



Revision: 4 May 2020

## SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

- Product Name: LEESON BOUND® UVR (PU4844/60) UNPIGMENTED PART A
- Product Part Number: LEESON BOUND® UVR (PU4844/60) UNPIGMENTED PART A

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

- Use of the substance/mixture: Industrial Two Component Aliphatic Stone Binder
- Use advised against: No specific uses advised against are identified

### 1.3 Details of the supplier of the safety data sheet

- Name of Supplier: LEESON POLYURETHANES
- Address of Supplier: HERMES CLOSE  
TACHBROOK PARK  
WARWICK  
CV34 6RP  
UK
- Telephone: +44 (0) 1926 833367
- Responsible Person: sales@lpultd.com
- Email: sales@lpultd.com

### 1.4 Emergency telephone number

- Emergency Telephone: 00447909 683213

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

- Classification according to 1272/2008/EC
- Physical hazards: Not Classified
- Health hazards: Not Classified
- Environmental hazards: Not Classified

### 2.2 Label elements

- Signal Word: None
- Hazard statements  
None
- Precautionary statements  
None

### 2.3 Other hazards

- This substance is not classified as PBT or vPvB according to current EU criteria

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## SECTION 3: Composition/information on ingredients

The product is not classified as hazardous according to directive 1999/45/EEC

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Contact with eyes  
Hold the eyes open and rinse with water for a sufficiently long period of time (at least 10 minutes).  
Remove any contact lenses and open eyelids wide apart.  
Get medical attention if discomfort continues. Show this Safety Datasheet to the medical personnel
- Contact with 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.  
Wash any contaminated clothing before reuse.  
Clean shoes thoroughly before reuse.  
Get medical attention if discomfort occurs. Show this Safety Datasheet to the medical personnel
- Ingestion  
Rinse mouth thoroughly with water, removing any dentures.  
Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous.  
Do not induce vomiting unless under the direction of medical professionals.  
If vomiting does occur the head should be kept low so that vomit does not enter the lungs.  
Never give anything by mouth to an unconscious person.  
Get medical attention if discomfort occurs. Show this Safety Datasheet to the medical personnel

### 4.2 Most important symptoms and effects, both acute and delayed

- Ingestion: May cause stomach upset and diarrhoea
- Skin contact: Prolonged exposure may cause dryness of the skin
- Eye contact: May cause temporary eye irritation

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media: The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.  
Use fire-extinguishing media suitable for the surrounding fire
- Unsuitable extinguishing media: Do not use water jets as an extinguisher

### 5.2 Special hazards arising from the substance or mixture

## SECTION 5: Firefighting measures (....)

- Specific hazards arising from the chemical combustion products: Carbon oxides (CO, CO<sub>2</sub>) and hydrocarbons can be released in case of fire.
- Specific hazards during firefighting: Containers can burst violently or explode when heated, due to excessive pressure build-up

### 5.3 Advice for firefighters

- Protective actions during firefighting: Avoid breathing fire gases or vapours, evacuate area and keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. Reaction between water and hot isocyanate may be vigorous. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs notify appropriate authorities.
- Special protective equipment for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Safety boots, gloves, safety helmet and protective clothing should be worn. Firefighters clothing conforming to European Standard EN469 will provide a basic level of protection for chemical incidents

## SECTION 6: Accidental release measures

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

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind. For small spillages absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. For large spillages, if leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 6.4 Reference to other sections

## SECTION 6: Accidental release measures (....)

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store in original packaging, in dry conditions.

### 7.3 Specific end use(s)

- The identified uses for this product are detailed in Section 1.2

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure controls

- Not applicable

### 8.2 Precautionary measures

Personal Protective Equipment:

Eye/Face Protection:

Eyewear complying with EN 166 should be worn if a risk assessment indicates eye contact is possible. If an inhalation hazard also exists, a full-face respirator may be required instead.

Hand Protection:

Chemical-resistant, impervious gloves complying to European Standard EN 374 should be worn if a risk assessment indicates skin contamination is possible. Examples of gloves materials that might provide suitable protection include: Butyl rubber (BR), Nitrile rubber (NR), Chloroprene rubber (Neoprene). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Check during use that gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes of gloves are recommended.

Other Skin and Body Protection:

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Respiratory Protection:

## SECTION 8: Exposure controls/personal protection (....)

Under normal use of the product respiratory protection should not be required. If a risk assessment indicates inhalation of contaminants is possible respiratory protection should comply with the approved standard. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and that the filter is changed regularly. Gas and combined filter cartridges should comply with European Standard EN 14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN 136. Half mask or quarter mask respirators with replaceable filter cartridges should comply with European Standard EN 140.

