Safety Data Sheet
according to Regulation (EC)
No. 453/2010

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier

Product Name: Flowseal ESD EPW Base A

FLOWSEAL ESD EPW BASE A

Revision Date: 27/05/2015

Supercedes Date: New SDS

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

Base component of 2 components coatings - Industrial use. 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)

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	EUH205
Skin Irritation, category 2	H315
Skin Sensitizer, category 1	H317
Eye Irritation, category 2	H319
Hazardous to the aquatic environment, Chronic, category 2	H411

2.2 Label elements

Symbol(s) of Product

Signal Word

Warning

Named Chemicals on Label

Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol, 1,6-Hexanediol diglycidyl ether, Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)

HAZARD STATEMENTS

Other EU extensions	EUH205	Contains epoxy constituents. May produce an allergic reaction.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

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.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	EINEC No.	Name According to EEC	%
25068-38-6	500-033-5	Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	75-100
16096-31-4	240-260-4	1,6-Hexanediol diglycidyl ether	2.5-10
108-32-7	203-572-1	Propylene carbonate	2.5-10
100-51-6	202-859-9	Benzyl alcohol	2.5-10
9003-36-5	500-006-8	Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol	2.5-10

CAS-No.	REACH Reg No.	CLP Symbols	CLP Hazard Statements	M-Factors
25068-38-6	01-2119456619-26	GHS07-GHS09	H315-317-319-411	
16096-31-4	01-2119463471-41	GHS07	H315-317-319-412	
108-32-7	01-2119537232-48	GHS07	H319	
100-51-6	01-2119492630-38	GHS07	H302-319-332	
9003-36-5	01-2119454392-40	GHS07-GHS09	H315-317-411	

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

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: Move to fresh air. Keep respiratory tract clear. Remove person to fresh air. If signs/symptoms continue, get medical attention. Consult a physician after significant exposure.
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: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. 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.

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. Toxic 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. Contains epoxy constituents. See information supplied by the manufacturer.

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.

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.
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. Wash hands before breaks and at the end of workday. Keep away from food, drink and animal feeding stuffs. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product.

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)

No specific advice for end use available. Component of a resin flooring product. The mixing and application to be in accordance with the technical data sheets.

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	OEL Note
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	25068-38-6					
1,6-Hexanediol diglycidyl ether	16096-31-4					
Propylene carbonate	108-32-7					
Benzyl alcohol	100-51-6					
Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol	9003-36-5					

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified at the EU level under the dangerous substances and preparations regulation.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required. Respirator with a vapor filter.

EYE PROTECTION: Eye wash bottle with pure water. Tightly fitting safety goggles. Safety glasses with side-shields. Safety glasses with side-shields conforming to EN166.

HAND PROTECTION: 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. Rubber or plastic apron. Remove contaminated clothing and protective equipment before entering eating areas.

OTHER PROTECTIVE EQUIPMENT: No Information

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

Chemical Name:

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)

EC No.: 500-033-5

CAS-No.: 25068-38-6

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					0.75 mg/kg		0.75 mg/kg
Inhalation		12.25 mg/m³		12.25 mg/m³				
Dermal		8.33 mg/kg		8.33 mg/kg		3.571 mg/kg		3.571 mg/kg

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.006 mg/l
Fresh water sediments	0.996 mg/l
Marine water	0.0006 mg/l
Marine sediments	0.0996 mg/l
Food chain	
Microorganisms in sewage treatment	10 mg/l
soil (agricultural)	0.196 mg/kg
Air	

Chemical Name:

1,6-Hexanediol diglycidyl ether

EC No.: 240-260-4

CAS-No.: 16096-31-4

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					0.83 mg/kg bw/d		0.83 mg/kg bw/d
Inhalation			0.44 mg/m³	4.9 mg/m³		2.9 mg/m³	0.27 mg/m³	2.9 mg/m³
Dermal			22.6 µg/cm²	2.8 mg/kg bw/d	13.6 µg/cm²	1.7 mg/kg bw/d	13.6 µg/cm²	1.7 mg/kg bw/d

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.0115 mg/l
Fresh water sediments	0.283 mg/kg
Marine water	1.15 µg/l
Marine sediments	0.283 mg/kg
Food chain	
Microorganisms in sewage treatment	
soil (agricultural)	
Air	

Chemical Name:

Benzyl alcohol

EC No.: 202-859-9

CAS-No.: 100-51-6

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					25 mg/kg bw/d		5 mg/kg bw/d
Inhalation		450 mg/m³		90 mg/m³		95.5 mg/m³		19.1 mg/m³
Dermal		47 mg/kg bw/d		9.5 mg/kg bw/d		28.5 mg/kg bw/d		5.7 mg/kg bw/d

