

**EMERGENCY CONTACTS**


Telephone: + 44 (0) 01443 814657

**Section 1. Preparation and Company Identification**

Product Name ..... **13-302A EU**  
 Synonyms ..... Polymeric Diphenylmethane Diisocyanate  
 CAS Number ..... 9016-87-9  
 CAS Number ..... Mixture

**AZON UK LTD.**  
 Block C – Unit C14-15  
 Duffryn Park  
 1 Alder Avenue  
 Dyffryn Business Park  
 Ystrad Mynach, Hengoed  
 CF82 7TW

**Section 2. Hazards Identification**

| <b>CLP CLASSIFICATION</b>  | <b>CLP LABELLING</b><br>Pictograms; Signal Word Code(s)   | <b>Specific Concentration Limits; M-factors</b>  |
|--|---|--|
| <p><b>Hazard Class and Category Code(s)</b><br/>           Acute Toxicity, Inhalative, Category 4<br/>           Skin Irritation, Category 2<br/>           Eye Irritation, Category 2<br/>           Sensitization of the Respiratory Airways, Category 1<br/>           Sensitization of the skin, Category 1<br/>           STOT SE, Inhalative, Category 3</p> <p><b>Hazard Statement Code(s)</b><br/>           H332 Harmful if inhaled<br/>           H315 Causes skin irritation<br/>           H319 Causes serious eye irritation<br/>           H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled<br/>           H317 May cause an allergic skin reaction<br/>           H335 May cause respiratory irritation</p>   | <p>GHS07; GHS 08; Danger</p>  | <p>Eye Irrit.; H319:<br/>           C ≥ 5 %<br/>           STOT SE 3;<br/>           H335: C ≥ 5 %<br/>           Skin Irrit. 2;<br/>           H315: C ≥ 5 %<br/>           Resp. Sens. 1;<br/>           H334: C ≥ 0,1 %</p> |
| <p>P201 Obtain special instructions before use<br/>           P202 Do not handle until all safety precautions have been read and understood<br/>           P260 Do not breathe dust/fume/gas/mist/vapours/spray<br/>           P261 Avoid breathing dust/fume/gas/mist/vapours/spray<br/>           P264 Wash ... thoroughly after handling<br/>           P270 Do not eat, drink or smoke when using this product<br/>           P271 Use only outdoors or in a well-ventilated area<br/>           P272 Contaminated work clothing should not be allowed out of the workplace<br/>           P280 Wear protective gloves/protective clothing/eye protection/face protection<br/>           P281 Use personal protective equipment as required<br/>           P285 In case of inadequate ventilation wear respiratory protection<br/>           P310 Immediately call a POISON CENTER or doctor/physician<br/>           P312 Call a POISON CENTER or doctor/physician if you feel unwell<br/>           P314 Get Medical advice/attention if you feel unwell<br/>           P321 Specific treatment (see ... on this label)<br/>           P322 Specific measures (see ... on this label)<br/>           P330 Rinse mouth<br/>           P363 Wash contaminated clothing before reuse<br/>           P301 +P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell<br/>           P302 +P352 IF ON SKIN: Wash with plenty of soap and water<br/>           P304 +P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing<br/>           P304 +P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing<br/>           P305 +P351 +P338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing<br/>           P333 + P313 If skin irritation or a rash occurs: Get medical advice/attention<br/>           P337 + P313 If eye irritation persists: get medical advice/attention<br/>           P342 + P311 If experiencing respiratory symptoms: call a POISON CENTER or doctor/physician<br/>           P405 Store locked up<br/>           P403 + P233 Store in a well ventilated place. Keep container tightly closed<br/>           P501 Dispose of contents/container to appropriately licensed chemical waste/drum reclamation facilities</p> |   |  |

**Section 3. Composition / Information on Ingredients****INGREDIENTS**

| Ingredient Name              | CAS Number | Concentration |
|------------------------------|------------|---------------|
| Diphenylmethane Diisocyanate | 9016-87-9  | <=100%        |

**Section 4. First Aid Measures**

General- Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

If aerosol or vapour is inhaled in high concentrations take the person into the fresh air and keep them warm, let them rest; if there is difficulty in breathing, medical advice is required.