### Hygiene Measures:

Provide eyewash station and safety shower, Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and work areas every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventative industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

### 8.3 Environmental exposure controls

Keep containers tightly sealed when not in use. Avoid spillage or runoff entering drains, sewers or watercourses. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance: Liquid
- Flammability (liquid): not classified as a flammability hazard
- Flammability (solid, gas): not applicable
- Flash point - not applicable
- pH - not applicable
- Solubility in water: Insoluble in water
- Solubility in other solvents: Miscible in most organic solvents

### 9.2 Other information

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

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

- No hazardous reactions known if used for its intended purpose

### 10.2 Chemical stability

- Considered stable under recommended storage conditions

### 10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use

### 10.4 Conditions to avoid

## SECTION 10: Stability and reactivity (....)

- No special precautions are required for this product

### 10.5 Incompatible materials

- No hazardous reactions known if used for its intended purpose

### 10.6 Hazardous decomposition products

- No hazardous decomposition products known

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:  
Not classified based on available information

Skin corrosion/irritation:  
Not classified based on available information

Serious eye damage/eye irritation:  
Not classified based on available information

Respiratory sensitisation:  
Not classified based on available information

Skin sensitisation:  
Not classified based on available information

Germ cell mutagenicity:  
Not classified based on available information

Carcinogenicity:  
Not classified based on available information

Reproductive toxicity:  
Not classified based on available information

STOT - single exposure:  
Not classified based on available information

STOT - repeated exposure:  
Not classified based on available information

Aspiration hazard:  
Not classified based on available information

## SECTION 12: Ecological information

### 12.1 Toxicity

- Based on available data the classification criteria are not met.

### 12.2 Persistence and degradability

## SECTION 12: Ecological information (....)

- The degradability of the product is not known

### 12.3 Bioaccumulative potential

- No information available

### 12.4 Mobility in soil

- No information available

### 12.5 Results of PBT and vPvB assessment

- This substance is not classified as PBT or vPvB according to current EU criteria

### 12.6 Other adverse effects

- None known

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Dispose of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to the handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Do not empty into drains, sewers or watercourses. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible

## SECTION 14: Transport information

### 14.1 UN number

- UN No.: Not applicable

### 14.2 Proper Shipping Name

- Proper Shipping Name: Not applicable

### 14.3 Transport hazard class(es)

- Hazard Class: No transport warning signs required

### 14.4 Packing group

- Not applicable

### 14.5 Environmental hazards

- Not classified as an environmentally hazardous substance
- Not classified as a marine pollutant

## SECTION 14: Transport information (....)

### 14.6 Special precautions for user

- Not applicable

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- United Kingdom - Health and Safety at Work etc Act 1974 (as amended)
- United Kingdom - The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulation 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]
- United Kingdom - EH40/2005 Workplace Exposure Limits
- EU - Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) (as amended)
- EU - Commission Regulation (EU) No 2015/830 of 28 May 2015
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on Classification, Labelling and Packaging of Substances and Mixtures (as amended)

### 15.2 Chemical safety assessment

- This Safety Data Sheet does not constitute a workplace risk assessment
- A chemical safety assessment has not been carried out for this product

## SECTION 16: Other information

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

--- end of safety datasheet ---



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## SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

- Product Name: LEESON BOUND® UVR (PU4844) UNPIGMENTED PART B
- Product Part Number: LEESON BOUND® UVR (PU4844) UNPIGMENTED PART B

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

- Use of the substance/mixture: Industrial Two Component Aliphatic Stone Binder
- Use advised against: No specific uses advised against are identified

### 1.3 Details of the supplier of the safety data sheet

- Name of Supplier: LEESON POLYURETHANES
- Address of Supplier: HERMES CLOSE  
TACHBROOK PARK  
WARWICK  
CV34 6RP  
UK
- Telephone: +44 (0) 1926 833367
- Responsible Person: sales@lpultd.com
- Email: sales@lpultd.com

### 1.4 Emergency telephone number

- Emergency Telephone: 00447909 683213

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

- Classification according to 1272/2008/EC
- Physical hazards: Not Classified
- Health hazards: H332 - Harmful if inhaled., H317 - May cause an allergic skin reaction, H335 - May cause respiratory irritation
- Environmental hazards: Not Classified
- CLP: Acute Tox. 4, Skin Sens. 1, STOT SE 3

### 2.2 Label elements



- Signal Word: Warning
- Hazard statements  
May cause an allergic skin reaction.  
Harmful if inhaled.  
May cause respiratory irritation.

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## SECTION 2: Hazards identification (....)

Contains isocyanates. May produce an allergic reaction.

- Precautionary statements  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF ON SKIN: Wash with plenty of soap and water.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Call a POISON CENTRE or doctor if you feel unwell.  
If skin irritation or rash occurs: Get medical advice/attention.

### 2.3 Other hazards

- Contains: ISOCYANATES
- This substance is not classified as PBT or vPvB according to current EU criteria

## SECTION 3: Composition/information on ingredients

### 3.1 Composition

- Hexamethylene diisocyanate oligomers  
CAS Number: 28182-81-2  
EC Number: 931-274-8  
REACH Registration Number: 01-2119485796-17-0000  
Concentration: 100%  
Categories: Acute Tox. 4, Skin Sens. 1, STOT SE 3  
Symbols: GHS07  
H Statements: H317, H332, H335

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Contact with eyes  
Hold the eyes open and rinse with water for a sufficiently long period of time (at least 10 minutes).  
Remove any contact lenses and open eyelids wide apart.  
Get medical attention immediately.
- Contact with 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.  
Wash any contaminated clothing before reuse.  
Clean shoes thoroughly before reuse.  
Get medical attention if symptoms persist
- Ingestion  
Rinse mouth thoroughly with water, removing any dentures.  
Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous.  
Do not induce vomiting unless under the direction of medical professionals.

