

# SAFETY DATA SHEET

## LM-95 Part A

### Section 1. Identification

**GHS product identifier** : LM-95 Part A

**Other means of identification** : Not available.

#### Relevant identified uses of the substance or mixture and uses advised against

Used as a two part urethane waterproofing.

**Supplier's details** : Polyguard Products Inc.  
3801 South Interstate 45  
Ennis, TX 75119  
Tel: (800)541-4994

**Emergency telephone number (with hours of operation)** : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887  
(24/7)

### Section 2. Hazards identification

**OSHA/HCS status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

**Classification of the substance or mixture** : Not classified.

#### GHS label elements

**Signal word** : No signalword.

**Hazard statements** : No known significant effects or critical hazards.

#### Precautionary statements

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : None known.

### Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

#### CAS number/other identifiers

**CAS number** : Not applicable.

**Product code** : Not available.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.



## Section 3. Composition/information on ingredients

## Section 4. First aid measures

Occupational exposure limits, if available, are listed in Section 8.

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides



## Section 5. Fire-fighting measures

**Special protective actions for fire-fighters** : No special protection is required.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

**Appropriate engineering controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.



## Section 8. Exposure controls/personal protection

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Black.
- Odor** : Asphalt.
- Odor threshold** : Not applicable.
- pH** : Not applicable.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Open cup: 274°C (525.2°F) [Cleveland.]
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.29
- Solubility** : Partially soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : 485°C (905°F)
- Decomposition temperature** : Not available.



## Section 9. Physical and chemical properties

<b>SADT</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>VOC</b>	: 0 % (w/w) [ISO 11890-1]

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials and acids.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

There is no data available.

#### Irritation/Corrosion

**Skin** : There is no data available.

**Eyes** : There is no data available.

**Respiratory** : There is no data available.

#### Sensitization

**Skin** : There is no data available.

**Respiratory** : There is no data available.

#### Mutagenicity

There is no data available.

#### Carcinogenicity

There is no data available.

#### Reproductive toxicity

There is no data available.

#### Teratogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

<b>Information on the likely routes of exposure</b>	: Routes of entry anticipated: Oral, Dermal, Inhalation.
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## Section 11. Toxicological information

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

### Potential chronic health effects

- General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

There is no data available.

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

There is no data available.

### Mobility in soil

- Soil/water partition coefficient ( $K_{oc}$ )** : There is no data available.

## Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR:** Siloxanes and Silicones, di-Me, reaction products with silica; 1-Cyclohexene, 4-vinyl-  
**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**United States inventory (TSCA 8b):** All components are listed or exempted.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed



## Section 15. Regulatory information

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Not applicable.

#### Composition/information on ingredients

No products were found.

### State regulations

**Massachusetts** : The following components are listed: Limestone; Petroleum asphalt

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Limestone; Petroleum asphalt

**Pennsylvania** : The following components are listed: Limestone; Petroleum asphalt; Oxydipropanol

### California Prop. 65

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

**WARNING:** This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
1,3-Butadiene 1-Cyclohexene, 4-vinyl-	Yes. Yes.	Yes. Yes.	Yes. No.	No. No.

### International regulations

#### International lists

**Australia inventory (AICS):** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Japan inventory:** Not determined.

**Korea inventory:** All components are listed or exempted.

**Malaysia Inventory (EHS Register):** Not determined.

**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

**Taiwan inventory (CSNN):** Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

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**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed



## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

**Health :** 0    **Flammability :** 1    **Physical hazards :** 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### National Fire Protection Association (U.S.A.)

**Health :** 0    **Flammability :** 1    **Instability :** 0

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### History

**Date of issue mm/dd/yyyy** : 04/15/2013  
**Date of previous issue** : 07/15/2008  
**Version** : 2  
**Revised Section(s)** : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16  
**Prepared by** : KMK Regulatory Services Inc.  
**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes 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 used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



# SAFETY DATA SHEET

## LM 95-Part B

### Section 1. Identification

**GHS product Identifier** : LM-95 Part B  
**Other means of identification** : Not available

**Relevant identified used of the substance or mixtures and uses advised against**

Component of a Polyurethane System

**Supplier's details** : Polyguard Products, Inc.  
4101 South I 45  
Ennis, TX 75119  
Tel: (214) 515-5000

**Emergency telephone number) with hours of operation)** : CHEMTREC, US 1-800-424-9300 International 1-703-527-3887

: (24/7)

### Section 2. Hazards Identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazardous Communications Standard (49CFR1910.1200) .

