

**CHEMRIGID****SECTION 1. IDENTIFICATION**

<b>Product Identifier</b>	CHEMRIGID
<b>Other Means of Identification</b>	SOL-CHEM-RIGID
<b>Recommended Use</b>	Polyurethane for Injection into Civil structures ( Concrete).
<b>Manufacturer/Supplier Identifier</b>	MQ SOLUTIONS, 1522 Boulevard des Laurentides, Laval, Qc, H7M 2N7, Marc Charlebois, 877-267-7249, www.lafarge.ca/en/bmq-solutions
<b>Supplier Identifier</b>	BMQ SOLUTIONS, 1522 Boulevard des Laurentides, Laval, Qc, H7M 2N7, Marc Charlebois, 877-267-7249, www.lafarge.ca/en/bmq-solutions
<b>Emergency Phone No.</b>	Marc Charlebois, 514-705-7198, 24 Hres/ 7 Jours CANUTEC, 613-996-6666, 24HR/7Jours
<b>SDS No.</b>	0225

**SECTION 2. HAZARD IDENTIFICATION**

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

**Classification**

Acute toxicity (Inhalation) - Category 4; Skin irritation - Category 2; Eye irritation - Category 2B; Respiratory sensitization - Category 1; Skin sensitization - Category 1; Carcinogenicity - Category 2; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 2; Aquatic hazard (Chronic) - Category 3

**Label Elements**

Danger

Causes serious eye irritation.

Causes skin irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.

May cause damage to organs (respiratory system) through prolonged or repeated exposure if inhaled.

Harmful to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands and skin 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.

Use of personal protective equipment as required.

In case of inadequate ventilation wear respiratory protection.

Response:

In Case CONTACT WITH SKIN:Wash thoroughly with water and mild soap.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTRE or doctor if you feel unwell.

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IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice or attention.

Take off contaminated clothing and wash it before reuse.

Storage:

Store locked up.

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

Disposal:

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

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Polymeric Diphenylmethane Diisocyanate	9016-87-9	<27	
4,4'-Methylenediphenyl diisocyanate	101-68-8	<22	
Methylenediphenyl diisocyanate (mixed isomers)	26447-40-5	<6	

### SECTION 4. FIRST-AID MEASURES

#### First-aid Measures

##### Inhalation

Move to fresh air. Apply artificial respiration if breathing has stopped.

##### Skin Contact

Take off immediately contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. If skin irritation occurs, get medical advice or attention. A soothing ointment could be applied after washing skin.

##### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

##### Ingestion

Do not induce vomiting. Have victim drink water or milk, if conscious never give anything by mouth to unconscious person if exposed or concerned, call a Poison Centre or doctor. If vomiting is inevitable, prevent aspiration by keeping the victims head below the knee.

#### Most Important Symptoms and Effects, Acute and Delayed

If in eyes: vapour can cause laceration, conjunctivitis, and corneal edema when absorbed into eye tissue may cause moderate to severe irritation. If on skin: skin sensitizer. May cause an allergic skin reaction in some people. If inhaled and/or swallowed: can cause severe irritation of the nose and throat.

#### Immediate Medical Attention and Special Treatment

##### Target Organs

Eyes, respiratory system, skin.

##### Medical Conditions Aggravated by Exposure

May cause skin sensitization asthma, dermatitis, eye conditions, respiratory conditions, skin allergies.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

##### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Use water to keep non-leaking, fire-exposed containers cool.

##### Unsuitable Extinguishing Media

None known.

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### Specific Hazards Arising from the Product

Flammable in presence of open flame , sparks, excessive heat or static discharge Closed containers may rupture violently when heated releasing contents.

During fire, gases hazardous to health may be formed.

### Special Protective Equipment and Precautions for Fire-fighters

Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills. Wear full Bunker gear and respiratory protection (SCBA) Self contained NIOSH approved breathing apparatus should be available for fire fighters.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Keep spark producing equipment away from area dike area to prevent spreading.

### Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

### Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Dike spilled product to prevent runoff. Large spills or leaks: dike and recover contaminated water for appropriate disposal.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Use adequate ventilation and employ respiratory protection where dust or fumes may be generated avoid release to the environment. Do NOT eat, drink or store food in work areas. Do NOT smoke in work areas. It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

### Conditions for Safe Storage

Avoid dust build up store in an area that is: cool, well-ventilated. Store away from heat and flame separate from incompatible materials (see Section 10: Stability and Reactivity). Store away from heat and flame store out of direct sunlight.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
4,4'-Methylenediphenyl diisocyanate	0.051 mg/m3 **					
Methylenediphenyl diisocyanate (mixed isomers)	0.005 ppm		0.2 ppm			

ACGIH® = American Conference of Governmental Industrial Hygienists.005 ppm TWA.051 mg/m3 oSHA = US Occupational Safety and Health Administration. C = Ceiling limit.02 ppm.

