



**Safety Data Sheet**  
**according to Regulation (EC)**  
**No. 2015/830**

## SECTION 1: Identification of the Substance/Mixture and the Company/Undertaking

<b>1.1 Product Identifier</b>	FLOWSEAL UV PIGMENTED HARDENER	<b>Revision Date:</b>	19/01/2017
<b>Product Name:</b>	Flowseal UV Pigmented Hardener	<b>Supersedes Date:</b>	11/06/2015

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

Coatings and paints, thinners, paint removers. Hand-mixing with intimate contact and only PPE available. Wide dispersive indoor use resulting in inclusion into or onto a matrix. For use by appropriately trained applicators. Roller application or brushing. Low energy spreading of coatings. Advised against: Home DIY applications, because of the health hazards and training required.

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

**Supplier:**

Flowcrete UK Ltd.  
 The Flooring Technology Centre  
 Booth Lane  
 Moston, Sandbach, Cheshire. UK  
 CW11 3QF

Tel: +44 (0)1270 753000  
 Fax: +44 (0)1270 753333  
 ehs.uk@flowcrete.com  
<http://www.flowcrete.co.uk>

**Datasheet Produced by:** ehs.uk@flowcrete.com

**1.4 Emergency telephone number:** CHEMTREC +001 703 5273887 (Outside US)  
 CHEMTREC 1-800-424-9300 (Inside US)

## SECTION 2: Hazard Identification

**2.1 Classification of the substance or mixture**

Classification according to Classification, Labeling & Packaging Regulation (EC) 1272/2008

**HAZARD STATEMENTS**

Other EU extensions	EUH204
Skin Sensitizer, category 1	H317
Acute Toxicity, Inhalation, category 4	H332
STOT, single exposure, category 3, RTI	H335

## 2.2 Label elements

### Symbol(s) of Product



### Signal Word

Warning

### Named Chemicals on Label

Hexamethylene diisocyanate, Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)

#### HAZARD STATEMENTS

Other EU extensions	EUH204	Contains isocyanates. May produce an allergic reaction.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.

#### PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.

### 2.3 Other hazards

No Information

#### Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

## SECTION 3: Composition/Information On Ingredients

### 3.2 Mixtures

#### Hazardous Ingredients

<u>CAS-No.</u>	<u>EINEC No.</u>	<u>Name According to EEC</u>	<u>%</u>
28182-81-2	500-060-2	Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)	75-100
822-06-0	212-485-8	Hexamethylene diisocyanate	0.1-1.0

<u>CAS-No.</u>	<u>REACH Reg No.</u>	<u>CLP Symbols</u>	<u>CLP Hazard Statements</u>	<u>M-Factors</u>
28182-81-2	01-2119485796-17	GHS07	H317-332-335	
822-06-0	01-2119457571-37	GHS05-GHS06-GHS08	H302-314-317-330-334	

**Additional Information:** The text for CLP Hazard Statements shown above (if any) is given in Section 16.

## SECTION 4: First-aid Measures

### 4.1 Description of First Aid Measures

**GENERAL NOTES:** When symptoms persist or in all cases of doubt seek medical advice. Show this safety data sheet to the doctor in attendance. Risk of product entering the lungs on vomiting after ingestion. Remove contaminated clothing and shoes.

**AFTER INHALATION:** Move to fresh air. Consult a physician after significant exposure. Keep respiratory tract clear.

Remove person to fresh air. If signs/symptoms continue, get medical attention.

**AFTER SKIN CONTACT:** Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

**AFTER EYE CONTACT:** Keep eye wide open while rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

**AFTER INGESTION:** Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If swallowed, seek medical advice immediately and show this container or label.

#### **Self protection of the first aider:**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

No Information

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

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

### **SECTION 5: Fire-fighting Measures**

#### **5.1 Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam, Water Fog

**FOR SAFETY REASONS NOT TO BE USED:** Alcohol, Alcohol based solutions, any other media not listed above.

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

No Information

#### **5.3 Advice for firefighters**

Keep containers and surroundings cool with water spray. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Fire will produce dense black smoke containing hazardous combustion products (see section 10). In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **SECTION 6: Accidental Release Measures**

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

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak.

#### **6.2 Environmental precautions**

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment.

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

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Refer to protective measures listed in sections 7 and 8.

