

### SAFETY DATA SHEET GRIPTOP MD HARDENER

SECTION 1: Identification of the	ne substance/mixture and of the company/undertaking
1.1. Product identifier	
Product name	GRIPTOP MD HARDENER
Internal identification	GRIPTOPMDH/9
1.2. Relevant identified uses o	f the substance or mixture and uses advised against
Identified uses	Component of polyurethane floor coating system
Uses advised against	No specific uses advised against are identified.
1.3. Details of the supplier of the	he safety data sheet
Supplier	
	Don Construction Products Ltd.,
	Hawthorn House Helions Bumpstead Road
	Haverhill
	Suffolk
	CB9 7AA
	Tel: 01538 361799 Mon-Fri 08:30 - 17:00 (excl bank holidays)
	Fax: 01538 361899
	E-Mail: info.uk@dcp-int.com
1.4. Emergency telephone nur	nber
1.4. Emergency telephone nur Emergency telephone	<mark>nber</mark> 01538 361799 Mon-Fri 8.30am - 5.00pm (excluding Bank Holidays)
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Emergency telephone SECTION 2: Hazards identifica 2.1. Classification of the subst Classification (EC 1272/2008) Physical hazards Health hazards Environmental hazards	01538 361799 Mon-Fri 8.30am - 5.00pm (excluding Bank Holidays) ation ance or mixture Not Classified Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373
Emergency telephone SECTION 2: Hazards identifica 2.1. Classification of the subst Classification (EC 1272/2008) Physical hazards Health hazards Environmental hazards Classification (67/548/EEC or	01538 361799 Mon-Fri 8.30am - 5.00pm (excluding Bank Holidays) ation ance or mixture Not Classified Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373 Not Classified
Emergency telephone SECTION 2: Hazards identifica 2.1. Classification of the subst Classification (EC 1272/2008) Physical hazards Health hazards Environmental hazards Classification (67/548/EEC or 1999/45/EC)	01538 361799 Mon-Fri 8.30am - 5.00pm (excluding Bank Holidays) ation ance or mixture Not Classified Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373 Not Classified Xn; R20, R48/20/21/22. Xi; R36/37/38. Carc. Cat. 3 R40. R42/43 See Section 11 for additional information on health hazards. May cause sensitisation by

Pictogram



Signal word	Danger
Hazard statements	<ul> <li>H315 Causes skin irritation.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H319 Causes serious eye irritation.</li> <li>H332 Harmful if inhaled.</li> <li>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</li> <li>H335 May cause respiratory irritation.</li> <li>H351 Suspected of causing cancer.</li> <li>H373 May cause damage to organs through prolonged or repeated exposure.</li> </ul>
Precautionary statements	<ul> <li>P260 Do not breathe vapour/ spray.</li> <li>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</li> <li>P284 [In case of inadequate ventilation] wear respiratory protection.</li> <li>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.</li> <li>Rinse skin with water/ shower.</li> <li>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P313 Get medical advice/ attention.</li> </ul>
Contains	METHYLENEDIPHENYL DIISOCYANATE, DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES
Supplementary precautionary statements	<ul> <li>P264 Wash contaminated skin thoroughly after handling.</li> <li>P270 Do not eat, drink or smoke when using this product.</li> <li>P271 Use only outdoors or in a well-ventilated area.</li> <li>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</li> <li>P501 Dispose of contents/ container in accordance with local regulations.</li> </ul>

#### 2.3. Other hazards

SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

METHYLENEDIPHENYL DIISOCYANATE 60-100%	
EC number: 247-714-0	
Classification (67/548/EEC or 1999/45/EC)	
Carc. Cat. 3;R40 Xn;R20,R48/20 Xi;R36/37/38 R42/43	

#### **DIPHENYLMETHANEDIISOCYANATE - ISOMERS &** HOMOLOGUES

10-30%

CAS number: 9016-87-9

#### Classification

Acute Tox. 2 - H330 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373

Classification (67/548/EEC or 1999/45/EC)