First Aid For Skin- In the event of contact with the skin, preferably wash with a cleanser based on polyethylene glycol or with plenty of warm water and soap. Consult a doctor in the event of a skin reaction.

First Aid For Eyes- In the event of contact with the eyes, hold the eyes open and rinse with lukewarm water for a sufficiently long period of time (10 minutes). Immediately consult a doctor (ophthalmologist).

First Aid For Ingestion- DO NOT INDUCE THE PATIENT TO VOMIT. Medical advice is required.

Information for the Physician- The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Extended medical care may be necessary, depending on the extent of the exposure and the symptoms.

**Section 5. Fire Fighting Measures**

Extinguishing Media- Dry Chemical, CO<sub>2</sub>, chemical foam, water spray for larger fires.

Further Information- In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapour, and traces of hydrogen cyanide is possible. Fire fighters have to wear self-contained breathing apparatus. Evacuate personnel located downwind. Do not let contaminated extinguishing water enter into the soil, groundwater or surface waters.

**Section 6. Accidental Release Measures**

Put on protective equipment (see section 8). Cover with damp, fluid binding material (for example sand, sawdust, chemical binder based on calcium silicate hydrate). Transfer to waste container after approximately 1 hour and do not seal (CO<sub>2</sub> formation!) Keep damp and in the open air in a safe place for 7 to 14 days. Waste should be disposed of in accordance with applicable regulations.

**Section 7. Handling and Storage**

Handling- Observe the usual precautionary measures for chemicals. Avoid contact with skin. In all areas where isocyanate aerosol and/or vapour concentrations are produced, exhaust ventilation must be provided in such a way that the OEL is not exceeded. The air should be drawn away from the personnel handling the product and the efficiency of the exhaust equipment should be periodically checked.

**Section 8. Exposure Controls**

Components with workplace control parameters

| Substance                          | CAS Number | TWA                    | STEL                   |
|------------------------------------|------------|------------------------|------------------------|
| Diphenylmethane-4, 4'-Diisocyanate | 101-68-8   | 0,02 mg/m <sup>3</sup> | 0,07 mg/m <sup>3</sup> |

Respiratory Protection- Required at inadequately ventilated workplaces. If product is sprayed, wear air-fed mask or (for short periods only) a combination of charcoal filter and particulate filter mask is recommended.

Eye Protection- Goggles/face protection.

Suitable material for safety gloves- Polychloroprene- CR (>= 0,5 mm); Nitrile Rubber- NBR (>= 0,35 mm); Butyl Rubber- IIR (>= 0,5 mm); Fluorinated Rubber- FKM (>= 0,4 mm); Polyvinyl Chloride- PVC (>= 0,5 mm)

Store work clothes and street clothes separately. Wash hands before breaks and at the end of work. Decontaminate, destroy and dispose of soiled protective clothing.

Depending on the production parameters, any uncovered surfaces of polyurethane moldings produced using this raw material may contain traces of substances (e.g. starting and reaction products, catalysts, release agents) with hazardous characteristics (e.g. harmful, irritating, corrosive, sensitising).

In order to prevent skin contact with the traces of these substances, fully buttoned work clothing and protective gloves whose palms and finger areas are at least coated on the outside with nitrile rubber, PVC or polyurethane should be worn when demolding or otherwise handling the freshly molded polyurethane parts.

### Section 9. Physical and Chemical Properties

|                             |                              |              |              |
|-----------------------------|------------------------------|--------------|--------------|
| FORM .....                  | Liquid                       |              |              |
| COLOUR.....                 | Brown                        |              |              |
| ODOUR.....                  | Earthy musty                 |              |              |
| POUR POINT.....             | <0 °C                        |              | DIN ISO 3016 |
| INITIAL BOILING POINT ..... | >300 °C                      | at 1013 mbar |              |
| DENSITY .....               | 1,23 g/cm <sup>3</sup>       | at 20 °C     | DIN 51757    |
| VAPOUR PRESSURE .....       | 1 mbar                       | at 20 °C     |              |
|                             | 12 mbar                      | at 50 °C     |              |
|                             | MDI:                         |              |              |
|                             | <0,00001 mbar                | at 20 °C     |              |
| VISCOSITY.....              | >=200 mPa.s                  | at 20 °C     | DIN 53019    |
| SOLUBILITY IN WATER.....    | Insoluble, reacts with water |              |              |
| FLASH POINT .....           | >200 °C                      |              | DIN EN 22719 |
| IGNITION TEMPERATURE.....   | > 500 °C                     |              | DIN 51794    |
| EXPLOSIVE LIMITS .....      | Limits not determined        |              |              |

### Section 10. Stability and Reactivity

Thermal Decomposition- Polymerises at about 200 °C with evolution of CO<sub>2</sub>.