#### **6.4 Reference to other sections**

**FURTHER INSTRUCTIONS:** Please refer to EU disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

### **SECTION 7: Handling and Storage**

#### **7.1 Precautions for safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Use only in well-ventilated areas. Do not breathe vapours or spray mist.

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Handle in accordance with good industrial hygiene and safety practice. Keep working clothes separately. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Wash hands

## 7.2 Conditions for safe storage, including any incompatibilities

**CONDITIONS TO AVOID:** Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat.

**STORAGE CONDITIONS:** Do not freeze. Store in original container. Store at room temperature in the original container. Keep locked up or in an area accessible only to qualified or authorised persons. Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

## 7.3 Specific end use(s)

Component of a resin flooring product. The mixing and application to be in accordance with the technical data sheets.

# SECTION 8: Exposure Controls/Personal Protection

## 8.1 Control parameters

### Ingredients with Occupational Exposure Limits (UK WELS)

<u>Name</u>	<u>CAS-No.</u>	<u>LTEL ppm</u>	<u>STEL ppm</u>	<u>STEL mg/m3</u>	<u>LTEL mg/m3</u>
Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)	28182-81-2			0.07	0.02
Hexamethylene diisocyanate	822-06-0			0.07	0.02

<u>Name</u>	<u>CAS-No.</u>	<u>OEL Note</u>
Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)	28182-81-2	Isocyanates, all (as - NCO)
Hexamethylene diisocyanate	822-06-0	Isocyanates, all (as - NCO)

**FURTHER ADVICE:** Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified under the EU CLP Regulation.

## 8.2 Exposure controls

### Personal Protection

**RESPIRATORY PROTECTION:** In case of insufficient ventilation wear suitable respiratory equipment. Respirator with a vapor filter. Respirator with filter for organic vapor.

**EYE PROTECTION:** Eye wash bottle with pure water. Tightly fitting safety goggles. Face-shield.

**HAND PROTECTION:** Rubber or plastic gloves. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

**OTHER PROTECTIVE EQUIPMENT:** No Information

**ENGINEERING CONTROLS:** As a rule, at least 5 air changes per hour are recommended at the workplace. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

**Chemical Name:**

Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)

**EC No.:**

500-060-2

**CAS-No.:**

28182-81-2

**DNELs - Derived no effect level**

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required							
Inhalation	1 mg/m <sup>3</sup>		0.5 mg/m <sup>3</sup>					
Dermal								

**PNEC's - Predicted no effect concentration**

Environmental protection target	PNEC
Fresh water	0.127 mg/l
Fresh water sediments	266700 mg/kg
Marine water	0.0127 mg/l
Marine sediments	26670 mg/kg
Food chain	
Microorganisms in sewage treatment soil (agricultural)	38.3 mg/l
Air	53182 mg/kg

**Chemical Name:**

Hexamethylene diisocyanate

**EC No.:**

212-485-8

**CAS-No.:**

822-06-0

**DNELs - Derived no effect level**

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required							
Inhalation		0.07 mg/m <sup>3</sup>	0.035 mg/m <sup>3</sup>	0.035 mg/m <sup>3</sup>				
Dermal								

**PNEC's - Predicted no effect concentration**

Environmental protection target	PNEC
Fresh water	0.0774 mg/l
Fresh water sediments	0.01334 mg/kg
Marine water	0.00774 mg/l
Marine sediments	0.001344
Food chain	
Microorganisms in sewage treatment soil (agricultural)	8.42 mg/l
Air	0.026 mg/kg

**SECTION 9: Physical and Chemical Properties****9.1 Information on basic physical and chemical properties**

<b>Appearance:</b>	Colourless
<b>Physical State</b>	Liquid
<b>Odor</b>	None
<b>Odor threshold</b>	Not determined
<b>pH</b>	Not Applicable

<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point/range (°C)</b>	255 - N.D.
<b>Flash Point, (°C)</b>	>158
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper/lower flammability or explosive limits</b>	Not determined
<b>Vapour Pressure</b>	< 0.0001 hPa at 20 °C
<b>Vapour density</b>	Not determined
<b>Relative density</b>	ca. 1.17
<b>Solubility in / Miscibility with water</b>	Insoluble
<b>Partition coefficient: n-octanol/water</b>	Not determined
<b>Auto-ignition temperature (°C)</b>	Not determined
<b>Decomposition temperature (°C)</b>	Not determined
<b>Viscosity</b>	ca. 1200 mPa.s at 23 °C
<b>Explosive properties</b>	Not Applicable
<b>Oxidising properties</b>	Not Applicable

## 9.2 Other information

VOC Content g/l: <500

This is a calculated maximum VOC content for the mixed ready to use product (to Directive 2004/42/EC).