**Classification of the substance or mixture** : Acute toxicity: Inhalation- Category 4  
Skin Corrosion/Irritation- Category 2  
Serious Eye Damage/Eye Irritation- Category 2B.  
Respiratory Sensitization- Category 1  
Skin Sensitization- Category 1  
Specific target organ toxicity ( single exposure) (Respiratory system) – Category 3

**GHS label elements**

**Hazard pictogram**



**Signal word**

: Danger

**Hazard statement**

: Harmful if inhaled.  
Causes skin and eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause respiratory irritation.

**Precautionary statements**

**Prevention**

: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Use only outdoors or in a well ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. In case of inadequate ventilation wear respiratory protection.

## Section 2. Hazards Identification

- Response** : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES; Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known

## Section 3. Composition/Information on Ingredients

- Substance/Mixture** : Mixture
- Other means of identification** : Not available

Ingredient name	%	CAS Number
4,4'-Methylenediphenyl diisocyanate	50 - 70	101-68-8
Diphenylmethanediisocyanate	30 - 50	9016-87-9
Diphenylmethane-2,4'- diisocyanate	10 - 20	5873-54-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation. Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First Aid Measures

### Description of necessary first aid measures.

- General advise** : Move out of dangerous area.  
Do not leave the victim unattended  
Consult a physician  
Show this safety data sheet to the doctor in attendance.
- Eye contact** : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under eyelids, for at least 15 minutes.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- Inhalation** : If breathed in, move person into fresh air. Call a physician or poison control center immediately. Keep patient warm and at rest. Keep respiratory tract clear. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. If unconscious, place in recovery position and seek medical advice. Consult a physician immediately if symptoms such as shortness of breath or asthma are observed. A hyperactive response to even minimal concentrations of diisocyanates may develop in sensitized persons. LC50(rat): ca. 490 mg/m<sup>3</sup> (4 hours): using experimentally produced respirable aerosol having aerodynamic diameter < 5 microns.

## Section 4. First Aid Measures

- Skin contact** : In case of contact, immediately flush skin with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before reuse. Thoroughly clean shoes before reuse. Call a physician if irritation develops or persists. An MDI study has demonstrated that a polyglycol- based skin cleaner (such as D-Tam™ PEG-400) or corn oil may be more effective than soap and water.
- Ingestion** : Gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Keep respiratory tract clear. Keep at rest. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
- Most important symptoms/effects, acute and delayed** : Severe allergic skin reactions, bronchospasms and anaphylactic shock.
- Indication of immediate medical attention and special treatment needed, if necessary.**
- Notes to physician:** : Symptomatically treatment and supportive therapy as indicated. Following severe exposure, the patient should be kept under medical review for at least 48 hours. The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
- Protection of first-aiders:** : No action shall be taken involving any personal risk or without suitable training. If potential for exposure exists refer to Section 8 for specific personal protective equipment. First Aid responders should pay attention to self-protection and use the recommended protective clothing. It may be dangerous to the person providing the aid to give mouth to mouth resuscitation.

## Section 5. Fire-Fighting Measures

- Extinguishing media**
- Suitable extinguishing media** : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use CO<sub>2</sub>, foam or dry powder.
- Unsuitable extinguishing media** : High volume water jets.
- Specific hazards arising from the chemical** : Do not allow run-off from fire-fighting to enter drains or water courses. The pressure in sealed containers can increase under the influence of heat. Exposure to hazardous products may be hazardous to health.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials: Carbon Monoxide, Carbon Dioxide, nitrogen oxides, hydrocarbons and HCN and unburned hydrocarbon smoke.
- Specific extinguishing methods** : Cool containers/tanks with water spray.
- Special protective equipment for fire fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in a positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn.