Xn;R20,R48/20. Carc. Cat. 3;R40. Xi;R36/37/38. R42/43.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

#### Composition comments

Polyisocyanate pre-polymer

**SECTION 4: First aid measures** 

#### 4.1. Description of first aid measures

General information	Remove affected person from source of contamination.
Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.
4.2. Most important sympt	toms and effects, both acute and delayed
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	May cause discomfort if swallowed.
Skin contact	Skin irritation. May cause an allergic skin reaction.
Eye contact	Irritation of eyes and mucous membranes.
4.3. Indication of any imm	ediate medical attention and special treatment needed
Notes for the doctor	Treat symptomatically.

Treat symptomatically.

#### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Extinguish with foam, carbon dioxide or dry powder. Suitable extinguishing media

Unsuitable extinguishing Do not use water, if avoidable.

#### media

5.2. Special hazards arising from the substance or mixture

Specific hazards	Oxides of carbon. Oxides of nitrogen. Hydrogen cyanide (HCN).
Hazardous combustion products	Oxides of carbon. Oxides of nitrogen. When heated, vapours/gases hazardous to health may be formed.
5.3. Advice for firefighters	
Protective actions during firefighting	No specific firefighting precautions known.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
SECTION 6: Accidental release	e measures
6.1. Personal precautions, pro	tective equipment and emergency procedures
Personal precautions	Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.
6.2. Environmental precaution	<u>s</u>
Environmental precautions	Avoid discharge into drains or watercourses or onto the ground.
6.3. Methods and material for	containment and cleaning up
Methods for cleaning up	Contain spillage with sand, earth or other suitable non-combustible material. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Do not close container tightly. Risk of excess pressure build-up.
6.4. Reference to other section	ns
Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.
SECTION 7: Handling and sto	rage
7.1. Precautions for safe hand	ling
Usage precautions	Avoid inhalation of vapours. Provide adequate ventilation.
Advice on general occupational hygiene	Do not eat, drink or smoke when using this product. Good personal hygiene procedures should be implemented.
7.2. Conditions for safe storag	e, including any incompatibilities
Storage precautions	Keep separate from food, feedstuffs, fertilisers and other sensitive material. Store in tightly- closed, original container in a dry, cool and well-ventilated place.
7.3. Specific end use(s)	
Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
SECTION 8: Exposure Contro	ls/personal protection
8.1. Control parameters Occupational exposure limits METHYLENEDIPHENYL DIIS	OCYANATE
Long-term exposure limit (8-ho Short-term exposure limit (15-	

#### DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m3(Sen) Short-term exposure limit (15-minute): WEL 0.07 mg/m3(Sen)

#### WEL = Workplace Exposure Limit

8.2. Exposure controls	
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.
Personal protection	Always check applicability with your supplier of protective equipment.
Eye/face protection	If there is a risk of splashing, wear chemical resistant goggles or visor approved to BS EN166.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Nitrile gloves to BSEN374 are recommended. Break through times can vary depending on thickness, use and source. Change gloves regularly.
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Do not eat, drink or smoke when using this product.
Respiratory protection	In the case of hypersensitivity of the respiratory tract (eg asthmatics and those who suffer from chronic bronchitis) it is inadviseable to work with this product. In case of inadequate ventilation use a respirator suitable for organic vapours. Consult respirator manufacturer for specific advice.
Environmental exposure controls	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on basic physical and chemical properties

9.1. momation on basic phys	icai and chemical properties
Appearance	Viscous liquid.
Colour	Dark. Brown.
Odour	Mild.
Odour threshold	Not determined.
рН	Not applicable.
Melting point	Not applicable.
Initial boiling point and range	200°C @
Flash point	>200°C CC (Closed cup).
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not applicable.
Vapour pressure	<0.01 Pa @ °C
Vapour density	Not determined.
Relative density	1.2 approx @ 20°C