## SECTION 4: First aid measures (....)

If vomiting does occur the head should be kept low so that vomit does not enter the lungs.  
Never give anything by mouth to an unconscious person.  
Get medical attention if symptoms persist

- Inhalation  
Remove affected person from source of contamination.  
Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.  
When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.  
Get medical attention if symptoms persist

### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms: Headache  
Nausea  
Shortness of breath  
Sore throat  
Redness on the skin
- Risks: Repeated or prolonged contact may cause skin sensitization

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically
- Give oxygen or artificial respiration if needed

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media: The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.  
Use fire-extinguishing media suitable for the surrounding fire
- Unsuitable extinguishing media: Do not use water jets as an extinguisher

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical combustion products: Carbon oxides (CO, CO<sub>2</sub>) nitrogen oxides (NO, NO<sub>2</sub> etc.) hydrocarbons, isocyanate vapours and hydrogen cyanide can be released in case of fire.
- Specific hazards during firefighting: Containers can burst violently or explode when heated, due to excessive pressure build-up

### 5.3 Advice for firefighters

## SECTION 5: Firefighting measures (....)

- Protective actions during firefighting: Avoid breathing fire gases or vapours, evacuate area and keep upwind to avoid inhalation of gases, vapours, fumes and smoke.  
Fire in vicinity poses risk of pressure build-up and rupture.  
Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. 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.  
Containers may burst if overheated.  
Reaction between water and hot isocyanate may be vigorous.  
Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs notify appropriate authorities.
- Special protective equipment for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Safety boots, gloves, safety helmet and protective clothing should be worn. Firefighters clothing conforming to European Standard EN469 will provide a basic level of protection for chemical incidents

## SECTION 6: Accidental release measures

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

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind. For small spillages absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. For large spillages, if leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 6.4 Reference to other sections

## SECTION 6: Accidental release measures (....)

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

This product will react with moisture to form a polyurethane. If an open container becomes contaminated with moisture do not reseal as this can lead to pressure increase within the container.

### 7.3 Specific end use(s)

- The identified uses for this product are detailed in Section 1.2

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure controls

Occupational exposure limits of the components:

Hexamethylene Diisocyanate Oligomers - CAS 28182-81-2:

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup> (NCO)

Short-term exposure limit (15-minute): WEL 0.07mg/m<sup>3</sup> (NCO)

Sen

WEL = Workplace Exposure Limit

Sen = Substance has the capacity to cause occupational asthma

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Worker - Inhalation Acute local effects: 1 mg/m<sup>3</sup>

Worker - Inhalation Long-term local effects: 0.5 mg/m<sup>3</sup>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Fresh water: 0.127 mg/l

Marine water: 0.0127 mg/l

## SECTION 8: Exposure controls/personal protection (....)

Intermittent release: 1.27 mg/l

Sediment (freshwater): 266700 mg/kg

Sediment (marinewater): 26670 mg/kg

Sewage treatment plant: 38.28 mg/l

Soil: 53182 mg/kg dw

### 8.2 Precautionary measures

Appropriate Engineering Controls:

Provide adequate ventilation. Personnel, workplace or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Personal Protective Equipment:

Eye/Face Protection:

Eyewear complying with EN 166 should be worn if a risk assessment indicates eye contact is possible. If an inhalation hazard also exists, a full-face respirator may be required instead.

Hand Protection:

Chemical-resistant, impervious gloves complying to European Standard EN 374 should be worn if a risk assessment indicates skin contamination is possible. Examples of gloves materials that might provide suitable protection include: Butyl rubber (BR), Nitrile rubber (NR), Chloroprene rubber (Neoprene). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Check during use that gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes of gloves are recommended.

Other Skin and Body Protection:

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Respiratory Protection:

Under normal use of the product respiratory protection should not be required. If a risk assessment indicates inhalation of contaminants is possible respiratory protection should comply with the approved standard. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and that the filter is changed regularly. Gas and combined filter cartridges should comply with European Standard EN 14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN 136. Half mask or quarter mask respirators with replaceable filter cartridges should comply with European Standard EN 140.

Hygiene Measures:

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and work areas every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventative industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

## SECTION 8: Exposure controls/personal protection (....)

### 8.3 Environmental exposure controls

Keep containers tightly sealed when not in use. Avoid spillage or runoff entering drains, sewers or watercourses. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance: Liquid
- Flammability (liquid): not classified as a flammability hazard
- Flammability (solid, gas): not applicable
- Flash point - not applicable
- pH - not applicable
- Solubility in water: Insoluble in water
- Solubility in other solvents: miscible in most organic solvents

### 9.2 Other information

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

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reacts with moist air and water

### 10.2 Chemical stability

The main removal mechanism of HMDI based products in the environment is hydrolysis. HMDI based products react quickly with water to form predominantly solid, insoluble polyurethanes or polyureas. Under conditions typical of many types of environmental contact, i. e. with relatively poor dispersion of the denser isocyanate, the interfacial reaction leads to the formation of a solid crust encasing partially or unreacted material. This crust restricts ingress of water and hence slows and modifies hydrolysis.