## Section 5. Fire-Fighting Measures

**Remarks** : Standard procedure for chemical fires. Due to reaction with water producing CO<sub>2</sub> gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## Section 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures.

**For non emergency personal** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk thru spilled material. Avoid breathing vapor or mist. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment( see section 8).

**For emergency responders** : Use personal protective equipment. Immediately evacuate personnel to safe area. Ensure adequate ventilation. Keep away from and upwind of spill/leak. Only qualified personnel equipped with suitable protective equipment may intervene. Never return spills in original containers for re-use. Treat recovered material as described in section "Disposal considerations". For disposal considerations see section 13. Make sure there is a sufficient amount of neutralizing/absorbent material near the storage area. The danger areas must be delimited and identified using relevant warning and safety signs.

**Enviromental precautions** : Do not allow uncontrolled discharge of product into the environment. Do not allow material to contaminate ground water system. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained. If product contaminates rivers and lakes or drains inform respective authorities.

**Methods and materials for containment and cleaning up** : **Clean- up methods- small spillage.**  
Dilute with plenty of water. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container and transfer to a container for disposal according to local/national regulations (See section 13). Clean contaminated surfaces thoroughly. Sweep up or vacuum up spillage and collect in suitable container for disposal. Neutralize small spillages with decontaminate. The compositions of liquid decontaminates are given in section 16. Remove and dispose of residues.

**Clean up methods- large spills**  
If the product is in its solid form: Spilled MDI flakes should be picked up carefully. The area should be vacuum cleaned to remove remaining dust particles completely. If the product is in its liquid form: Absorb spillages with inert absorbent material ( e.g. sand, silica gel, acid binder, universal binder, saw dust). Leave to react for at least 30 minutes. Shovel into open- top drums for further decontamination. Wash spillage area with water. Test atmosphere for MDI vapors. Keep in suitable, closed conatines for disposal.

## Section 7. Handling and Storage

### Precautions for safe handling

**Protective measures/Advice on general occupation hygiene** : Ensure that eyewash stations and safety showers are close to the workstation location. Use only with adequate ventilation. Normal measures for preventive fire protection. For personal protection see section 8. Avoid formation of aerosol. Do not breath vapors/dust. Avoid exposure-obtain special instruction before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Open container carefully as contents may be under pressure. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.

### Conditions for safe storage, including any incompatibilities

: Keep container tightly closed in a cool, well ventilated place. Observe label precautions. Electrical installations/working materials must comply with technological safety standards.

## Section 8. Exposure Controls/Personal Protection

### Control parameters

### Occupational exposure limits

<u>Ingredient name</u>	<u>Exposure limits</u>
4,4'-Methylenediphenyl diisocyanate	<b>ACGIH TLV ( United States, 3/2012)</b> TWA: 0.005 ppm 8 hours <b>OSHA PEL ( United States, 6/2010)</b> CEIL: 0.02 ppm

### Protective measures

: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing. The type of protective clothing must be selected according to the concentration and amount of the dangerous substance at the specific work place. Ensure that eye flushing systems and safety showers are located close to the working place.

### Hygiene measure:

: Handle in accordance with good industrial hygiene and safety practices. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating area. When using do not eat or drink. When using do not smoke. Contaminated clothing should not be allowed outside the workplace. Wash hands before breaks and at end of workday.

### Eye/face protection

: Safety eyewear complying with an approved standard should be used when risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases and dusts. Chemical splash goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Please follow all applicable local/national requirements when selecting protective measures for a specific workplace. Ensure that eyewash stations and safety showers are close to the workstation location.

### Respiratory protection

: Use a properly fitted, air purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 8. Exposure Controls/Personal Protection

### Skin Protection

#### Hand protection

: For prolonged or repeated contact use protective gloves. Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin. Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of gloves material that might prove suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers laminated ("EVAL"), Polychloroprene (Neoprene\*), Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Fluoroelastomer ("Viton").