Buik density         Not determined.           Solubility(es)         Reads with water.           Partition coefficient         Not applicable.           Auto-ginot memperature         Not applicable.           Decomposition Temperature         Not considered to be explosive.           of a fame         Not considered to be explosive.           of a fame         Not considered to be explosive.           Oddising properties         Not considered to be explosive.           Solubility from the infilinge         Not considered to be explosive.           Ordination         Not considered to be explosive.           Solubility from the infilinge         Not considered to be explosive.           Solution from the infilinge         Not considered to be explosive.           Solution from the infilinge         Not considered to be explosive.           Solution from the infilinge         Not considered to be explosive.           Solution from the infilinge         Not determined.           Not determined.         Not determined.           Solution concentration         Not determi		
Partition coefficient         Not applicable.           Auto-ignition temperature         Not applicable.           Decomposition Temperature         Not applicable.           Explosive properties         Not considered to be explosive. of a fame         Not considered to be explosive. of a fame           Oxidising properties         Not known.         Comments         Information given is applicable to the product as supplied.           9.2. Other information         None.         Refractive index         Not determined.           Particle size         Not determined.         None.         Refractive index         Not determined.           Volatility         Not determined.         Not determined.         Not determined.         Not determined.           Sturation concentration         Not determined.         Not determin	Bulk density	Not determined.
Auto-ignition temperature         Not applicable.           Decomposition Temperature         Not applicable.           Explosive properties         Not considered to be explosive.           of a flame         Not considered to be explosive.           Oxidising properties         Not known.           Comments         Information given is applicable to the product as supplied.           9.0. Other information         None.           Particle size         Not determined.           Particle size         Not determined.           Volatility         Not determined.           Volatility         Not determined.           Staturation concentration         Not determined.           Volatility         Not determined.           Volatility         Not determined.           Volatility organic compound         Not determined.           Staturation concentration         Not determined.           Volatile organic compound         Not determined.           Volatility organic compound         Not determined.           Staturation concentration         Not determined.	Solubility(ies)	Reacts with water.
Decomposition Temperature         Not applicable.           Explosive properties         Not applicable.           Explosive under the influence of a fame         Not considered to be explosive.           Oxidising properties         Not known.           Comments         Information given is applicable to the product as supplied.           9.2. Other Information         None.           Refractive index         Not determined.           Particle size         Not determined.           Particle size         Not determined.           Volatility         Not determined.           Volatility         Not determined.           Staturation concontration         Not determined.           Volatility         The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.           10.2. Chemical stability         Stable under the prescribed storage conditions.           10.3. Possibility of hazardous         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reac	Partition coefficient	Not applicable.
Explosive properties         Not applicable.           Explosive under the influence of a flame         Not considered to be explosive.           Oxidising properties         Not known.           Comments         Information given is applicable to the product as supplied.           92. Other information         None.           Refractive index         Not determined.           Particle size         Not determined.           Mole cular weight         Not determined.           Volatility         Not determined.           Staturation concentration         Not determined.           Otid elermined.         Not determined.           Staturation concentration         Not determined.           Volatility         Not determined.           Volatilite organic compound         Not determined.           Staturation concentration         Not determined.           Statility and reservity         Not determined.           Statility of parameters         Not determined.           Statility of product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.           10.2. Chemical stability of hazardous         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.           10.4. Conditions to av	Auto-ignition temperature	Not applicable.
Explosive under the influence of a fiame       Not considered to be explosive. of a fiame         Oxidising properties       Not known.         Comments       Information given is applicable to the product as supplied.         9.2. Other information       None.         Refractive index       Not determined.         Particle size       Not applicable.         Molecular weight       Not determined.         Volatility       Not determined.         Saturation concentration       Not determined.         Volatility organic compound       Not determined.         SECTION 10: Stability and reactivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid	Decomposition Temperature	Not applicable.
of a flame       Not known.         Coxidising properties       Not known.         Comments       Information given is applicable to the product as supplied.         92. Other information       None.         Other information       None.         Refractive index       Not determined.         Particle size       Not determined.         Molecular weight       Not determined.         Volatility       Not determined.         Staturation concentration       Not determined.         Volatility       Not determined.         Volatile organic compound       Not determined.         Volatile organic compound       Not determined.         Volatile organic compound       Not determined.         SECTION 10: Stability and rescuence       Not determined.         Sectivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.3. Possibility of hazardous       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions will not occur. No potentially acid a storadus reactions known.         10	Explosive properties	Not applicable.
Comments         Information given is applicable to the product as supplied.           9.2. Other information         None.           Refractive index         Not determined.           Particle size         Not applicable.           Molecular weight         Not determined.           Volatility         Not determined.           Saturation concentration         Not determined.           Critical temperature         Not determined.           Volatilie organic compound         Not determined.           SECTION 10: Stability and reactivity         Not determined.           Reactivity         The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.           10.2. Chemical stability         Stable under the prescribed storage conditions.           10.3. Possibility of hazardous reactions known.         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.           10.4. Conditions to avoid         Water, moisture.           10.5. Incompatible materials         Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.           10.6. Hazardous decomposition         Poxides of carbon. Oxides of nitrogen.	•	Not considered to be explosive.