### 10.3 Possibility of hazardous reactions

Reaction is slow with cold or warm water (< 50 °C), with hot water or steam the reaction is faster, producing carbon-dioxide which may cause a pressure increase in sealed containers.

### 10.4 Conditions to avoid

Moisture will lead to the product curing as a solid polyurethane

High Temperatures will increase the rate of the above to reactions

### 10.5 Incompatible materials

No specific material or group of materials is likely to react with the product to produce a hazardous situation

Moisture will lead to the product curing as a solid polyurethane

### 10.6 Hazardous decomposition products

## SECTION 10: Stability and reactivity (....)

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:  
Acute Tox. 4 - Harmful if inhaled

Skin corrosion/irritation:  
Not classified based on available information

Serious eye damage/eye irritation:  
Not classified based on available information

Respiratory sensitisation:  
Not classified based on available information

Skin sensitisation:  
Skin Sens. 1 - May cause sensitisation or allergic reactions in sensitive individuals

Germ cell mutagenicity:  
Not classified based on available information

Carcinogenicity:  
Not classified based on available information

Reproductive toxicity:  
Not classified based on available information

Specific target organ toxicity - single exposure:  
STOT SE 3 - May cause respiratory irritation

Specific target organ toxicity - repeated exposure:  
Not classified based on available information

Aspiration hazard:  
Not classified based on available information

Further Information:  
The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Symptoms of over-exposure may include headache, nausea, shortness of breath, sore throat, or redness on the skin.

Toxicological data for the components:  
Hexamethylene diisocyanate oligomers – CAS 28182-81-2:  
Acute inhalation toxicity : LC50/4h: 0.467 mg/L  
Species: Rat  
Method: OECD Test 403  
Test atmosphere: Mist



## SECTION 11: Toxicological information (....)

Acute oral toxicity	: LD50: >2500 mg/kg Species: Rat Method: OECD Test 401
Acute dermal toxicity	: LD50: ≥2000 mg/kg Species: Rat Method: OECD Test 402
Skin corrosion/irritation	: Species: Rabbit Result: Not irritating Method: OECD Test 404
Eye damage/ eye irritation	: Species: Rabbit Result: Not irritating Method: OECD Test 405
STOT - single exposure	: Route of exposure: Inhalation Target organs: Respiratory tract May cause respiratory irritation

## SECTION 12: Ecological information

### 12.1 Toxicity

- Based on available data the classification criteria are not met.
- Hexamethylene diisocyanate oligomers  
IC50 (algae): >100 mg/l (72 hr)  
EC50 (daphnia): 127 mg/l (48 hr)  
LC50 (fish): 100 mg/l (96 hr)

### 12.2 Persistence and degradability

- The degradability of the product is not known

### 12.3 Bioaccumulative potential

- No information available

### 12.4 Mobility in soil

- This product is not miscible with water and reacts to form a solid long chain polyurethane. Based on this it is unlikely to present a risk for mobility

### 12.5 Results of PBT and vPvB assessment

- This substance is not classified as PBT or vPvB according to current EU criteria

### 12.6 Other adverse effects

- None known

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

## SECTION 13: Disposal considerations (....)

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Dispose of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to the handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Do not empty into drains, sewers or watercourses. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible

## SECTION 14: Transport information

### 14.1 UN number

- UN No.: Not applicable

### 14.2 Proper Shipping Name

- Proper Shipping Name: Not applicable

### 14.3 Transport hazard class(es)

- Hazard Class: No transport warning signs required

### 14.4 Packing group

- Not applicable

### 14.5 Environmental hazards

- Not classified as an environmentally hazardous substance
- Not classified as a marine pollutant

### 14.6 Special precautions for user

- Not applicable

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- United Kingdom - Health and Safety at Work etc Act 1974 (as amended)
- United Kingdom - The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulation 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]
- United Kingdom - EH40/2005 Workplace Exposure Limits

## SECTION 15: Regulatory information (....)

- EU - Regulation (EC) No 1907/2006 of the European Parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) (as amended)
- EU - Commission Regulation (EU) No 2015/830 of 28 May 2015
- Regulation(EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on Classification, Labelling and Packaging of Substances and Mixtures (as amended)

### 15.2 Chemical safety assessment

- This Safety Data Sheet does not constitute a workplace risk assessment
- A chemical safety assessment has not been carried out for this product

## SECTION 16: Other information

Text not given with phrase codes where they are used elsewhere in this safety data sheet:- H317: May cause an allergic skin reaction. H332: Harmful if inhaled. H335: May cause respiratory irritation.

