

MATERIAL SAFETY DATA SHEET

According to Reg. (EU) No 2015/830

SDHEX001 EGGER D4 Joint and Joist Adhesive

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Application: Gluing T&G boards to timber/engineered wood joists, gluing T&G profiles

1. Product Information

Supplier: EGGER (UK) Limited
 Address: Anick Grange Road, Hexham, Northumberland, NE46 4JS
 Phone: 01434 602191
 Fax: 01434 605103
 Emergency: 01434 602191
 Tradename/Type: Egger D4 Joint & Joist Adhesive
 Description: D4 grade adhesive conforming to EN204/D4



2. Hazards Identification

Classification according to Regulation (EC) No 1272/2008:

Acute toxicity	- Category 4 - Inhalation - H332
Skin irritation	- Category 2 - H315
Eye irritation	- Category 2 - H319
Respiratory sensitisation	- Category 1 - H334
Skin sensitisation	- Category 1 - H317
Carcinogenicity	- Category 2 - H351
Specific target organ toxicity - single exposure	- Category 3 - H335
Specific target organ toxicity - repeated exposure	- Category 2 - H373

For the full text of the H-Statements mentioned in this section, see Section 16.

2.1 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



Signal word: DANGER

Hazard statements

See section 16.

Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284	Wear respiratory protection.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Supplemental information

EUH204	Contains isocyanates. May produce an allergic reaction.
Contains	Diphenylmethane Di-isocyanate (MDI) Pre-polymer; Diphenylmethane Di-isocyanate, isomers and homologues; 4,4'-methylenediphenyl di-isocyanate; diphenylmethane-2,4'-di-isocyanate

3. Information on Ingredients

3.1 Mixture

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification*: REGULATION (EC) No 1272/2008
CASRN150409-28-2 EC-No. Polymer Index-No. –	–	> 50.0 - < 70.0 %	Diphenylmethane Di-isocyanate (MDI) Pre-polymer	Resp. Sens. - 1 - H334 Skin Sens. - 1 - H317
CASRN 9016-87-9 EC-No. 618-498-9 Index-No. –	–	> 30.0 - < 50.0 %	Diphenylmethane Di-isocyanate, isomers and homologues	Acute Tox. - 4 - H332 Skin Irrit. - 2 - H315 Eye Irrit. - 2 - H319
CASRN 101-68-8 EC-No. 202-966-0 Index-No. 615-005-00-9	01-2119457014-47	> 15.0 - < 30.0 %	4,4'-methylenediphenyl di-isocyanate	Resp. Sens. - 1 - H334 Skin Sens. - 1 - H317 Carc. - 2 - H351
CASRN 5873-54-1 EC-No. 227-534-9 Index-No. 615-005-00-9	01-2119480143-45	> 0.1 - < 1.0 %	diphenylmethane-2,4'-di-isocyanate	STOT SE - 3 - H335 STOT RE - 2 - H373

*For the full text of the H-Statements mentioned in this section, see Section 16.

Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9

4. First Aid Measures

4.1 Description of first aid measures

General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment. First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses after the first 5 minutes, if present, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Excessive exposure may aggravate pre-existing asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to di-isocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Material reacts slowly with water, releasing carbon dioxide which can cause pressure build-up and rupture of closed containers. Elevated temperatures accelerate this reaction. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns. Electrically ground and bond all equipment.

5.3 Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this MSDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7 Handling and Storage for additional precautionary measures. Stay out of low areas. Keep personnel out of low areas. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. If available, use foam to smother or suppress. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up:

Contain spilled material if possible. Absorb with materials such as: Dirt. Vermiculite. Sand. Clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labelled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fibre packs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapour exposure. Contact your supplier for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections:

References to other sections, if applicable, have been provided in the previous sub-sections.

7. Handling and Storage

7.1 Precautions for safe handling:

Avoid breathing vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Use with adequate ventilation. Wash thoroughly after handling. Keep container tightly closed. See Section 8 Exposure Controls/Personal Protection. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperatures possibly resulting in spontaneous combustion.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability	Storage temperature:	Storage Period:
	15 - 25 °C	9 Month

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Diphenylmethane	GB EH40	TWA	SEN
Di-isocyanate, isomers and homologues	GB EH40	STEL	SEN
	GB EH40	TWA	0.02 mg/m ³ , NCO
	GB EH40	STEL	0.07 mg/m ³ , NCO
4,4'-methylenediphenyl di-isocyanate	ACGIH	TWA	0.005 ppm
	GB EH40	STEL	SEN
	GB EH40	TWA	0.02 mg/m ³ , NCO
	GB EH40	STEL	0.07 mg/m ³ , NCO
diphenylmethane-2,4'-di-isocyanate	GB EH40	TWA	0.02 mg/m ³ , as -NCO
	GB EH40	STEL	0.07 mg/m ³ , as -NCO

8.2 Exposure controls

8.2.1 Engineering controls:

Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapour/aerosol generation and people working at this point. The odour and irritancy of this material are inadequate to warn of excessive exposure.