When prolonged or frequent repeated contact may occur, a glove with protection class 5 or higher (breakthrough time is greater than 240 minutes according to EN 374) is recommended.

When only brief contact is expected, a glove with protection class 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Contaminated gloves should be decontaminated and disposed of.

Notice: The selection of a specific glove for a particular application and duration of use in the workplace should also take into account all requisite workplace factors such as but not limited to: other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by the glove manufacturer.

#### Skin and Body protection

: Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. Recommended: Overall (preferably heavy cotton) or Tyvek-Pro Tech "C", Tyvek-Pro "F" disposable coverall.

#### Respiratory protection

: Use a properly fitted, air purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and Chemical Properties

### Appearance

#### Physical state

: Liquid

#### Color

: Light brown

#### Odor

: Slight, musty

#### Odor threshold

: Not available

#### pH

: Not applicable

#### Melting point

: Not applicable

#### Boiling point

: Not available

#### Flash Point

: Closed cup: >110 °C (>230 °F) [Seta closed cup]

#### Evaporation rate:

: Not available

#### Flammability (solid, gas)

: Not applicable

#### Lower & upper explosive (flammable) limits

: Not available

#### Vapor density

: Not available

#### Vapor pressure

: Not available

#### Relative density

: 1.2 (20 °C)

#### Density

: 1.23 g/cm<sup>3</sup> (20 °C)

#### Solubility-water

: Not available

#### Solubility-other solvents

: Not available

#### Partition coefficient: n-octanol/water

: Not available

#### Auto- ignition temperature

: Not available

## Section 9. Physical and Chemical Properties

<b>Decomposition temperature</b>	: Not available
<b>Self-accelerating decomposition temperature (SADT)</b>	: Not available
<b>VOC</b>	: Not available
<b>Viscosity</b>	: 55 mPa s (25 °C)

## Section 10. Stability and Reactivity

<b>Reactivity</b>	: No dangerous reaction is known under conditions of normal use.
<b>Chemical stability</b>	: Stable at room temperature.
<b>Possibility of hazardous reactions</b>	: Reaction with water (moisture) produces CO <sub>2</sub> – gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if miscibility of the reaction partners is good or is supported by the presence of solvents. MDI is insoluble with and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyuria is formed at the interface by liberating carbon dioxide gas.
<b>Conditions to avoid:</b>	: Avoid high temperatures and direct sunlight. Exposure to air or moisture over prolonged periods.
<b>Incompatible materials</b>	: Water, alcohols, amines, metals, bases and acids.
<b>Hazardous decomposition products</b>	: Combustion products may include: Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> , etc.), hydrocarbons, dense black smoke and HCN. Burning produces noxious and toxic fumes.

## Section 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Test
4,4'-Methylenediphenyl diisocyanate	LD50 (Rate, male) :>10,000 mg/kg Method: OECD Test Guideline 401  Acute dermal toxicity: LD50 (Rabbit, male and female): >9,400 mg/kg Method: OECD Test Guideline 402
Isocyanic acid, polymethylenepolyphenylene ester	LD50 (Rate, male) :>10,000 mg/kg Method: OECD Test Guideline 401 Acute dermal toxicity: LD50 (Rabbit, male and female): >9,400 mg/kg Method: OECD Test Guideline 402
Diphenylmethane-2,4'-diisocyanate	Acute dermal toxicity: LD50 (Rabbit, male and female): >9,400 mg/kg Method: OECD Test Guideline 402
Acute inhalation toxicity-Product	Acute toxicity estimate: 1.4 mg/l Exposure time: 4 hours Test atmosphere: dust/mist Method: calculation method
Acute toxicity (other routes of administration)	No data available



## Section 11. Toxicological Information

### Irritation/Corrosion

Product/ingredient name	Test	Result
4,4'-Methylenediphenyl diisocyanate	Species: Rabbit Method: OECD Test Guideline 404	Irritating to skin
Isocyanic acid, polymethylenepolyphenylene ester	Species: Rabbit Assessment: Irritating to skin Method: OECD Test Guideline 404	Skin irritation
Diphenylmethane-2,4'-diisocyanate	Species: Rabbit Assessment: Irritant Method: OECD Test Guideline 404	Irritating to skin

