

2. COMPOSITION AND INGREDIENTS:

Components Contributing to Hazard Classification % by Wt. CAS No. Hazard Risk phrases Diphenylmethane diisocyanate, isomers and homologues 10-24 9016-87-9 Harmful R20, R36/37/38, R42/43 Diphenylmethane 4,4'- diisocyanate 24-47 101-68-8 Harmful R20, R36/37/38, R42/44 Diphenylmethane-2,4'- diisocyanate 2-6 5873-54-1 Harmful R20, R36/37/38, R42/45 Modified MDI 24-47 155662-82-1 Harmful R20, R36/37/38, R42/46

- 3. HAZARDS IDENTIFICATION: • CHIP Classification: Xn, HARMFUL
  - Risk Phrases: - R20 Harmful by inhalation
  - - R36/37/38 Irritating to eyes, respiratory system, and skin.
  - - R42/43 May cause sensitisation by inhalation and skin contact.
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- • Other Information: Vapour hazard is low at room temperature. If heated or sprayed high concentrations can be attained that could be hazardous on single exposure and may cause irritation of upper respiratory tract and lungs. Exposure to vapour may cause sensitisation in susceptible individuals. Contact with eyes may cause irritation with corneal injury. Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.
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4. FIRST AID MEASURES • Immediate medical attention required? Yes.

- Professional assistance from physician required? Yes.
- Inhalation: Remove to fresh air and allow to rest. If not breathing give artificial respiration. Obtain medical attention and keep under observation for up to 48 hours as effects can be delayed.
- Skin Contact: Wash contaminated area with soap and water. Use skin cream to prevent dryness. Launder contaminated clothing. If symptoms develop obtain medical attention.
- Eye Contact: Flush immediately with water for 10-15 minutes prising eyelids open with fingers. Seek medical attention immediately.
- Ingestion: If patient is conscious, wash out mouth with water and give 500mL (half a pint) of water to

drink. Do not induce vomiting. Seek immediate medical attention

- 5. FIRE FIGHTING MEASURES: • Extinguishing Media: - Suitable: Foam, dry chemical, CO2, water in large quantities.
- - Not to be used: Small quantities of water.
- - Other Comments: Where large quantities are involved breathing apparatus should be used.
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- Special Exposure Hazards: May produce toxic vapours during combustion.
- Special Fire Fighting Procedures: Evacuate downwind personnel.
- Protective Equipment Required: Positive pressure self-contained breathing apparatus should be used.
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- 6. ACCIDENTAL RELEASE MEASURES: • Personal Precautions: Evacuate unnecessary personnel. Wear suitable protective clothing including positive pressure self-contained breathing apparatus.
- Environmental Precautions: Do not allow to enter drains or watercourses.
- Clean-Up Procedures: Supplies of suitable decontaminant should be readily available. Contact Inchimica division of Intermedia s.a.s. for details if required. Cover spillage with solid decontaminant, sawdust, sand or earth and allow to react for 30 minutes minimum. Sweep into open drums and remove for further decontamination and disposal. Wash spillage area with water and test for isocyanate vapours before allowing personnel into the area.

- 7. HANDLING AND STORAGE • Handling: Do not allow to come into contact with water. Do not breathe vapour or spray. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Use only in a well ventilated place with local exhaust ventilation where necessary to ensure that the OEL for MDI is not exceeded.
- Storage: Contact with moisture liberates carbon dioxide gas, which can cause dangerous pressure build-up in closed containers. Store in a dry place at 5-25°C in tightly sealed original containers. - Suitable containers: Stainless Steel or Mild Steel
- - Unsuitable containers: Copper, Copper Alloy and Galvanised surfaces.
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- 8. EXPOSURE CONTROLS • Take Measures to Prevent: Build up of vapours. Contact with water or atmospheric moisture. Inhalation of vapour. Contact with skin and eyes.
- Exposure Control Limits: Isocyanates (all) - MEL: Long Term (8 hour) - 0.02 mg/m³
- - MEL: Short Term (15 min) - 0.07 mg/m³
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- Respiratory Protection: Vapour levels should be maintained below the control limits. Where necessary use suitable breathing equipment.
- Hand Protection: Wear suitable gloves (Neoprene, nitrile butadiene rubber, butyl rubber, .heavy duty PVC, laminated polyethylene)
- Skin Protection: Wear suitable protective clothing.
- Eye Protection: Wear goggles or safety glasses. Locate eyewash bottle in immediate area of work.
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9. PHYSICAL AND CHEMICAL PROPERTIES: • Appearance: Liquid