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	1 mg/l
Fresh water sediments	5.27 mg/kg
Marine water	0.1 mg/l
Marine sediments	0.527 mg/kg
Food chain	
Microorganisms in sewage treatment	39 mg/l
soil (agricultural)	0.456 mg/kg
Air	

Chemical Name:

Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol

EC No.: 500-006-8

CAS-No.: 9003-36-5

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							6.25 mg/kg bw/d
Inhalation				29.39 mg/m³				8.7 mg/m³
Dermal				104.15 mg/kg bw/d				62.5 mg/kg bw/d

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.003 mg/l
Fresh water sediments	0.294 mg/kg
Marine water	0.0003 mg/l
Marine sediments	0.0294 mg/kg
Food chain	
Microorganisms in sewage treatment	10 mg/l
soil (agricultural)	0.237 mg/kg
Air	

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Clear
Physical State	Liquid
Odor	No Information
Odor threshold	Not determined
pH	Not determined
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	201 - N.D.

Flash Point, (°C)	>100
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	999 - 0
Vapour Pressure	Not determined
Vapour density	Not determined
Relative density	1.14 g/cm³
Solubility in / Miscibility with water	insoluble
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Not determined
Explosive properties	Not Applicable
Oxidising properties	Not Applicable

9.2 Other information

VOC Content g/l: <140

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

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

10.6 Hazardous decomposition products
In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction.

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:	No information available.

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
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	>5000 mg/kg (rat)	2001 mg/kg (rat) OECD 402	
16096-31-4	1,6-Hexanediol diglycidyl ether	3010 mg/kg (rat)	>2000 mg/kg (rat)	
108-32-7	Propylene carbonate	33520 mg/kg (rat)	>2000 (rabbit)	
100-51-6	Benzyl alcohol	1620 mg/kg (rat)	2001 mg/kg (rabbit)	
9003-36-5	Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol	>5000 mg/kg (rat) OECD 401	>2000 mg/kg (rat) OECD 402	

Additional Information:

This product may contain Titanium Dioxide, which is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. This classification is relevant when exposed to titanium dioxide in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities. 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.

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: 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

CAS-No.	Name According to EEC	EC50 48hr	IC50 72hr	LC50 96hr
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	1.7 mg/l OECD 202	13.81 mg/l (Pseudokirchneriella subcapitata) OECD 201	1.5 mg/l (Oncorhynchus mykiss) OECD 203
16096-31-4	1,6-Hexanediol diglycidyl ether	47 mg/l	No information	30 mg/l
108-32-7	Propylene carbonate	No information	No information	>1000 mg/l
100-51-6	Benzyl alcohol	230 mg/l	770 mg/l (Pseudokirchneriella)	460 mg/l (Pimephales promelas)

9003-36-5	Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol	1.6 mg/l	1.8 mg/l (Pseudokirchnerella subcapitata) OECD 201	0.55 mg/l

Further Ecological Information

Contains the following ingredients which are classified as water dangerous according to EEC directive No. 76/464/EEC in percentages > 1%.

CAS-No.	Name According to EEC
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)
16096-31-4	1,6-Hexanediol diglycidyl ether
9003-36-5	Formaldehyde, oligomeric reaction product with 1-chloro-2,3-epoxypropane and phenol

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. 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: 080111
Packaging Waste Code: 150110

14. Transport Information

14.1	**UN number**	UN3082
14.2	**UN proper shipping name**	Environmentally hazardous substance, liquid, N.O.S.
	Technical name	(Epoxy Resin MW<700)
14.3	**Transport hazard class(es)**	9
	Subsidiary shipping hazard	No Information
14.4	**Packing group**	III
14.5	**Environmental hazards**	No Information
14.6	**Special precautions for user**	Not applicable
	EmS-No.:	No Information
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**	Not applicable

15. Regulatory Information

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

National Regulations:

Denmark Product Registration Number:	No Information
Danish MAL Code:	00-5 (1993)
Sweden Product Registration Number:	No Information
Norway Product Registration Number:	No Information
WGK Class:	No Information

Chemical Safety Assessment:

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

16. Other Information

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

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Reasons for revision

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
ESIS (The European Chemical Substances Information System), provided by the European Commission Joint Research Centre in Ispra, Italy
Annex VI of the EU Council Directive 67/548/EEC
Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation)
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

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.