical & Chemical Properties

<b>Appearance</b>	Not available.
<b>Color</b>	Clear to light yellow.
<b>Odor</b>	Slightly. Musty.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Not available.
<b>Form</b>	Liquid.
<b>pH</b>	Not available.
<b>Melting point/Freezing point</b>	Not available.
<b>Boiling point</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Specific gravity</b>	Not available.
<b>Relative density</b>	0.3994 lb/cu ft estimated
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>VOC</b>	Not available.
<b>Viscosity</b>	300 - 500 cps

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions. No hazards to be especially mentioned.
<b>Conditions to avoid</b>	Direct sources of heat. Keep away from water.
<b>Incompatible materials</b>	This product may react with strong oxidizing agents. Reaction with water may generate much heat which will increase the concentration of fumes in the air.
<b>Hazardous decomposition products</b>	Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. and hydrogen cyanide (hydrocyanic acid)
<b>Possibility of hazardous reactions</b>	Hazardous polymerization can occur with elevated temperatures. Hazardous polymerization can occur with contact with alkalies. Hazardous polymerization can occur with metallic catalysts.

## 11. Toxicological Information

### Toxicological data

#### Product

AKWASEAL™ UVA (Mixture)

#### Test Results

Acute Dermal LD50 Rabbit: 28019 mg/kg estimated  
Acute Dermal LD50 Rat: 28019 mg/kg  
Acute Inhalation LC50 Rat: 4 mg/l/4h  
Acute Inhalation LC50 Rat: 1.8725 mg/l estimated  
Acute Oral LD50 Rat: 12498 mg/kg

#### Components

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (101-68-8)

#### Test Results

Acute Inhalation LC50 Rat: 0.369 mg/l 4.00 Hours  
  
Acute Oral LD50 Rat: 9200 mg/kg  
Acute Dermal LD50 Rabbit: 6200 mg/kg  
Acute Inhalation LC50 Rat: 0.369 mg/l/4h

<b>Components</b>	<b>Test Results</b>
POLYMETHYLENE POLYPHENYLENE ISOCYANATE (9016-87-9)	Acute Dermal LD50 Rabbit: 9400 mg/kg Acute Inhalation LC50 Rat: 490 mg/l/4h Acute Oral LD50 Rat: 49000 mg/kg
<b>Sensitization</b>	May cause sensitization by inhalation and skin contact.
<b>Local effects</b>	Harmful by inhalation. Irritating to respiratory system and skin.
<b>Chronic effects</b>	Repeated or prolonged contact causes sensitization, asthma and eczemas. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Carcinogenicity</b>	Not listed by ACGIH, IARC, NIOSH, NTP OR OSHA.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
POLYMETHYLENE POLYPHENYLENE ISOCYANATE (CAS 9016-87-9)	3 Not classifiable as to carcinogenicity to humans.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Further information</b>	Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

## 12. Ecological Information

### Ecotoxicological data

<b>Product</b>	<b>Test Results</b>
AKWASEAL™ UVA (Mixture)	EC50 Daphnia: >= 1000 mg/l 24.00 Hours LC50 Fish: >= 1000 mg/l
<b>Ecotoxicity</b>	Components of this product have been identified as having potential environmental concerns.
<b>Environmental effects</b>	We have no quantitative data concerning the ecological effects of this product.
<b>Persistence and degradability</b>	Not available.

## 13. Disposal Considerations

**Disposal instructions** Dispose in accordance with all applicable regulations.

## 14. Transport Information

### DOT

#### Basic shipping requirements:

<b>UN number</b>	UN3148
<b>Proper shipping name</b>	Water-reactive liquid, n.o.s. (METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) RQ = 25000 LBS POLYMETHYLENE POLYPHENYLENE ISOCYANATE)
<b>Hazard class</b>	4.3
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	IB2
<b>Basic shipping requirements:</b>	
<b>Labels required</b>	4.3
<b>Additional information:</b>	
<b>Packaging exceptions</b>	None
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	242
<b>ERG number</b>	138

### DOT

#### Packages less than 83 lbs

#### Basic shipping requirements:

**UN number** UN3148

<b>Proper shipping name</b>	Water-reactive liquid, n.o.s. (METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) RQ=25000 LBS POLYMETHYLENE POLYPHENYLENE ISOCYANATE)
<b>Hazard class</b>	4.3
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	IB2
<b>Basic shipping requirements:</b>	
<b>Labels required</b>	4.3
<b>Additional information:</b>	
<b>Packaging exceptions</b>	None
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	242
<b>ERG number</b>	138



DOT



DOT

Packages less than 83 lbs

## 15. Regulatory Information

**US federal regulations** OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119.

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (CAS 101-68-8)	1.0 %
POLYMETHYLENE POLYPHENYLENE ISOCYANATE (CAS 9016-87-9)	1.0 %

### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI) (CAS 101-68-8)	Listed.
POLYMETHYLENE POLYPHENYLENE ISOCYANATE (CAS 9016-87-9)	Listed.

### CERCLA (Superfund) reportable quantity

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL METHANE-4,4'-DIISOCYANATE, MDI): 5000.0000

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes
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**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** No

### Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**US - New Jersey Community RTK (EHS Survey): Reportable threshold**

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL 500 LBS  
METHANE-4,4'-DIISOCYANATE, MDI) (CAS 101-68-8)  
POLYMETHYLENE POLYPHENYLENE ISOCYANATE 500 LBS  
(CAS 9016-87-9)

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

METHYLENE BIS(PHENYLISOCYANATE) (DIPHENYL Listed.  
METHANE-4,4'-DIISOCYANATE, MDI) (CAS 101-68-8)

**16. Other Information**

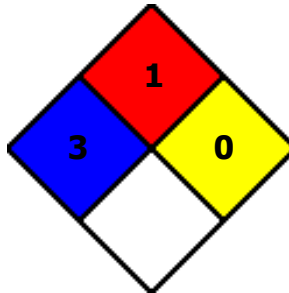
**Recommended restrictions** Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

**Further information** This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**HMIS ratings**



**NFPA ratings**



**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The manufacturer expressly does not make any representations, warranties, or guarantees as to its accuracy, reliability or completeness nor assumes any liability, for its use. It is the user's responsibility to verify the suitability and completeness of such information for each particular use.

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**Issue date**

24-February-2011