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: Peran LF Hardener B

PERAN LF HARDENER B

Revision Date: 27/05/2015

Supercedes Date: New SDS

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)

2. Hazard Identification

2.1 Classification of the substance or mixture

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

HAZARD STATEMENTS

Corrosive to the respiratory tract	EUH071
Acute Toxicity, Oral, category 4	H302
Skin Corrosion, category 1B	H314-1B
Skin Sensitizer, category 1	H317
Acute Toxicity, Inhalation, category 4	H332
Hazardous to the aquatic environment, Chronic, category 3	H412

2.2 Label elements

Symbol(s) of Product

Signal Word

Danger

Named Chemicals on Label

Salicylic acid, Benzyl alcohol, m-Phenylenebis(methylamine), 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

HAZARD STATEMENTS

Corrosive to the respiratory tract	EUH071	Corrosive to the respiratory tract.
Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.
Skin Corrosion, category 1B	H314-1B	Causes severe skin burns and eye damage.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Hazardous to the aquatic environment, Chronic, category 3	H412	Harmful to aquatic life with long lasting effects.

PRECAUTION PHRASES

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do no eat, drink or smoke when using this product.
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.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	EINEC No.	Name According to EEC	%
100-51-6	202-859-9	Benzyl alcohol	25-50
2855-13-2	220-666-8	3-Aminomethyl-3,5,5-trimethylcyclohexylamine	25-50
1477-55-0	216-032-5	m-Phenylenebis(methylamine)	2.5-10
69-72-7	200-712-3	Salicylic acid	2.5-10
9046-10-0	618-561-0	Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups	2.5-10

CAS-No.	REACH Reg No.	CLP Symbols	CLP Hazard Statements	M-Factors
100-51-6	01-2119492630-38	GHS07	H302-319-332	
2855-13-2	01-2119514687-32	GHS05-GHS07	H302-312-314-317-412	
1477-55-0	01-2119480150-50	GHS05-GHS07	H302-314-317-332-412	
9046-10-0	01-2119557899-12	GHS05-GHS08	H304-314-412	
69-72-7	01-2119486984-17	GHS05-GHS07	H302-318	

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. 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.

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

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. Keep containers and surroundings cool with water spray.

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

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

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. Do not breathe vapours or spray mist.
When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice. Keep working clothes separately. Keep away from food, drink and animal feedingstuffs. 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.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Do not freeze. Direct sources of heat. 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. Component of Mondéco Classic, Mondéco Crystal Ice, Mondéco Exotic, and their variants.

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
Benzyl alcohol	100-51-6					
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2					
m-Phenylenebis(methylamine)	1477-55-0					
Salicylic acid	69-72-7					
Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups	9046-10-0					

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: In case of insufficient ventilation wear suitable respiratory equipment. 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: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. As a rule, at least 5 air changes per hour are recommended at the workplace.

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:

3-Aminomethyl-3,5,5-trimethylcyclohexylamine

EC No.: 220-666-8

CAS-No.: 2855-13-2

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								
Dermal								

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.06 mg/l
Fresh water sediments	5.784
Marine water	0.006 mg/l
Marine sediments	0.578
Food chain	
Microorganisms in sewage treatment	3.18 mg/l
soil (agricultural)	1.121
Air	

Chemical Name:
m-Phenylenebis(methylamine)

EC No.: 216-032-5

CAS-No.: 1477-55-0

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			0.2 mg/m³	1.2 mg/m³				
Dermal				0.33 mg/kg bw/d				

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.094 mg/l
Fresh water sediments	0.43 mg/kg
Marine water	0.0094 mg/l
Marine sediments	0.043 mg/kg
Food chain	
Microorganisms in sewage treatment	10 mg/l
soil (agricultural)	0.045 mg/kg
Air	

Chemical Name:
Salicylic acid

EC No.: 200-712-3

CAS-No.: 69-72-7

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					4 mg/kg bw/d		1 mg/kg bw/d
Inhalation			5 mg/m3	5 mg/m³				4 mg/m3
Dermal				2.3 mg/kg bw/d				1 mg/kg bw/d

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.2 mg/l
Fresh water sediments	1.42 mg/kg
Marine water	0.02 mg/l
Marine sediments	0.142 mg/kg
Food chain	
Microorganisms in sewage treatment	162 mg/l
soil (agricultural)	0.166 mg/kg
Air	

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Clear / light yellow
Physical State	Liquid
Odor	Amine like
Odor threshold	Not determined
pH	ca. 11
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	205 - N.D.
Flash Point, (°C)	>100

Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	1.2 - 13
Vapour Pressure	Not determined
Vapour density	Not determined
Relative density	ca. 1.04
Solubility in / Miscibility with water	Miscible
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Not determined
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l: <240

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. Hazardous polymerisation may occur.

10.4 Conditions to avoid
Do not freeze. Direct sources of heat. Avoid temperatures above 40°C, direct sunlight and contact with sources of heat.

10.5 Incompatible materials
Acids. Strong oxidizing agents.

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.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:	No Information
Inhalation LC50:	No Information
Irritation:	Irritating to eyes and skin. Vapour/spray mist may irritate respiratory system and lungs.
Corrosivity:	Corrosive to eyes and skin.
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
100-51-6	Benzyl alcohol	1620 mg/kg (rat)	2001 mg/kg (rabbit)	
2855-13-2	3-Aminomethyl-3,5,5-trimethylcyclohexylamine	1030 mg/kg (rat)	1840 mg/kg (rabbit)	
1477-55-0	m-Phenylenebis(methylamine)	1514 mg/kg	2001 mg/kg (rabbit)	
69-72-7	Salicylic acid	891 mg/kg, (rat) OECD 401	>2000 mg/kg (rat)	
9046-10-0	Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups	2855 mg/kg (rat)	2980 mg/kg (rabbit)	

Additional Information:

Corrosive - causes irreversible eye damage. 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
100-51-6	Benzyl alcohol	230 mg/l	770 mg/l (Pseudokirchneriella)	460 mg/l (Pimephales promelas)
2855-13-2	3-Aminomethyl-3,5,5-trimethylcyclohexylamine	No information	No information	110 mg/l
1477-55-0	m-Phenylenebis(methylamine)	15.2 mg/l	12 mg/l	75 mg/l (Leuciscus idus)
9046-10-0	Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups	No information	No information	15 mg/l
69-72-7	Salicylic acid	870 mg/l	> 100 mg/l (Desmodesmus subspicatus) OECD 201	1380 mg/l (pimephales promelas)

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
2855-13-2	3-Aminomethyl-3,5,5-trimethylcyclohexylamine
1477-55-0	m-Phenylenebis(methylamine)
9046-10-0	Reaction products of propane-1,2-diol, propoxylated by amination of the terminal hydroxyl groups

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: 08 01 11*
Packaging Waste Code: 150110

14. Transport Information

14.1	UN number	UN2735
14.2	UN proper shipping name	Amines, liquid, corrosive, N.O.S.
	Technical name	(m-Xylenediamine, Isophoronediamine)
14.3	Transport hazard class(es)	8
	Subsidiary shipping hazard	No Information
14.4	Packing group	III
14.5	Environmental hazards	Marine Pollutant: NO
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:	3

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.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
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.