Full text of GHS H-Statements referred to under sections 2 and 3:

H317: May cause an allergic skin reaction

H332: Harmful if inhaled

H335: May cause respiratory irritation

Full text of EU H-Statements referred to under section 2 and 3:

EUH204: Contains isocyanates. May produce an allergic reaction

Full list of GHS P-statements

Prevention:

P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P302+352: IF ON SKIN: Wash with plenty of water

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312: Call a POISON CENTER/ doctor if you feel unwell.

P321: Specific treatment (see P302+352 and P304+340 on this label).

P333+313: If skin irritation or a rash occurs: Get medical advice/attention.

P363: Wash contaminated clothing before reuse.

Storage:

P403+233: Store in a well ventilated place. Keep container tightly closed.

P405: Store locked up.

Disposal:

P501: Dispose of contents/containers to an authorised waste collection point

**This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.**

## SECTION 16: Other information (....)

--- end of safety datasheet ---



Revision: 30 Apr 2020

## SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

- Product Name: PU3922 Unpigmented - One Component Solvented Primer
- Product Part Number: PU3922 Unpigmented

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

- Use of the substance/mixture: Industrial One Component Solvented Primer
- Use advised against: No specific uses advised against are identified

### 1.3 Details of the supplier of the safety data sheet

- Name of Supplier: LEESON POLYURETHANES
- Address of Supplier: HERMES CLOSE  
TACHBROOK PARK  
WARWICK  
CV34 6RP  
UK
- Telephone: +44 (0) 1926 833367
- Responsible Person: sales@lpultd.com
- Email: sales@lpultd.com

### 1.4 Emergency telephone number

- Emergency Telephone: 00447909 683213

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

- Classification according to 1272/2008/EC
- Physical hazards: H226 - Flammable liquid and vapour
- Health hazards: H332 - Harmful if inhaled., H315 - Causes skin irritation, H319 - Causes serious eye irritation, H335 - May cause respiratory irritation, H317 - May cause an allergic skin reaction, H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled, H351 - Suspected of causing cancer, H373 - May cause damage to organs through prolonged or repeated exposure
- Environmental hazards: Not Classified
- CLP: Resp. Sens. 1, Skin Sens. 1, Flam. Liq. 3, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2

### 2.2 Label elements



Revision: 30 Apr 2020

## SECTION 2: Hazards identification (....)

- Signal Word: Danger
- Hazard statements  
Flammable liquid and vapour.  
Harmful if inhaled.  
May cause respiratory irritation.  
May cause damage to organs through prolonged or repeated exposure.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
Contains isocyanates. May produce an allergic reaction.  
Risk of explosion if heated under confinement.
- Precautionary statements  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 2.3 Other hazards

- Contains: ISOCYANATES  
Xylene
- This substance is not classified as PBT or vPvB according to current EU criteria

## SECTION 3: Composition/information on ingredients

### 3.1 Composition

- Polymeric MDI  
CAS Number: 9016-87-9  
EC Number: 618-498-9  
REACH Registration Number: -  
Concentration: 20 - 40%  
Categories: Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1B, Carc. 2, STOT SE 3, STOT RE 2  
Symbols: GHS07, GHS08  
H Statements: EUH204, H315, H317, H319, H332, H334, H335, H351, H373
- xylene  
CAS Number: 1330-20-7  
EC Number: 215-535-7  
REACH Registration Number: 01-2119488216-32-0000  
Concentration: 40 - 60%

### SECTION 3: Composition/information on ingredients (....)

Categories:	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Chronic 3
Symbols:	GHS02, GHS07, GHS08
H Statements:	H226, H332, H312, H315, H319, H335, H373, H304, H412

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- Contact with eyes  
Hold the eyes open and rinse with water for a sufficiently long period of time (at least 10 minutes).  
Remove any contact lenses and open eyelids wide apart.  
Get medical attention immediately.
- Contact with 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.  
Wash any contaminated clothing before reuse.  
Clean shoes thoroughly before reuse.  
Get medical attention if symptoms persist
- Ingestion  
Rinse mouth thoroughly with water, removing any dentures.  
Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous.  
Do not induce vomiting unless under the direction of medical professionals.  
If vomiting does occur the head should be kept low so that vomit does not enter the lungs.  
Never give anything by mouth to an unconscious person.  
Get medical attention if symptoms persist
- Inhalation  
Remove affected person from source of contamination.  
Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.  
When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.  
Get medical attention if symptoms persist

#### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms: Headache  
Nausea  
Shortness of breath  
Sore throat  
Redness on the skin
- Risks: Repeated or prolonged contact may cause skin sensitization  
Repeated or prolonged inhalation exposure may cause asthma  
Suspected of causing cancer

#### 4.3 Indication of any immediate medical attention and special treatment needed

### SECTION 4: First aid measures (....)

- Treat symptomatically
- Give oxygen or artificial respiration if needed

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media: The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.  
Use fire-extinguishing media suitable for the surrounding fire
- Unsuitable extinguishing media: Do not use water jets as an extinguisher

#### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical combustion products: Carbon oxides (CO, CO<sub>2</sub>) nitrogen oxides (NO, NO<sub>2</sub> etc.) hydrocarbons, isocyanate vapours and hydrogen cyanide can be released in case of fire.
- Specific hazards during firefighting: Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour.  
Vapours may be ignited by a spark, a hot surface or an ember.  
Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard. This product is toxic.

