



## 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** SF/FINISH/LXP/LXP HD HARDENER **Revision Date:** 25/03/2021  
**Product Name:** SF/Finish/LXP/LXP HD Hardener **Supersedes Date:** 03/02/2021

**UFI Code:** 4UV0-W0YN-6000-4N1D

1.2 **Relevant identified uses of the substance or mixture and uses advised against** Coatings and paints, thinners, paint removers. Manual activities involving hand contact. Widespread use leading to inclusion into/onto article (indoor). Widespread use leading to inclusion into/onto article (outdoor). 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

**Manufacturer:** Flowcrete Polska Sp. z o. o.  
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### 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 Irritation, category 2	H315
Skin Sensitizer, category 1	H317
Eye Irritation, category 2A	H319
Acute Toxicity, Inhalation, category 4	H332
Respiratory Sensitizer, category 1	H334
STOT, single exposure, category 3, RTI	H335
Carcinogenicity, category 2	H351
STOT, repeated exposure, category 2	H373

**2.2 Label elements****Symbol(s) of Product****Signal Word**

Danger

**Named Chemicals on Label**

4,4'-Methylenediphenyl diisocyanate, 2,2'-Methylenediphenyl diisocyanate, Diphenylmethane-2,4'-diisocyanate, Isocyanic acid, polymethylenepolyphenylene ester

**HAZARD STATEMENTS**

Other EU extensions	EUH204	Contains isocyanates. 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 2A	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Respiratory Sensitizer, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

**PRECAUTION PHRASES**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P285	In case of inadequate ventilation wear respiratory 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.
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.
P308+313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**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>Name According to EEC</u>	<u>EINEC No.</u>	<u>CAS-No.</u>	<u>%</u>	<u>Classifications</u>	<u>REACH Reg No.</u>
Isocyanic acid, polymethylenepolyphen ylene ester		9016-87-9	50 - <75	No GHS Flavor/ Country combination found	Not required
Diphenylmethane-2,4'- diisocyanate		5873-54-1	10 - <25	No GHS Flavor/ Country combination found	01-2119480143- 45
4,4'-Methylenediphenyl diisocyanate		101-68-8	10 - <25	No GHS Flavor/ Country combination found	01-2119457014- 47
2,2'-Methylenediphenyl diisocyanate		2536-05-2	0.1 - <1.0	No GHS Flavor/ Country combination found	01-2119927323- 43

<u>CAS-No.</u>	<u>REACH Reg No.</u>	<u>CLP Symbols</u>	<u>CLP Hazard Statements</u>	<u>M-Factors</u>
9016-87-9	Not required	GHS07-GHS08		
5873-54-1	01-2119480143-45	GHS07-GHS08		
101-68-8	01-2119457014-47	GHS07-GHS08		
2536-05-2	01-2119927323-43	GHS07-GHS08		

**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:** 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. 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. 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 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. 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. Do not freeze.  
**STORAGE CONDITIONS:** 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)

Hardener B - Deckshield SF, Deckshield Finish, Deckshield LXP, Flowcoat LXP, Flowshield LXP + Flowshield LXP HD. 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>
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9				
Diphenylmethane-2,4'-diisocyanate	5873-54-1				
4,4'-Methylenediphenyl diisocyanate	101-68-8				
2,2'-Methylenediphenyl diisocyanate	2536-05-2				

<u>Name</u>	<u>CAS-No.</u>	<u>OEL Note</u>
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	
Diphenylmethane-2,4'-diisocyanate	5873-54-1	
4,4'-Methylenediphenyl diisocyanate	101-68-8	
2,2'-Methylenediphenyl diisocyanate	2536-05-2	

**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 EN 166.

**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. Impervious gloves. 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:** At temperatures below 40°C, provide a good standard of general ventilation (not less than 5 air changes per hour). At temperatures over 40°C - and always if sprayed - exhaust ventilation is required. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

**Chemical Name:****EC No.:****CAS-No.:****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								
Dermal								

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

Environmental protection target	PNEC
Fresh water	
Fresh water sediments	
Marine water	
Marine sediments	
Food chain	
Microorganisms in sewage treatment soil (agricultural)	
Air	

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

<b>Appearance:</b>	brown
<b>Physical State</b>	Not determined
<b>Odor</b>	Characteristic
<b>Odor threshold</b>	Not determined
<b>pH</b>	Not determined
<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point/range (°C)</b>	270 - N.D.
<b>Flash Point, (°C)</b>	220
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not determined
<b>Upper/lower flammability or explosive limits</b>	Not determined
<b>Vapour Pressure</b>	Not determined
<b>Vapour density</b>	Not determined
<b>Relative density</b>	ca. 1.23
<b>Solubility in / Miscibility with water</b>	Reacts with water to produce carbon dioxide and polyurea solid.
<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. 84.4 mPa.s (20°C)
<b>Explosive properties</b>	Not determined
<b>Oxidising properties</b>	Not determined

**9.2 Other information**

VOC Content g/l:	<10
Specific Gravity (g/cm3)	0.103

**SECTION 10: Stability and Reactivity****10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

**10.2 Chemical stability**

Stable under recommended storage conditions. Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

**10.3 Possibility of hazardous reactions**

Polymerises at about 200°C with evolution of CO<sub>2</sub>.

**10.4 Conditions to avoid**

Avoid temperatures above 40 °C, direct sunlight and contact with sources of heat. Do not freeze.

**10.5 Incompatible materials**

Keep away from oxidising agents, strongly acid or alkaline materials, as well as of amines, alcohols and water. Amines and alcohols cause exothermic reactions.

**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. Preparation reacts slowly with water resulting in evolution of CO<sub>2</sub>. Evolution of CO<sub>2</sub> 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:** Irritating to eyes and skin. Vapour/spray mist may irritate respiratory system and lungs.

**Corrosivity:** No information available.

**Sensitization:** May cause respiratory allergy and allergic contact eczema.

**Repeated dose toxicity:** No information available.

**Carcinogenicity:** Suspected of causing cancer by inhalation. This is of particular concern when in aerosol form e.g. when sprayed.

**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:

#### 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: No information available on the product itself as the product is not tested.

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.

### 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 DANGEROUS GOODS
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:



<b>Denmark Product Registration Number:</b>	Not available
<b>Danish MAL Code:</b>	00-3 (1993)
<b>Danish MAL Code - Mixture:</b>	Not available
<b>Sweden Product Registration Number:</b>	Not available
<b>Norway Product Registration Number:</b>	59601
<b>Germany WGK Class:</b>	1
<b>Directive 2004/42/CE :</b>	<10
<b>Covered by Directive 2012/18/EC (Seveso III):</b>	Not applicable
<b>Restrictions to product or to substances according to Annex XVII, Regulation (CE) 1907/2006:</b>	Not applicable

**Annex XIV - Authorisation List:**

<u>CAS-No.</u>	<u>Name According to EEC</u>
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Not Applicable

**SVHC - Substances of very high concern (Candidate List):**

<u>CAS-No.</u>	<u>Name According to EEC</u>
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Not Applicable

**15.2 Chemical Safety Assessment:**

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

<b>SECTION 16: Other Information</b>
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**Text for CLP Hazard Statements shown in Section 3 describing each ingredient:**

This product is not classified as hazardous in accordance with EC Regulation 1272/2008/EC.

**Reasons for revision**

Substance and/or Product Properties Changed in Section(s):

01 - Identification

15 - Regulatory Information

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 & 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.