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

### 10.2 Chemical stability

No decomposition if stored and applied as directed. Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4 Conditions to avoid

Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat.

### 10.5 Incompatible materials

Acids. Strong oxidizing agents. Acids and bases. Amines.

### 10.6 Hazardous decomposition products

In case of fire **hazardous decomposition products** may be produced such as: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke. Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction.

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

#### Acute Toxicity:

Oral LD50: No Information

<b>Inhalation LC50:</b>	No Information
<b>Irritation:</b>	No information available.
<b>Corrosivity:</b>	No information available.
<b>Sensitization:</b>	No information available.
<b>Repeated dose toxicity:</b>	No information available.
<b>Carcinogenicity:</b>	No information available.
<b>Mutagenicity:</b>	No information available.
<b>Toxicity for reproduction:</b>	No information available.
<b>STOT-single exposure:</b>	No information available.
<b>STOT-repeated exposure:</b>	No information available.
<b>Aspiration hazard:</b>	No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.  
Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
28182-81-2	Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)	> 2500 mg/kg (rat)	> 2001 mg/kg (rat)	
822-06-0	Hexamethylene diisocyanate	959 mg/kg (rat)	>7000 mg/kg (rat)	0.124 mg/l, 4 hrs (rat)

#### Additional Information:

In the case of sensitisation to any of the ingredients, it is inadvisable to work with the product. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Corrosive - causes irreversible eye damage.

## SECTION 12: Ecological Information

### 12.1 Toxicity:

<b>EC50 48hr (Daphnia):</b>	No information
<b>IC50 72hr (Algae):</b>	No information
<b>LC50 96hr (fish):</b>	No information

**12.2 Persistence and degradability:** No information

**12.3 Bioaccumulative potential:** No information

**12.4 Mobility in soil:** No information

**12.5 Results of PBT and vPvB assessment:** The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

**12.6 Other adverse effects:** No information

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
28182-81-2	Hexamethylene 1,6-diisocyanate, oligomerisation product (isocyanurate type)	> 100 mg/l	> 1000 mg/l	> 100 mg/l (danio rerio)

822-06-0 Hexamethylene diisocyanate

No information

&gt;77.4 mg/l

No information

**SECTION 13: Disposal Considerations**

**13.1 WASTE TREATMENT METHODS:** Dispose of as hazardous waste in compliance with local and national regulations. If recycling is not practicable, dispose of in compliance with local regulations. Container hazardous when empty. Empty containers should be taken to an approved waste handling site for recycling or disposal. The product should not be allowed to enter drains, water courses or the soil.

**European Waste Code:** 080501\*

**Packaging Waste Code:** 150110

**SECTION 14: Transport Information**

<b>14.1 UN number</b>	Not applicable
<b>14.2 UN proper shipping name</b>	Not regulated for transport according to ADR/RID, IMDG, and IATA regulations.
<b>Technical name</b>	Not applicable
<b>14.3 Transport hazard class(es)</b>	Not applicable
<b>Subsidiary shipping hazard</b>	Not applicable
<b>14.4 Packing group</b>	Not applicable
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special precautions for user</b>	Not applicable
<b>EmS-No.:</b>	Not applicable
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code</b>	Not applicable

**SECTION 15: Regulatory Information**

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

**National Regulations:**

<b>Denmark Product Registration Number:</b>	Not available
<b>Danish MAL Code:</b>	Not available
<b>Danish MAL Code - Mixture:</b>	Not available
<b>Sweden Product Registration Number:</b>	Not available
<b>Norway Product Registration Number:</b>	Not available
<b>WGK Class:</b>	Not available

**15.2 Chemical Safety Assessment:**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**SECTION 16: Other Information**



**Text for CLP Hazard Statements shown in Section 3 describing each ingredient:**

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

**Reasons for revision**

Statement(s) Changed

This Safety Data Sheet (SDS) has been revised to meet the new EU CLP requirements. There have been both formatting and content changes based on the CLP classification (if applicable), please review each section of the SDS for specific changes.

## List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark;  
 European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;  
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);  
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

## Acronym &amp; Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m <sup>3</sup>	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail

UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.