9.2. Other information       Nore.         Refractive index       Not determined.         Particle size       Not applicable.         Molecular weight       Not determined.         Saturation concentration       Not determined.         Saturation concentration       Not determined.         Critical temperature       Not determined.         Volatility       Not determined.         SECTION 10: Stability and reactivity       Not determined.         Reactivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	Oxidising properties	Not known.
Other Information         None.           Refractive index         Not determined.           Particle size         Not applicable.           Molecular weight         Not determined.           Volatility         Not determined.           Saturation concentration         Not determined.           Critical temperature         Not determined.           Volatile organic compound         Not determined.           SECTION 10: Stability and reactivity         Intervined.           10.1. Reactivity         Reactivity           Reactivity         The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.           10.2. Chemical stability         Stable under the prescribed storage conditions.           10.3. Possibility of hazardous         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.           10.4. Conditions to avoid         Water, moisture.           10.5. Incompatible materials         Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.           10.6. Hazardous decomposition products         Hazardous decomposition products	Comments	Information given is applicable to the product as supplied.
Refractive index       Not determined.         Particle size       Not applicable.         Molecular weight       Not determined.         Volatility       Not determined.         Saturation concentration       Not determined.         Critical temperature       Not determined.         Volatility or applicable.       Not determined.         Section 10: Stability and rescription       Not determined.         SECTION 10: Stability and rescription       Not determined.         Sectivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         Stability of hazardous       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         Gonditions to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	9.2. Other information	
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Molecular weight         Not determined.           Volatility         Not determined.           Saturation concentration         Not determined.           Critical temperature         Not determined.           Volatility or ganic compound         Not determined.           SECTION 10: Stability and restrict         Volatile organic compound           10.1. Reactivity         The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.           10.2. Chemical stability         Stable under the prescribed storage conditions.           10.3. Possibility of hazardous         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.           10.4. Conditions to avoid         Water, moisture.           10.5. Incompatible materials         Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.           10.6. Hazardous decomposition         Oxides of carbon. Oxides of nitrogen.	Refractive index	Not determined.
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Saturation concentration       Not determined.         Critical temperature       Not determined.         Volatile organic compound       Not determined.         SECTION 10: Stability and reactivity       Interactivity         10.1. Reactivity       Reactivity         Reactivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous reactions       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	Molecular weight	Not determined.
Critical temperature       Not determined.         Volatile organic compound       Not determined.         SECTION 10: Stability and reactivity       Intermined.         10.1. Reactivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous reactions       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	Volatility	Not determined.
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SECTION 10: Stability and reactivity         10.1. Reactivity       Reactivity         Reactivity       The product will harden into a solid mass in contact with water and moisture. Reactions with the following materials may generate heat: Acids. Alcohols, glycols. Amines.         10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous reactions       Possibility of hazardous reactions         Possibility of hazardous meaterials       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Materials to avoid         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products       Hazardous of carbon. Oxides of nitrogen.	Critical temperature	Not determined.
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10.2. Chemical stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous reactions         10.3. Possibility of hazardous reactions         Possibility of hazardous neactions         10.4. Conditions to avoid       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Materials to avoid         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	10.1. Reactivity	
Stability       Stable under the prescribed storage conditions.         10.3. Possibility of hazardous reactions       Inder normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid       Vater, moisture.         10.5. Incompatible materials       Water, moisture.         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products       Hazardous decomposition	Reactivity	
10.3. Possibility of hazardous reactions         Possibility of hazardous reactions         Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions known.         10.4. Conditions to avoid         Conditions to avoid         Water, moisture.         10.5. Incompatible materials         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products         Hazardous decomposition         Oxides of carbon. Oxides of nitrogen.	10.2. Chemical stability	
Possibility of hazardous reactions       Under normal conditions of storage and use, hazardous reactions will not occur. No potentially hazardous reactions will not occur. No potentially hazardous reactions will not occur. No potentially hazardous reactions         10.4. Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Water, moisture.         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products       Oxides of carbon. Oxides of nitrogen.	Stability	Stable under the prescribed storage conditions.
reactionshazardous reactions known.10.4. Conditions to avoidWater, moisture.Conditions to avoidWater, moisture.10.5. Incompatible materialsAmines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.10.6. Hazardous decompositionOxides of carbon. Oxides of nitrogen.	10.3. Possibility of hazardous r	reactions
Conditions to avoid       Water, moisture.         10.5. Incompatible materials       Materials to avoid         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products         Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.		
10.5. Incompatible materials         Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products         Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	10.4. Conditions to avoid	
Materials to avoid       Amines. Alcohols, glycols. Reacts with water forming carbon dioxide. Risk of bursting owing to increased pressure in closed containers.         10.6. Hazardous decomposition products         Hazardous decomposition         Oxides of carbon. Oxides of nitrogen.	Conditions to avoid	Water, moisture.
increased pressure in closed containers.         10.6. Hazardous decomposition products         Hazardous decomposition       Oxides of carbon. Oxides of nitrogen.	10.5. Incompatible materials	
Hazardous decomposition     Oxides of carbon. Oxides of nitrogen.	Materials to avoid	
	10.6. Hazardous decompositio	n products
		Oxides of carbon, Oxides of nitrogen