#### 5.3 Advice for firefighters

- Flashpoint: >40°C Closed Cup
- Protective actions during firefighting: Avoid breathing fire gases or vapours, evacuate area and keep upwind to avoid inhalation of gases, vapours, fumes and smoke.  
Fire in vicinity poses risk of pressure build-up and rupture.  
Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. 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.  
Containers may burst if overheated.  
Reaction between water and hot isocyanate may be vigorous.  
Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs notify appropriate authorities.
- Special protective equipment for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Safety boots, gloves, safety helmet and protective clothing should be worn. Firefighters clothing conforming to European Standard EN469 will provide a basic level of protection for chemical incidents

### SECTION 6: Accidental release measures

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

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and

## SECTION 6: Accidental release measures (....)

training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Approach the spillage from upwind. For small spillages absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. For large spillages, if leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 6.4 Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Suspected of causing cancer. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Keep only in the original container. Eliminate all sources of ignition. Take precautionary measures against static discharges. Earth container and transfer equipment to eliminate sparks from static electricity. Keep away from oxidising materials, heat and flames. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

This product will react with moisture to form a polyurethane, if an open container becomes

## SECTION 7: Handling and storage (....)

contaminated with moisture do not reseal as this can lead to pressure increase within the container.

### 7.3 Specific end use(s)

- The identified uses for this product are detailed in Section 1.2

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure controls

Occupational exposure limits of the components:

Polymer MDI - CAS 9016-87-9:

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m<sup>3</sup> (NCO)

Short-term exposure limit (15-minute): WEL 0.07mg/m<sup>3</sup> (NCO)

Sen

WEL = Workplace Exposure Limit

Sen = Substance has the capacity to cause occupational asthma

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Worker - Inhalation Acute local effects: 0.1 mg/m<sup>3</sup>

Worker - Inhalation Long-term local effects: 0.05 mg/m<sup>3</sup>

Worker - Dermal Acute systematic effects: 50 mg/kg

Worker - Dermal Acute local effects: 27.8 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Fresh water: 1 mg/l

Marine water: 0.1 mg/l

Freshwater Intermittent: 10 mg/l

Sewage treatment plant: 1 mg/l

Soil: 1 mg/kg dw

.

Xylene - CAS 1330-20-7:

Long-term exposure limit (8-hour TWA): WEL 220 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 441 mg/m<sup>3</sup>

Sk

WEL = Workplace Exposure Limit

Sk = Substance has the capacity to penetrate the skin and be absorbed into the body

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Worker - Inhalation Acute local effects: 289 mg/m<sup>3</sup>

Worker - Inhalation Acute systematic effects: 289 mg/m<sup>3</sup>

Worker - Inhalation Long-term systematic effects: 77 mg/m<sup>3</sup>

Worker - Dermal Long-term systematic effects: 180 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Fresh water: 0.327 mg/l

Marine water: 0.327 mg/l

Intermittent release: 0.327 mg/l

Sediment (freshwater): 12.46 mg/kg dw

Sediment (marinewater): 12.46 mg/kg dw

Sewage treatment plant: 6.58 mg/l

## SECTION 8: Exposure controls/personal protection (....)

Soil: 2.31 mg/kg dw

EH40/2005 Workplace Exposure Limits: Medical supervision of all employees who come in contact with respiratory sensitisers is recommended. Personell with a history of asthma-type conditions, bronchitis or skin sensitisation conditions should not work with MDI based products. The OELs listed do not apply to previously sensitised individuals. Sensitised individuals should be removed from any further exposure.

### 8.2 Precautionary measures

Appropriate Engineering Controls:

Provide adequate ventilation. Personel, workplace or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Ensure control measures are regularly inspected and maintained. Ensure operatives are trianed to minimise exposure.

Personal Protective Equipment:

Eye/Face Protection:

Eyewear complying with EN 166 should be worn if a risk assessment indicates eye contact is possible. If an inhalation hazard also exists, a full-face respirator may be required instead.

Hand Protection:

Chemical-resistant, impervious gloves complying to European Standard EN 374 should be worn if a risk assessment indicates skin contamination is possible. Examples of gloves materials that might provide suitable protection include: Butyl rubber (BR), Nitrile rubber (NR), Chloroprene rubber (Neoprene). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Check during use that gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes of gloves are recommended.

Other Skin and Body Protection:

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Respiratory Protection:

Under normal use of the product respiratory protection should not be required. if a risk assessment indicates inhalation of contaminants is possible respiratory protection should comply with the approved standard. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and that the filter is changed regularly. Gas and combined filter cartridges should comply with European Standard EN 14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN 136. Half mask or quarter mask respirators with replaceable filter cartridges should comply with European Standard EN 140.

Hygeine Measures:

Provide eyewash station and safety shower, Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and work areas every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and beofre eating, smoking and using the toilet. When using do not eat, drink or smoke.