### Serious eye damage/eye irritation

Product/ingredient name	Test	Result
4,4'-Methylenediphenyl diisocyanate	Species: Rabbit	Mild eye irritation
Isocyanic acid, polymethylenepolyphenylene ester	Species: Rabbit Assessment: Mild eye irritant Method: OECD Test Guideline 405	Irritation to eyes, reversing in 7 days
Diphenylmethane-2,4'-diisocyanate	Species: Human Assessment: Irritant Method: OECD Test Guideline 405	Irritation to eyes, reversing in 7 days Remark: mild eye irritation

### Respiratory or Skin Sensitization

Product/ingredient name	Test	Result
4,4'-Methylenediphenyl diisocyanate	Exposure routes: Skin Species: Mouse Method: OECD Test Guideline 429 Exposure routes: Respiratory Tract Species: Guinea pig Method: OECD Test Guideline 429	May cause sensitization by skin contact. May cause sensitization by inhalation.
Isocyanic acid, polymethylenepolyphenylene ester	Exposure routes: Skin Species: Guinea Pig Method: OECD Test Guideline 406 Exposure routes: Respiratory Tract Species: Rat	May cause sensitization by skin contact. May cause sensitization by inhalation.
Diphenylmethane-2,4'-diisocyanate	Exposure routes: Skin Species: Mouse Assessment: May cause sensitization by skin contact Exposure routes: Respiratory Tract Species: Guinea pig Assessment: May cause sensitization by inhalation	Causes sensitization. Causes sensitization.



## Section 11. Toxicological Information

### Carcinogenicity

Product/ingredient name	Test	Result
4,4'-Methylenediphenyl diisocyanate	Species: Rat, (Male and female) Application Route: Inhalation Exposure time: 24 months Dose 1 mg/m <sup>3</sup> Frequency of treatment: 5 daily Method: OECD Test Guideline 453	Positive Target organs: Lungs
Isocyanic acid, polymethylenepolyphenylene ester	Species: Rat, (Male and female) Application Route: Inhalation Exposure time: 24 months Dose 1 mg/m <sup>3</sup> Frequency of treatment: 5 daily Method: OECD Test Guideline 453	Positive
Diphenylmethane-2,4'-diisocyanate	Species: Rat, (Male and female) Application Route: Inhalation Exposure time: 24 months Dose 1 mg/m <sup>3</sup> Frequency of treatment: 5 daily Method: OECD Test Guideline 453	Positive Target organs: Lungs

Carcinogenicity – Assessment : No data available

**IARC**

No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

**ACGIH**

No components of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH.

**OSHA**

No components of this product present at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by OSHA.

**NTP**

No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive Toxicity

Product/ingredient name	Test	Results
4,4'-Methylenediphenyl diisocyanate	Effect on fetal development Species: Rat, female General Toxicity Maternal: No observed adverse effect level: 4 mg/m <sup>3</sup> Method: OECD Test Guideline 414	No teratogenic effects.
Isocyanic acid, polymethylenepolyphenylene ester	Effects on fertility Species: Rat, (Male and female) Application Route: Inhalation Method: OECD Test Guideline 414 Effect on fetal development Species: Rat, male and female Application route: Inhalation General Toxicity Maternal: 4 mg/m <sup>3</sup> Method: OECD Test Guideline 414	No significant adverse effects were reported.  No teratogenic effects.

## Section 11. Toxicological Information

### Reproductive Toxicity (cont.)

Product/ingredient name	Test	Results
Diphenylmethane-2,4'-diisocyanate	Effects on fertility Species: Rat, female Application Route: Inhalation Method: OECD Test Guideline 414	Animal testing did not show any effects on fertility.
	Effects on fertility Species: Rat, male Application Route: Inhalation Method: OECD Test Guideline 414	Animal testing did not show any effects on fertility.
	Effect on fetal development Species: Rat, female General Toxicity Maternal: No observed adverse effect level: 4 mg/m <sup>3</sup> Method: OECD Test Guideline 414	No teratogenic effects.