11.1. Information on toxicologic	cal effects
Toxicological effects	No information available.
Acute toxicity - oral	
Notes (oral LD <sub>50</sub> )	No specific test data are available.
Acute toxicity - dermal	
Notes (dermal LD₅₀)	No specific test data are available.
Acute toxicity - inhalation	
Notes (inhalation LC₅₀)	No specific test data are available.
ATE inhalation (vapours mg/l)	12.22
Skin corrosion/irritation	
Skin corrosion/irritation	Irritating to skin.
Animal data	No specific test data are available.
Human skin model test	No specific test data are available.
Extreme pH	No specific test data are available.
Serious eye damage/irritation Serious eye damage/irritation	Irritation of eyes is assumed.
Respiratory sensitisation Respiratory sensitisation	Sensitising.
Skin sensitisation	
Skin sensitisation	Sensitising.
Germ cell mutagenicity	
Genotoxicity - in vitro	No specific test data are available.
Genotoxicity - in vivo	No specific test data are available.
Carcinogenicity	
Carcinogenicity	Suspected of causing cancer.
Target organ for carcinogenicity	No specific target organs known.
IARC carcinogenicity	Not listed.
Reproductive toxicity	
Reproductive toxicity - fertility	No specific test data are available.
Reproductive toxicity - development	Not considered to be toxic to the reproductive system.
Specific target organ toxicity -	single exposure
STOT - single exposure	No specific test data are available.
Specific target organ toxicity -	repeated exposure
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
General information	The product contains small quantities of isocyanate. May cause respiratory allergy. May cause respiratory system irritation.