## SECTION 8: Exposure controls/personal protection (....)

Preventative industrial medical examinations should be carried out. Warn cleaning personel of any hazardous properties of the product.

### 8.3 Environmental exposure controls

Keep containers tightly sealed when not in use. Avoid spillage or runoff entering drains, sewers or watercourses. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance: Liquid
- Flashpoint: >40°C Closed Cup
- pH - not applicable
- Solubility in water: Insoluble in water
- Solubility in other solvents: miscible in most organic solvents

### 9.2 Other information

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

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reacts with moist air and water

### 10.2 Chemical stability

The main removal mechanism of MDI based products in the environment is hydrolysis. MDI based products react quickly with water to form predominantly solid, insoluble polyurethanes or polyureas. Under conditions typical of many types of environmental contact, i. e. with relatively poor dispersion of the denser isocyanate, the interfacial reaction leads to the formation of a solid crust encasing partially or unreacted material. This crust restricts ingress of water and hence slows and modifies hydrolysis.

### 10.3 Possibility of hazardous reactions

The following materials may react strongly with the product: Oxidising agents.

### 10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.

Moisture will lead to the product curing as a solid polyurethane

Strong Light will lead to the product discolouring

High Temperatures will increase the rate of the above to reactions

### 10.5 Incompatible materials

## SECTION 10: Stability and reactivity (....)

Oxidising materials

Moisture will lead to the product curing as a solid polyurethane

### 10.6 Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:

Acute Tox. 4 - Harmful if inhaled

Skin corrosion/irritation:

Skin Irrit. 2 - Causes skin irritation

Serious eye damage/eye irritation:

Eye Irrit. 2 - Causes serious eye irritation

Respiratory sensitisation:

Resp. Sens. 1 - May cause sensitisation or allergic reactions in sensitive individuals

Skin sensitisation:

Skin Sens. 1 - May cause sensitisation or allergic reactions in sensitive individuals

Germ cell mutagenicity:

Not classified based on available information

Carcinogenicity:

Carc. 2 - Suspected of causing cancer

Reproductive toxicity:

Not classified based on available information

Specific target organ toxicity - single exposure:

STOT SE 3 - May cause respiratory irritation

Specific target organ toxicity - repeated exposure:

STOT RE 2 - May cause damage to organs through prolonged or repeated exposure

Aspiration hazard:

Not classified based on available information

Further Information:

May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Symptoms of over-exposure may include headache, nausea, shortness of breath, sore throat, or redness on the skin.

Toxicological data for the components:

## SECTION 11: Toxicological information (....)

Polymer MDI - CAS 9016-87-9:

Acute dermal toxicity

: LD50: ≥9400 mg/kg

Species: Rabbit

Method: OECD Test 402

Carcinogenicity

: Species: Rat

Application Route: inhalation (aerosol)

NOAEC: 0.2 mg/m<sup>3</sup> air toxicity

Exposure Time: 2 years, 6 hours per day,  
5 days per week

Method: OECD Test 453

Species: Rat

Application Route: inhalation (aerosol)

NOAEC: 1.0 mg/m<sup>3</sup> air carcinogenicity

Exposure Time: 2 years, 6 hours per day,  
5 days per week

Method: OECD Test 453

Species: Rat

Application Route: inhalation (aerosol)

LOAEC: 6.0 mg/m<sup>3</sup> air carcinogenicity

Exposure Time: 2 years, 6 hours per day,  
5 days per week

Method: OECD Test 453

STOT - single exposure

: MDI are irritants to the respiratory tract

Xylene - CAS 1330-20-7:

Acute inhalation toxicity

: LC50/4h: 29 mg/L

Species: Rat

Method: OECD Test 403

Test atmosphere: Vapour

Acute oral toxicity

: LD50: 3523 mg/kg

Species: Rat

Method: OECD Test 401

Acute dermal toxicity

: LD50: 12126 mg/kg

Species: Rabbit

Method: OECD Test 402

Skin corrosion/irritation

: Species: Rabbit

Result: Moderate skin irritation

Long term exposure results in dermatitis,  
with rough and chapped skin

Eye corrosion/irritation

: Species: Rabbit

Result: Serious eye damage

STOT - single exposure

: Route of exposure: Inhalation

Target organs: Respiratory tract, lungs

May cause respiratory irritation, may lead  
to the formation of oedemas in the

## SECTION 11: Toxicological information (....)

	respiratory tract.
STOT - single exposure	: Route of exposure: Oral Target organs: Gastrointestinal tract May cause Gastrointestinal disturbance
STOT - repeated exposure	: Route of exposure: Inhalation Target organs: Central nervous system, Liver, Kidney May cause damage to organs through prolonged or repeated exposure
Aspiration hazard	: May be fatal if swallowed and enters airways. Aspiration may cause pulmonary oedema and pneumonitis.

### Inhalation Toxicity

Toxicity data based on polymeric MDI (a mixture of monomers and higher molecular weight oligomers). For inhalation, the test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore, the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of evidence, a modified classification for acute inhalation toxicity is justified.