8.2.2 Individual protection measures

Eye/face protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin protection

- **Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. 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 EN 374) 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 EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
- **Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapour sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

Use the following CE approved air-purifying respirator: Organic vapour cartridge with a particulate pre-filter, type AP2.

8.2.3 Environmental exposure controls

See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Colour	Colourless to amber
Odour	Characteristic
Odour Threshold	0.4 ppm Based on Literature for MDI. Odour is inadequate warning of excessive exposure.
pH	No test data available
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Decomposes before boiling
Flash point	Closed cup >200 °C <i>Estimated.</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapour Pressure	< 0.000012 hPa at 25 °C Literature
Relative Vapour Density (air = 1)	8.5 Literature
Relative Density (water = 1)	1.11 - 1.15 at 20 °C / 20 °C <i>ASTM D891</i>
Water solubility	Insoluble, reacts, evolution of CO ₂
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	3300 - 6500 mm ² /s at 20 °C <i>ASTM D4889</i>
Explosive properties	Not explosive
Oxidizing properties	No

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. Stability and Reactivity

10.1 Reactivity

Products based on di-isocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on di-isocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea.

10.2 Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

10.3 Possibility of hazardous reactions

Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalysed by: Strong bases. Water.

10.4 Conditions to avoid

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure build-up and rupture of closed containers. Elevated temperatures accelerate this reaction.

10.5 Incompatible materials

Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Products based on di-isocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on di-isocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Avoid contact with metals such as: Aluminium. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

11. Toxicological Information

11.1 Information on toxicological effects

11.1.1 Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity

At room temperature, vapours are minimal due to low volatility. However, certain operations may generate vapour or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates.

As product: The LC50 has not been determined.

11.1.2 Skin corrosion/irritation

Prolonged contact may cause skin irritation with local redness.

Material may stick to skin causing irritation upon removal.

May stain skin.

11.1.3 Serious eye damage/eye irritation

May cause eye irritation.

May cause slight temporary corneal injury.

11.1.4 Sensitization

A component in this mixture has been shown to be a skin sensitizer.

Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

A component in this mixture may cause an allergic respiratory response.

MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.

Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

11.1.5 Specific Target Organ Systemic Toxicity (Single Exposure)

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

11.1.6 Specific Target Organ Systemic Toxicity (Repeated Exposure)

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

11.1.7 Carcinogenicity

Lung tumours have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m³) for their lifetime. Tumours occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

11.1.8 Teratogenicity

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other foetal effects occurred only at high doses which were toxic to the mother.

11.1.9 Reproductive toxicity

No relevant data found.

11.1.10 Mutagenicity

Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

11.1.11 Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard. No aspiration toxicity classification

11.2 COMPONENTS INFLUENCING TOXICOLOGY:

Diphenylmethane Di-isocyanate (MDI) Pre-polymer

Acute inhalation toxicity

The LC50 has not been determined.

Diphenylmethane Di-isocyanate, isomers and homologues

Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, 0.49 mg/l

For similar material(s): 2,4'-Diphenylmethane di-isocyanate (CAS 5873-54-1). LC50, Rat, 4 Hour, Aerosol, 0.31 mg/l

For similar material(s): 4,4'-Methylenediphenyl di-isocyanate (CAS 101-68-8). LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

4,4'-methylenediphenyl di-isocyanate

Acute inhalation toxicity

LC50, Rat, 1 Hour, dust/mist, 2.24 mg/l

Diphenylmethane-2,4'-di-isocyanate

Acute inhalation toxicity

LC50, Rat, 4 Hour, dust/mist, 0.31 mg/l

For similar material(s): 4,4'-Methylenediphenyl di-isocyanate (CAS 101-68-8). LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