### Appropriate Engineering Controls

Breathing Vapours must be avoided. Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Concentrations greater than TLV can occur when MDI is used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV, respiratory protection must be worn. A supplied air respirator or a positive pressure self-contained breathing apparatus is recommended. In situations where MDI is not sprayed or heated and a supplied air or self-contained apparatus is unavailable or its use impractical, at least an air purifying respirator equipped with an organic cartridge and a particulate filter must be worn. However, this should be permitted only for short periods of time (less than one hour) at relatively low concentrations (at or near the TLV). However, due to the poor warning

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properties of MDI, proper fit and timely replacement of filter elements must be insured. Observe OSHA Regulations for respirator usage (29 CFR Part 1910.134). Provide eyewash and safety shower if contact or splash hazard exists.

#### Individual Protection Measures

##### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

##### Skin Protection

Wear a chemical protective, full-body encapsulating suit and self-contained breathing apparatus (SCBA). Neoprene rubber, Viton®/butyl rubber.

##### Respiratory Protection

Wear a NIOSH approved air-purifying respirator with N100, R100, or P100 filter(s). Concentrations greater than TLV can occur when MDI is used in a poorly ventilated area. In such cases, or whenever concentrations of MDI exceed the TLV, respiratory protection must be worn. A supplied air respirator or a positive pressure self-contained breathing apparatus is recommended. In situations where MDI is not sprayed or heated and a supplied air or self-contained apparatus is unavailable or its use impractical, at least an air purifying respirator equipped with an organic cartridge and a particulate filter must be worn. However, this should be permitted only for short periods of time (less than one hour) at relatively low concentrations (at or near the TLV). However, due to the poor warning properties of MDI, proper fit and timely replacement of filter elements must be insured. Observe OSHA Regulations for respirator usage (29 CFR Part 1910.134).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Dark brown.
Odour	Musty
pH	Not available
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	> 648 °F (342 °C)
Flash Point	365 °F (185 °C)
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	< 0.00001 mm Hg at 68 °F
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.116
Solubility	Insoluble in water; Mildly soluble in common organic solvents.
Decomposition Temperature	Not available
Viscosity	70 centipoises at 20 °C (dynamic)
<b>Other Information</b>	
Physical State	Liquid
Molecular Formula	Not available
Molecular Weight	Not available
Critical Temperature	Not available

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Yes.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Water or humidity. Polymerizes in the presence of Releases a large amount of heat.

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## Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Water, moisture or humidity. Temperatures above 400.0 °F (204.4 °C)

## Incompatible Materials

Alcohols (e.g. ethanol). Amines strong bases (e.g. sodium hydroxide), water, metals (e.g. aluminum). Copper alloys.

## Hazardous Decomposition Products

When exposed to very high temperatures will release very toxic carbon monoxide, carbon dioxide; extremely hazardous hydrogen cyanide; corrosive, oxidizing nitrogen oxides. mDI vapours.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methylenediphenyl diisocyanate (mixed isomers)	> 380 mg/m <sup>3</sup> (rat) (4-hour exposure) (aerosol)	> 2000 mg/m <sup>3</sup> (rat)	> 9400 mg/kg (rabbit)

LC50 (Inhalation): 490 mg/m<sup>3</sup>, Vapour, Rat 4 Hour

### Skin Corrosion/Irritation

There is limited evidence of very mild irritation.

### Serious Eye Damage/Irritation

Animal tests show mild irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Harmful based on limited evidence.

#### Skin Absorption

Can cause sensitization.

#### Ingestion

No information was located.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis, irritation of the respiratory system. Respiratory tract injury has been observed.

### Respiratory and/or Skin Sensitization

May cause severe asthma-like symptoms (respiratory sensitization) based on information for closely related chemicals. Skin sensitizer. May cause an allergic reaction (skin sensitization) based on limited evidence.

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

May cause long term adverse effects in aquatic environment.

### Persistence and Degradability

Does not degrade rapidly based on quantitative tests.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

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

## SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

## SECTION 16. OTHER INFORMATION

**NFPA Rating**      **Health - 2**      **Flammability - 1**      **Instability - 1**      **pecial Hazard - Water-reactive**      450-264-9799

**SDS Prepared By**      **BMQ Solution**

**Phone No.**      877-267-7249

**Date of Preparation**      juin 01, 2016

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**Key to Abbreviations**      ACGIH® = American Conference of Governmental Industrial Hygienists  
IARC = International Agency for Research on Cancer  
NIOSH = National Institute for Occupational Safety and Health  
OSHA = US Occupational Safety and Health Administration  
RTECS® = Registry of Toxic Effects of Chemical Substances

**References**      CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH  
Pocket Guide database. National Institute for Occupational Safety and Health. Available from  
Canadian Centre for Occupational Health and Safety (CCOHS).

**Disclaimer**      We declare the information contained herein are correct. However, we decline all responsibility  
as to the exactness and the usage of the later.

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