### Carcinogenicity

From the testing evidence rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m<sup>3</sup>), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m<sup>3</sup> and no effect at 0.2 mg/m<sup>3</sup>. Overall, the tumour incidence, both benign and malignant, and the number of animals with tumours were not different from controls. The incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

## SECTION 12: Ecological information

### 12.1 Toxicity

- Based on available data the classification criteria are not met.
- Polymeric MDI  
LC50 (fish): 1000 mg/l (96 hr)
- N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one  
IC50 (algae): 101 mg/l (72 hr)  
EC50 (daphnia): 104 mg/l (48 hr)  
LC50 (fish): 464-999 mg/l (96 hr)

### 12.2 Persistence and degradability

## SECTION 12: Ecological information (....)

- The degradability of the product is not known

### 12.3 Bioaccumulative potential

- No information available

### 12.4 Mobility in soil

- This product is not miscible with water and reacts to form a solid long chain polyurethane. Based on this it is unlikely to present a risk for mobility

### 12.5 Results of PBT and vPvB assessment

- This substance is not classified as PBT or vPvB according to current EU criteria

### 12.6 Other adverse effects

- None known

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Dispose of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to the handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Do not empty into drains, sewers or watercourses. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible

## SECTION 14: Transport information



### 14.1 UN number

- UN No.: 1133

### 14.2 Proper Shipping Name

- Proper Shipping Name: ADHESIVES

### 14.3 Transport hazard class(es)

- Hazard Class: 3

### 14.4 Packing group



## SECTION 14: Transport information (....)

- Packing Group: III

### 14.5 Environmental hazards

#### 14.6 Special precautions for user

- 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
- IMDG EmS: F-E, S-D
- ADR transport category: 3
- Emergency action code: 3YE
- Hazard identification number: 33
- Tunnel Code: (D/E)

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- United Kingdom - Health and Safety at Work etc Act 1974 (as amended)
- United Kingdom - The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulation 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]
- United Kingdom - EH40/2005 Workplace Exposure Limits
- EU - Regulation (EC) No 1907/2006 of the European Parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemical (REACH) (as amended)
- EU - Commission Regulation (EU) No 2015/830 of 28 May 2015
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on Classification, Labelling and Packaging of Substances and Mixtures (as amended)

### 15.2 Chemical safety assessment

- This Safety Data Sheet does not constitute a workplace risk assessment
- A chemical safety assessment has not been carried out for this product

## SECTION 16: Other information

Text not given with phrase codes where they are used elsewhere in this safety data sheet:- EUH204: Contains isocyanates. May produce an allergic reaction. H226: Flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H312: Harmful in contact with skin. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H332: Harmful if inhaled. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335: May cause respiratory irritation. H351: Suspected of causing cancer. H373: May cause damage to organs through prolonged or repeated exposure. H412: Harmful to aquatic life with long lasting effects.

Full text of GHS H-Statements referred to under sections 2 and 3:

H226: Flammable liquid and vapour  
H304: May be fatal if swallowed and enters airways  
H312: Harmful in contact with skin

## SECTION 16: Other information (....)

H315: Causes skin irritation  
H317: May cause an allergic skin reaction  
H319: Causes serious eye irritation  
H332: Harmful if inhaled  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335: May cause respiratory irritation  
H351: Suspected of causing cancer  
H373: May cause damage to organs through prolonged or repeated exposure  
H412: Harmful to aquatic life with long-lasting effects

Full test of EU H-Statements referred to under section 2 and 3:  
EUH204: Contains isocyanates. May produce an allergic reaction

Full list of GHS P-statements

Prevention:

P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233: Keep container tightly closed.  
P240: Ground/bond container and receiving equipment.  
P241: Use explosion-proof electrical/ventilating/lighting equipment  
P242: Use only non-sparking tools.  
P243: Take precautionary measures against static discharge.  
P260: Do not breathe dust/fumes/gas/mist/vapours/spray.  
P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.  
P264: Wash skin thoroughly after handling  
P271: Use only outdoors or in a well-ventilated area.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P284: [In case of inadequate ventilation] wear respiratory protection.

Response:

P302+352: IF ON SKIN: Wash with plenty of water.  
P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
P308+313: If exposed: Call a POISON CENTER or doctor/physician  
P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
P314: Get medical advice/attention if you feel unwell.  
P321: Specific treatment (see medical advise on this label).  
P332+313: If skin irritation occurs: Get medical advice/attention.  
P333+313: If skin irritation or a rash occurs: Get medical advice/attention.  
P337+313: If eye irritation persists get medical advice/attention.  
P342+311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
P362+364: Take off contaminated clothing and wash it before reuse.  
P363: Wash contaminated clothing before reuse.  
P370+378: In case of fire: Use alcohol resistant foam, carbon dioxide, dry powder or water fog to extinguish.

Storage:

P403+233: Store in a well ventilated place. Keep container tightly closed.  
P403+235: Store in a well ventilated place. Keep cool

**SECTION 16: Other information (....)**

P405: Store locked up.

Disposal:

P501: Dispose of contents/containers in accordance with national regulations.

**This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.**

--- end of safety datasheet ---

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