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

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

1.1 Product Identifier

FLOWSEAL UV (PIGMENTED) MATT

Revision Date: 19/01/2017

Product Name: Flowseal UV (Pigmented) Matt Hardener B

Supercedes Date: 07/04/2016

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

CAS-No.	EINEC No.	Name According to EEC	%
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

CAS-No.	REACH Reg No.	CLP Symbols	CLP Hazard Statements	M-Factors
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. Remove contaminated clothing and shoes.

AFTER INHALATION: 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. Do NOT use solvents or thinners.

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: Never give anything by mouth to an unconscious person. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.

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

Use water spray to cool unopened containers. Fire will produce dense black smoke containing hazardous combustion products (see section 10). In the event of fire, wear self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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. Keep the container open.

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). After cleaning, flush away traces with water. 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

Wear personal protective equipment. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. In

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Do not freeze. Extremes of temperature and direct sunlight.
STORAGE CONDITIONS: Store in original container. Keep container tightly closed in a dry and well-ventilated place. 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)

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

Name	CAS-No.	OEL Note
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.
EYE PROTECTION: Eye wash bottle with pure water. Safety goggles. Safety glasses with side-shields conforming to EN166.
HAND PROTECTION: Isocyanates can harden gloves and increase the risk of their splitting. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. 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. Remove contaminated clothing and protective equipment before entering eating areas.
OTHER PROTECTIVE EQUIPMENT: No Information
ENGINEERING CONTROLS: As a rule, at least 10 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

	Workers				Consumers			
Route of Exposure	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/m³		0.5 mg/m³					
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	38.3 mg/l
soil (agricultural)	53182 mg/kg
Air	

Chemical Name:

Hexamethylene diisocyanate

EC No.: 212-485-8

CAS-No.: 822-06-0

DNELs - Derived no effect level

	Workers				Consumers			
Route of Exposure	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/m³	0.035 mg/m³	0.035 mg/m³				
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	8.42 mg/l
soil (agricultural)	0.026 mg/kg
Air	

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Colourless
Physical State	Liquid
Odor	slight
Odor threshold	Not determined
pH	Not determined

Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	255 - N.D.
Flash Point, (°C)	158
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	Not determined
Vapour Pressure	<0.0001 hPa @ 20°C
Vapour density	Not determined
Relative density	ca.1.17
Solubility in / Miscibility with water	Insoluble, reacts with water
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	445
Decomposition temperature (°C)	Not determined
Viscosity	ca. 1200 mPa.s @ 23°C
Explosive properties	Not applicable
Oxidising properties	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. Container can be pressurized by carbon dioxide due to reaction with humid air and/or water. Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Do not freeze. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
No Information

10.6 Hazardous decomposition products
In case of fire **hazardous decomposition products** may be produced such as**:** Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. Preparation reacts slowly with water resulting in evolution of CO2. Evolution of CO2 in closed containers causes overpressure and produces a risk of bursting.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: No Information

Inhalation LC50: No Information

Irritation: No information available.

Corrosivity: No information available.

Sensitization: Prolonged or repeated skin contact may result in allergic eczema.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: 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:

CAS-No.	Name According to EEC	Oral LD50	Dermal LD50	Vapor LC50
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. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition.

SECTION 12: Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: Insoluble, reacts with water

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

CAS-No.	Name According to EEC	EC50 48hr	IC50 72hr	LC50 96hr
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	>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. 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

14.1 UN number Not applicable

14.2 UN proper shipping name Not regulated for transport according to ADR/RID, IMDG, and IATA regulations.

Technical name Not applicable

14.3 Transport hazard class(es) Not applicable

Subsidiary shipping hazard Not applicable

14.4 Packing group Not applicable

14.5 Environmental hazards Not applicable

14.6 Special precautions for user Not applicable

EmS-No.: Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code Not applicable

SECTION 15: Regulatory Information

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

National Regulations:

Denmark Product Registration Number: Not available

Danish MAL Code: Not available

Danish MAL Code - Mixture: Not available

Sweden Product Registration Number: Not available

Norway Product Registration Number: Not available

WGK Class: 1

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 is a new Safety Data Sheet (SDS).

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 & 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/m3	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.