Hazardous Decomposition Products- No hazardous decomposition products when stored and handled correctly.

Hazardous Reactions- Exothermic reaction with amines and alcohols; reacts with water forming CO<sub>2</sub>, in closed containers risk of bursting due to increase of pressure.

### Section 11. Toxicological Information

#### Acute Toxicity

Oral LD50- >2.000 mg/kg (Rat Female)

Inhalation LC50- 490 mg/m<sup>3</sup>, vapor, 4 h (Rat)

Concentration of the saturated vapour of 4, 4'-Diphenylmethane Diisocyanate (MDI) at 25 °C: 0,09 mg/m<sup>3</sup>.

In a long term inhalation study, rats were exposed over a period of 2 years to mechanically generated respirable aerosols (aerodynamic diameter 95% less than 5 µm) of polymeric MDI (PMDI) in concentrations of 0,2, 1,0 and 6,0 mg PMDI/m<sup>3</sup>. The group of animals exposed to the highest concentration suffered an increased incidence of lung tumours, persistent inflammatory changes to the nose, respiratory tract and lungs, and yellowish deposits in the respiratory tract and lungs. The animals in the 1,0 mg/m<sup>3</sup> group exhibited slight irritation and inflammatory changes to the nose, respiratory tract and lungs, but did not develop lung tumours and/or deposits. Animals in the 2,0 mg/m<sup>3</sup> group suffered no irritation; this concentration was therefore deemed to constitute the "no-effect level".

Irritating/Corrosive Effects- On the eyes, causes slight temporary reddening and swelling of the conjunctiva and slight reversible clouding of the cornea. In high concentrations of vapour the product has irritating effects on the eyes and mucous membranes. On the skin, it is an irritant. In case of long contact with skin, tanning and irritating effects are possible. On the respiratory tract, high concentrations of vapour has irritating effects on eyes and mucous membranes.

Special Properties/Effects- Experience on humans, irritation of the mucous membranes in the nose, throat and lungs, dryness of the throat, pressure on the chest, sometimes accompanied by breathing difficulties and headaches. Delayed appearance of the symptoms and allergic reaction in susceptible persons is possible.

Sensitisation- May cause sensitisation by inhalation. The following information has been obtained on animal studies: Dermal sensitisation not evaluable since experimental results are contradictory.

**Section 12. Ecological Information**

Do not allow to escape into waters, wastewater or soil.

Immiscible in water. Reacts with water at the interface producing CO<sub>2</sub> and forming a solid and insoluble product with a high meltingpoint (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

**Data on Diphenylmethane Diisocyanate, isomeres and homologues**

Biodegradability- 0% after 28 days (respirometer test).

Acute Toxicity To Fish- LC0: >1,000 mg/l (Zebra fish (Brachydanio rerio) 96 hrs).

Toxicity For Daphnia- EC50: >100 mg/l, (Daphnia magna (Water Flea) 24 hrs).

Acute Bacteria Toxicity- EC50: > 100 mg/l, (Activated sludge microorganisms, 3 hrs).

**Section 13. Disposal Considerations**

It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste Catalogue. It is recommended that details be sorted out with waste disposer responsibility. After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), any product residue adhering to their walls has been rendered harmless, and the product and hazard labelling has been invalidated, they can be sent to an appropriate collection point set up within the framework of the existitng take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

**Section 14. Transportation Information**

Not regulated for transportation

**Section 15. Regulatory Information**

Classification and labelling according Regulation on Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation).

**Section 16. Other Information**

Reason for issue .....Updated company information

Prepared by .....Steve Beck

Approval date .....16-12-2016

**WARRANTY** The information contained in this document is to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. The customer must inspect and test our products before use, and satisfy themselves as to the contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials, and in no event shall we be liable for special, incidental, or consequential damages.