### Components

#### Isocyanic acid, polymethylenepolyphenylene ester

Reproductive toxicity: : No toxicity to reproduction  
Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

### STOT- Single exposure

Product/ingredient name	Test
4,4'-Methylenediphenyl diisocyanate	Exposure route: Inhalation Target organs: respiratory Tract Assessment: May cause respiratory irritation
Isocyanic acid, polymethylenepolyphenylene ester	Exposure route: Inhalation Target organs: respiratory Tract Assessment: May cause respiratory irritation
Diphenylmethane-2,4'-diisocyanate	Exposure route: Inhalation Target organs: respiratory Tract Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT- repeated exposure: No data available

### Repeated dose toxicity

Product/ingredient name	Test
4,4'-Methylenediphenyl diisocyanate	Species: Rat, male and female Dose: 0.2 mg/m <sup>3</sup> Exposure time: 2 years Number of exposures: 5 d Method: OECD Test Guideline 453
Isocyanic acid, polymethylenepolyphenylene ester	Species: Rat, male and female Dose: 0.2 mg/m <sup>3</sup> Test atmosphere: dust/mist Exposure time: 2 years Number of exposures: 5 d Method: OECD Test Guideline 453

## Section 11. Toxicological Information

### Repeated dose toxicity (cont.)

Product/ingredient name	Test
Diphenylmethane-2,4'-diisocyanate	Species: Rat, male and female Dose: 0.2 mg/m <sup>3</sup> Test atmosphere: dust/mist Exposure time: 2 years Number of exposures: 5 d Method: OECD Test Guideline 453

### Components:

Diphenylmethane-2,4'-diisocyanate  
Repeated dose toxicity : Mild eye irritation  
Assessment

Aspiration Toxicity : No data available

### Experience with human exposure

General information : No data available.  
Inhalation : No data available.  
Skin contact : No data available.  
Eye contact : No data available.  
Ingestion : No data available.

Toxicology, Metabolism, Distribution : No data available.  
Neurological effects : No data available.

### Further information

Ingestion : No data available.

## Section 12. Ecological Information

### Ecotoxicity

Product/ingredient name	Test
4,4'-Methylenediphenyl diisocyanate	Toxicity to fish LC50 (Brachydanio rerio (Zebrafish)): > 1,000 mg/l Exposure time: 96 hours Test type: static test Method: OECD Test Guideline 203
	Toxicity to daphnia and aquatic invertebrates EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 202
	Toxicity to daphnia and aquatic invertebrates (Chronic toxicity) NOEC (Daphnia magna (Water flea)): ≥ 10 mg/l Exposure time: 21 days Test type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
	Toxicity to soil dwelling NOEC (Eisenia fetida (earthworms)): ≥ 1,000 mg/l Exposure time: 336 hours Method: OECD Test Guideline 207

## Section 12. Ecological Information

### Ecotoxicity (con't)

Product/ingredient name	Test
Isocyanic acid, polymethylenepolyphenylene ester	Toxicity to fish LC50 (Brachydanio rerio (Zebrafish)): > 1,000 mg/l Exposure time: 96 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 203 LC0: > 1,000 mg/l Exposure time: 95 hours
	Toxicity to daphnia and aquatic invertebrates EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 202
	Toxicity to Algae EC50 (Desmodesmus subspicatus (Secenedesmus subspicatus)): > 1,640 mg/l Exposure time: 72 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 201 M-Factor (Acute aquatic toxicity): No data available Toxicity to fish (Chronic toxicity): No data available
	Toxicity to daphnia and aquatic invertebrates (Chronic toxicity) NOEC (Daphnia magna (Water flea)): $\geq$ 10 mg/l Exposure time: 21 days Test type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211
	Toxicity to microorganisms EC50 (Activated sludge): > 100 mg/l Exposure time: 3 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 209
	Toxicity to soil dwelling NOEC (Eisenia fetida (earthworms)): $\geq$ 1,000 mg/l Exposure time: 336 hours Method: OECD Test Guideline 207
Diphenylmethane-2,4'- diisocyanate	Toxicity to fish LC50 (Brachydanio rerio (Zebrafish)): > 1,000 mg/l Exposure time: 96 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 203
	Toxicity to daphnia and aquatic invertebrates EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 202