#### 11.1. Information on toxicological effects

Inhalation	Harmful by inhalation. Vapours irritate the respiratory system. May cause coughing and difficulties in breathing. May cause sensitisation by inhalation.
Ingestion	May cause discomfort if swallowed.
Skin contact	Prolonged or repeated contact may lead to skin sensitisation
Eye contact	Irritation of eyes and mucous membranes.
Acute and chronic health hazards	Prolonged exposure to the preparation may cause serious health effects. Frequent inhalation of vapours may cause respiratory allergy. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. May cause allergic contact eczema.
Route of entry	Inhalation Skin and/or eye contact
Target organs	Eyes Respiratory system, lungs Skin
Medical symptoms	Skin irritation. Irritation of eyes and mucous membranes. Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting. Prolonged or repeated exposure may cause the following adverse effects: Allergic rash. General respiratory distress, unproductive cough. Difficulty in breathing.
Medical considerations	Skin disorders and allergies. Pre-existing eye problems. Chronic respiratory and obstructive airway diseases.

#### METHYLENEDIPHENYL DIISOCYANATE

### Acute toxicity - inhalation

ATE inhalation (vapours	11.0
mg/l)	

### DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES

Acute toxicity - oral	
Acute toxicity oral (LD₅₀ mg/kg)	10,000.0
Species	Rat
ATE oral (mg/kg)	10,000.0
Acute toxicity - dermal	
Acute toxicity dermal (LD₅₀ mg/kg)	9,400.0
Species	Rabbit
ATE dermal (mg/kg)	9,400.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC₅ vapours mg/l)	0.31
Species	Rat
Acute toxicity inhalation (LC₅₀ dust/mist mg/l)	0.31
Species	Rat

	ATE inhalation (dusts/mists mg/l)	0.31
	Skin corrosion/irritation	
	Skin corrosion/irritation	Based on available data the classification criteria are not met.
	Animal data	Slightly irritating.
	Germ cell mutagenicity	
	Genotoxicity - in vitro	Ames test: Negative.
	Carcinogenicity	
	Carcinogenicity	Dose level: 0-0.2, 1-6 mg/m³, Inhalation, Rat
	Target organ for carcinogenicity	Respiratory system, lungs
	Reproductive toxicity	
	Reproductive toxicity - fertility	No specific test data are available.
	Reproductive toxicity - development	Teratogenicity: - NOAEL: 12 mg/m³, Inhalation, Rat Maternal toxicity: - NOAEL: 4 mg/m³, Inhalation, Rat Developmental toxicity: - NOAEL: 4 mg/m³, Inhalation, Rat
	Specific target organ toxicit	y - single exposure
	STOT - single exposure	, Inhalation, A single exposure may cause the following adverse effects: Asthma, pulmonary sensitisation.
	Target organs	Respiratory tract
	Specific target organ toxicit	y - repeated exposure
	STOT - repeated exposure	, Inhalation, High concentrations may cause severe lung damage.
	Target organs	Respiratory tract
	Aspiration hazard	
	Aspiration hazard	Not relevant.
SECTION 1	2: Ecological Information	
Ecotoxicity	The proc	luct should not be allowed to enter drains, sewers or watercourses.

Ecotoxicity	The product should not be allowed to enter drains, sewers or watercours
12.1. Toxicity	
Toxicity	Not measured. Do not allow to enter waterways or drains
Acute toxicity - fish	Not determined
Acute toxicity - aquatic invertebrates	Not determined.
Acute toxicity - aquatic plants	Not determined.
Acute toxicity - microorganisms	Not determined.
Acute toxicity - terrestrial	Not determined.
Chronic toxicity - fish early life stage	Not determined.

invertebrates

### **GRIPTOP MD HARDENER**

Short term toxicity - embryo<br/>and sac fry stagesNot determined.Chronic toxicity - aquaticNot determined.

DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES

Acute toxicity - fish	LC₅₀, 96 hours: >1000 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC₅₀, 24 hours: >1000 mg/l, Daphnia magna
Acute toxicity - aquatic plants	, 72 hours: >1640 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	EC₅₀, 3 hours: >100 mg/l, Activated sludge
Acute toxicity - terrestrial	NOEC, 14 days: >1000 mg/kg, Eisenia Fetida (Earthworm)
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: >10 mg/l, Daphnia magna

#### 12.2. Persistence and degradability

Persistence and degradability	The product reacts with water to form a solid, insoluble reaction product which is not biodegradable.
Phototransformation	Not determined.
Stability (hydrolysis)	Not determined.
Biodegradation	Not readily biodegradable.
Biological oxygen demand	Not determined.
Chemical oxygen demand	Not determined.

#### **DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES**

Persistence and degradability	Not readily biodegradable.
Stability (hydroly	rsis) Reacts with water.
12.3. Bioaccumulative potenti	al
Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	Not applicable.
	DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES
Bioaccumulative	potential BCF: < 14, Cyprinus carpio (Common carp)

12.4. Mobility in soil		
Mobility	The product is non-volatile.	
Adsorption/desorption coefficient	Not determined.	

Henry's law constant	Not determined.		
Surface tension	Not determined.		
12.5. Results of PBT and vPv	B assessment		
Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current EU criteria.		
	DIPHENYLMETHANEDIISOCYANATE - ISOMERS & HOMOLOGUES		
<b>Results of PBT and vPvB</b> This substance is not classified as PBT or vPvB according to current EU criteria. <b>assessment</b>			
12.6. Other adverse effects			
Other adverse effects	None known.		
SECTION 13: Disposal consid	lerations		
13.1. Waste treatment method			
General information	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.		
Disposal methods	Should be disposed of as hazardous waste via a licensed waste operator.		
SECTION 14: Transport inform	nation		
General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).		
14.1. UN number			
14.2. UN proper shipping nam			
14.3. Transport hazard class(	es)		
Transport labels No transport warning sign req	uired.		
14.4. Packing group			
14.5. Environmental hazards			
Environmentally hazardous su No.	ubstance/marine pollutant		
14.6. Special precautions for u	user		
· ·	ing to Annex II of MARPOL and the IBC Code		
SECTION 15: Regulatory info	rmation		
15.1. Safety, health and enviro	onmental regulations/legislation specific for the substance or mixture		
National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended).		
Guidance	Workplace Exposure Limits EH40. Safety Data Sheets for Substances and Preparations.		
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.		
Restrictions (Title VIII Regulation 1907/2006)	No specific restrictions on use are known for this product.		

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information		
General information	Don Construction Products Ltd. Technical Datasheet.	
Key literature references and sources for data	Health and Safety Executive Guidance Note EH40 (amended annually). Workplace Exposure Limits.	
Revision comments	Section 1 update	
Revision date	01/03/2017	
Revision	9	
Supersedes date	31/05/2016	
SDS status	Approved.	
Risk phrases in full	<ul> <li>R20 Harmful by inhalation.</li> <li>R36/37/38 Irritating to eyes, respiratory system and skin.</li> <li>R40 Limited evidence of a carcinogenic effect.</li> <li>R42/43 May cause sensitisation by inhalation and skin contact.</li> <li>R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.</li> </ul>	
Hazard statements in full	<ul> <li>H315 Causes skin irritation.</li> <li>H317 May cause an allergic skin reaction.</li> <li>H319 Causes serious eye irritation.</li> <li>H332 Harmful if inhaled.</li> <li>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</li> <li>H335 May cause respiratory irritation.</li> <li>H351 Suspected of causing cancer.</li> <li>H373 May cause damage to organs through prolonged or repeated exposure.</li> </ul>	

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.