12. Ecological Information

No relevant data was found for Diphenylmethane Di-isocyanate (MDI) Pre-polymer

12.1 Toxicity

Acute toxicity to	Fish	Aquatic invertebrates	Algae/aquatic plants	Bacteria	Soil-dwelling organisms	Terrestrial plants
<ul style="list-style-type: none"> Diphenylmethane Di-isocyanate, isomers and homologues Diphenylmethane Di-isocyanate (MDI) Pre-polymer 4,4'-methylenediphenyl di-isocyanate 	The measured ecotoxicity is that of the hydrolysed product, generally under conditions maximizing production of soluble species. - Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species). Based on information for a similar material: LC50, Danio rerio (zebra fish), static test: 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or equivalent	Based on information for a similar material:			EC50, Eisenia fetida (earthworms), Based on information for a similar material: 14 d, > 1,000 mg/kg	EC50, Avena sativa (oats), Growth inhibition: 1,000 mg/l EC50, Lactuca sativa (lettuce), Growth inhibition: 1,000 mg/l
		EC50, Daphnia magna (Water flea), static test: 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or equivalent	NOEC, Desmodesmus subspicatus (green algae), static test: 72 Hour, Growth rate inhibition: 1,640 mg/l, OECD Test Guideline 201 or equivalent	EC50, activated sludge, static test: 3 Hour, Respiration rates > 100 mg/l		

12.2 Persistence and degradability

	Bio-degradability	Bio-degradation	Exposure time	Method
<ul style="list-style-type: none"> Diphenylmethane Di-isocyanate, isomers and homologues Diphenylmethane Di-isocyanate (MDI) Pre-polymer 4,4'-methylenediphenyl di-isocyanate 	In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related di-isocyanates. 10-day Window: Not applicable	0 %	28 d	OECD Test Guideline 302C or equivalent

12.3 Bioaccumulative potential

	Bio-accumulation	Bio-concentration factor (BCF)
<ul style="list-style-type: none"> Diphenylmethane Di-isocyanate, isomers and homologues Diphenylmethane Di-isocyanate (MDI) Pre-polymer 4,4'-methylenediphenyl di-isocyanate 	Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.	92 Cyprinus carpio (Carp) 28 d

12.4 Mobility in soil

- Diphenylmethane Di-isocyanate, isomers and homologues
- 4,4'-methylenediphenyl di-isocyanate
- Diphenylmethane-2,4'-di-isocyanate

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

12.5 Results of PBT and vPvB assessment

The following substances have not been assessed for persistence, bioaccumulation and toxicity (PBT)

- Diphenylmethane Di-isocyanate (MDI) Pre-polymer
- Diphenylmethane Di-isocyanate, isomers and homologues
- 4,4'-methylenediphenyl di-isocyanate
- Diphenylmethane-2,4'-di-isocyanate

12.6 Other adverse effects

These substance are not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

- Diphenylmethane Di-isocyanate (MDI) Pre-polymer
- Diphenylmethane Di-isocyanate, isomers and homologues
- 4,4'-methylenediphenyl di-isocyanate
- Diphenylmethane-2,4'-di-isocyanate

13. Disposal Considerations

13.1 Waste treatment methods

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water. Incineration under approved, controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal. Small quantities of waste may be pre-treated for example with polyol, to neutralise prior to disposal. Empty drums should be decontaminated (see Section 6) and either punctured and scrapped or given to an approved drum reconditioner.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

14. Transport Information

Not classified as hazardous for transport.

It is the responsibility of the transporting organisation to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

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

REACH Regulation (EC) No 1907/2006

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Restrictions on the manufacture, placing on the market and use:

The following substance/s contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product have to comply with the restrictions placed upon it by the aforementioned provision.

CAS-No.	Name	Restriction Status	Restricted Uses
9016-87-9	Diphenylmethane Di-isocyanate, isomers and homologues	listed in REACH Annex XVII	See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction
101-68-8	4,4'-methylenediphenyl di-isocyanate	listed in REACH Annex XVII	See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: Not applicable

15.2 Chemical Safety Assessment

Not applicable

16. Additional Information

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

- 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.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008

- | | | | |
|--|------------|------|-----------------------|
| ▪ Acute toxicity | Category 4 | H332 | On basis of test data |
| ▪ Skin irritation | Category 2 | H315 | Calculation method |
| ▪ Eye irritation | Category 2 | H319 | On basis of test data |
| ▪ Respiratory sensitisation | Category 1 | H334 | Calculation method |
| ▪ Skin sensitisation | Category 1 | H317 | Calculation method |
| ▪ Carcinogenicity | Category 2 | H351 | Calculation method |
| ▪ Specific target organ toxicity - single exposure | Category 3 | H335 | Calculation method |
| ▪ Specific target organ toxicity - repeated exposure | Category 2 | H373 | Calculation method |

16.1 Information Source and Reference

This data sheet has been compiled based on our present knowledge. It does not however constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Provisional note:

This Safety Data Sheet has been carefully drawn up to the best of our knowledge. We accept no liability for any mistakes, errors in standards or printing errors. In addition, technical modifications can result from the continuous further development, as well as from changes in standards and documents originating from statutory bodies. The content of this document should therefore not be considered as instructions for use or as legally binding.