## Section 12. Ecological Information

### Ecotoxicity (con't)

Product/ingredient name	Test
Diphenylmethane-2,4'-diisocyanate	Toxicity to daphnia and aquatic invertebrates (Chronic toxicity) NOEC (Daphnia magna (Water flea)): $\geq 10$ mg/l Exposure time: 21 days Test type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211 M-Factor (Chronic aquatic toxicity): No available data
	Toxicity to microorganisms EC50 (Activated sludge): $> 100$ mg/l Exposure time: 3 hours Test type: static test Test substance: Fresh water Method: OECD Test Guideline 209
	Toxicity to soil dwelling NOEC (Eisenia fetida (earthworms)): $\geq 1,000$ mg/l Exposure time: 336 hours Method: OECD Test Guideline 207

Plant toxicity	: No data available
Sediment toxicity	: No data available
Toxicity to terrestrial organisms	: No data available
Ecotoxicology Assessment	: No data available
Acute aquatic toxicity	
Chronic aquatic toxicity	: No data available
Toxicity Data on Soil	: No data available
Other organism relevant to the environment	: No data available

### Persistence and degradability

Product/ingredient name	Test	Result
4,4'-Methylenediphenyl diisocyanate	Biodegradability Inoculum: Domestic sewage Concentration: 30 mg/l Exposure time: 28 days Method: Inherent Biodegradability: Modified MITI Test (II)	Not biodegradable
Isocyanic acid, polymethylenepolyphenylene ester	Biodegradability Inoculum: Domestic sewage Concentration: 30 mg/l Biodegradation: 0% Exposure time: 28 days Method: Inherent Biodegradability: Modified MITI Test (II)	Not biodegradable
Diphenylmethane-2,4'-diisocyanate	Biodegradability Inoculum: Domestic sewage Concentration: 30 mg/l Biodegradation: 0% Exposure time: 28 days Method: Inherent Biodegradability: Modified MITI Test (II)	Not biodegradable

## Section 12. Ecological Information

<b>Biochemical Oxygen Demand (BOD)</b>	: No data available
<b>Chemical Oxygen Demand (COD)</b>	: No data available
<b>BOD/COD</b>	: No data available
<b>ThOD</b>	: No data available
<b>BOD/ThOD</b>	: No data available
<b>Dissolved organic carbon (DOC)</b>	: No data available
<b>Physico-chemical removability</b>	: No data available

### Components:

#### **4,4'-Methylenediphenyl diisocyanate**

<b>Stability in water</b>	: Degradation half-life (DT50): 20 hours (25 °C) Method: no information available Remarks: Fresh water
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#### **Isocyanic acid, polymethylenepolyphenylene ester**

<b>Stability in water</b>	: Degradation half-life (DT50): 0.8 days (25 °C) Method: no information available Remarks: Fresh water
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<b>Photodegradation</b>	: No data available
<b>Impact on sewage treatment</b>	: No data available

### Bioaccumulation potential

<b>Product/ingredient name</b>	<b>Test</b>
4,4'-Methylenediphenyl diisocyanate	Bioaccumulation Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF):200 Remarks: Bioaccumulation is unlikely
	Partition coefficient: n-octanol/water Log Pow: 4.51 (20 °C) pH:7 Method: OCED Test Guideline 117
Isocyanic acid, polymethylenepolyphenylene ester	Bioaccumulation Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF):200 Remarks: Bioaccumulation is unlikely
	Partition coefficient: n-octanol/water Log Pow: 4.51 (20 °C) pH:7 Method: OCED Test Guideline 117
Diphenylmethane-2,4'-diisocyanate	Bioaccumulation Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF):200 Remarks: Bioaccumulation is unlikely
	Partition coefficient: n-octanol/water Log Pow: 4.51 (20 °C) pH:7 Method: OCED Test Guideline 117

### Mobility in soil

<b>Mobility</b>	: No data available
<b>Distribution among environmental compartments</b>	: No data available
<b>Stability in soil</b>	: No data available



## Section 12. Ecological Information

### Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

### Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone- CAA Section 602 Class I Substance.  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A + B).