- **Colour:** Amber
- **pH:** N/A
- **Boiling Point:** >200 °C (MDI)
- **Melting Point:** N/M
- **Flashpoint:** 230 °C (open cup)
- **Autoflammability:** >600 °C (MDI)
- **Flammability:** N/A
- **Explosive Properties:** N/A
- **Oxidising Properties:** N/A
- **Vapour Pressure:** ~ 0.000004 mmHg @ 20°C (MDI)

- **Relative Density:** ~ 1.2
- **Solubility in Water:** Insoluble, reacts with evolution of CO<sub>2</sub>
- Other: -
- **Conditions to Avoid:** Excessive heat.
- **Materials to Avoid:** Acids, alcohols, amines, bases, water, galvanised metals, copper and its alloys.
- **Hazardous Decomposition Products:** Oxides of nitrogen and carbon, hydrogen cyanide, other hazardous gaseous products.

10. STABILITY AND REACTIVITY:

**11. TOXICOLOGICAL INFORMATION:**  
 LD50 >5000mg/kg Oral Rat LD50 >5000mg/kg Dermal Rabbit LC50 0.49mg/L (4 hrs) Inhalation Rat LD50 >5000mg/kg Oral Rat LD50 >5000mg/kg Dermal Rabbit LC50 0.49mg/L (4 hrs) Inhalation Rat Diphenylmethanediisocyanate, isomers and homologues Diphenylmethane 4,4'- diisocyanate  
**12. ECOLOGICAL INFORMATION:** • Reaction with water produces insoluble polyurea, which is estimated from static laboratory conditions to have a low level of biodegradation. It is unlikely that significant environmental exposure in the air or water will arise.

LC50 Zebra Fish 96 hours >1000mg/l EC50 Daphnia magna 48 hours >1000mg/l IC50 E.coli 48 hours >100mg/l LC50 Zebra Fish 96 hours >1000mg/l EC50 Daphnia magna 48 hours >1000mg/l IC50 E.coli 48 hours >100mg/l Diphenylmethanediisocyanate, isomers and homologues Diphenylmethane 4,4'- diisocyanate  
**13. DISPOSAL CONSIDERATIONS:** • **Likely residues and waste products:** Small quantities of waste should be reacted with polyol to neutralise prior to disposal. Empty drums should be decontaminated and scrapped.  
 • **Safe handling of residues and waste product:** Dispose of neutralised residues by controlled incineration or approved landfill in accordance with local authority regulations. Do not dispose of unreacted product down drains, sewers or watercourses.

- 14. TRANSPORT INFORMATION:** • UN No.: -
- ADR/VLG: -
  - ADN/VBG: -
  - RID/VSG: -
  - IMO/IMDG: -
  - ICAO/IATA: -

This product is not classified as hazardous for transport.

- **15. REGULATORY INFORMATION:** • **Supply Label Information:** HARMFUL
  - Risk Phrases: - R20 Harmful by inhalation
  - - R36/37/38Irritating to eyes, respiratory system and skin
  - - R42/43May cause sensitisation by inhalation and skin contact
  - 
  - Safety Phrases: - S23 Do not breathe vapour or spray
  - - S36/37Wear suitable protective clothing and gloves
  - - S38In case of insufficient ventilation, wear suitable respiratory equipment
  - - S45 In case of accident or if you feel unwell, seek medical advice immediately (show this label where possible).
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  - **Other:** Contains Diphenylmethane 4,4' - diisocyanate
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**16. OTHER INFORMATION** • **Training advice:** Please read all datasheets carefully. If any point remains unclear or if further training is required please contact Bondtech Limited.

- **Recommended uses and restrictions:** Isocyanate component for two-part polyurethane in conjunction with a polyol. No other use recommended.
- **Further information sources:** Please refer to the Safety Data Sheet for the accompanying polyol for further information.
- **Sources of key data used to compile this SDS:** Raw material data. Occupational Exposure Limits 1997. Guidance Note EH40/98. Approved Supply List (CHIP Regulations 1996).

This Safety Data Sheet has been prepared and supplied in accordance with the **Chemicals (Hazard Identification and Packaging) Regulations 1994** as amended for use by persons capable of understanding the information contained herein for the protection of the health and safety of users. It is therefore important that this data sheet is passed to the appropriate person so that the information may be acted upon if necessary.

**NOTE:** This SDS has been prepared from information we believe to be reliable, however it is provided without warranty, expressed or implied, as to its correctness. Since the conditions of handling, storage, use and disposal of this material are beyond our control we accept no responsibility whatsoever for any loss, damage or expense which results from the handling, storage, use or disposal of this material.