Additional ecological information : No data available

Global warming potential (GWP) : No data available

## Section 13. Disposal Considerations


### Disposal methods : Waste from residues

Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

### Contaminated Packaging

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

## Section 14. Transport Information

	Proper shipping name	UN/NA Number	Class	PG*	Additional information
<b>DOT</b>	Other Regulated Substance, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate)	NA 3082	9 	I	Small containers may not require the class 9 labeling. Refer to current DOT regulations.
<b>TDG</b>	Not regulated	-	-	-	-
<b>IMDG</b>	Not regulated	-	-	-	-
<b>IATA</b>	Not regulated	-	-	-	-

PG\*: Packing group, ERG code 171

## Section 15. Regulatory Information

### Safety, health and environmental regulations specific for the product

#### United States Regulations

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

## Section 15. Regulatory Information

**TSCA 12(b) export notification** : No ingredients listed.  
**SARA 311/312** : Immediate (acute) health hazard.

	<u>Product name</u>	<u>CAS #</u>	<u>Concentrations %</u>
<b>SARA 313 Form R- Reporting requirements</b>	4,4'-Methylenediphenyl diisocyanate	101-68-8	50-70
	Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	30-50

The following chemical is listed as HAP under the U.S. Clean Air act, Section 12 (40 CFR 61)

<u>Product name</u>	<u>CAS #</u>	<u>Concentrations %</u>
4,4'-Methylenediphenyl diisocyanate	101-68-8	53.62 %

### EPCRA- Emergency Planning and Community Right -to- Know Act

#### CERCLA Reportable Quantity

<u>Components</u>	<u>CAS #</u>	<u>Components RQ (Lbs)</u>	<u>Calculated product RQ (Lbs)</u>
Chlorobenzene	108-90-7	100	*
4,4'-Methylenediphenyl diisocyanate	101-68-8	5000	9324*

\* Calculated RQ exceeds reasonably attainable upper limit.

#### State Regulations

##### California Prop 65

: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

## Section 16. Other Information

### Hazardous Material Information System (USA)

**Health -2\***                      **Flammability-1**                      **Physical hazards-0**

Caution: HMIS® rating are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with fully implemented HMIS® program. HMIS® is a registered trademark of the National Paint & Coating Association (NPCA). HMIS® materials may be purchased exclusively from J.J. Keller.

### National Fire Protection Association (USA) NFPA 704

**Health -2**                      **Flammability-1**                      **Instability-0**                      **Special- N/A**

NFPA-704 was copyrighted by the National Fire Protection Association of Quincy, MA. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactive hazards of chemicals. The user is referred to certain limited number of with recommended classifications in NFPA 49 and NFPA 325, which would be used as guidelines only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Liquid decontaminates (percentages by weight or volume)

Decontaminate 1: \*- sodium carbonate: 5-10 % \*- liquid detergent: 0.2-2% \*- Water: to make up 100 %

Decontaminate 2: \*- concentrated ammonia solution: 3-8 % \*- liquid detergent: 0.2-2% \*- Water: to make up 100 %

Decontaminate 1 reacts slower with diisocyanates but is more environmentally friendly that decontaminate 2.

Decontaminate 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information).

**Section 16. Other Information**

<b>Date of revision</b>	: 9/13/18
<b>Date of previous issue</b>	: 5/8/15
<b>Revisions:</b>	: Update chemical composition percentages, information on first aid responses, fire- fighting response, storage and handling information, physical properties, and regulatory information.
<b>Version</b>	: 4
<b>Prepared by</b>	: C. Rogalski

**Notice to reader**

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