

**Safety Data Sheet according to  
Regulation (EC) 'No. 2020/878**



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

<b>1.1 Product Identifier</b>	IIN-FLOWLXP-AC	<b>Revision Date:</b>	06/02/2023
<b>Product Name:</b>	FLOWSHIELD LXP HARDENER B	<b>Supersedes Date:</b>	New SDS
<b>UFI Code:</b>	No Information		
<b>Nanoform:</b>	No		
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	Component of multicomponent industrial coatings - Industrial use. Advised against: others than recommended		
<b>1.3 Details of the supplier of the safety data sheet</b>			
<b>Importer:</b>	None		
<b>Manufacturer:</b>	StonCor Middle East L.L.C. Plot # B518, Al Quoz Industrial Area 3 P.O. Box: 3034 Dubai, U.A.E.		
	Regulatory / Technical Information: +971 4 347 0460 +971 4 347 0242 (fax)		
<b>Datasheet Produced by:</b>	Rivero, Melody - ehs@stoncor.com		
<b>1.4 Emergency telephone number:</b>	CHEMTREC +1 703 5273887 (Outside US) 112 (24/7) Croatia +3851 2348 342 (24/7 in Croatian and English) Iceland 112 (24/7) Malta 112 (24/7)		

**SECTION 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

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

**HAZARD STATEMENTS**

Skin Irritation, category 2	H315
Skin Sensitizer, category 1	H317
Eye Irritation, category 2	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, isocyanic acid, polymethylenepolyphenylene ester

**HAZARD STATEMENTS**

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.
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.

**Endocrine disrupting properties - Toxicity**

Name According to EEC

CAS-No.

No Information

**Endocrine disrupting properties - Ecotoxicity**

Name According to EEC

CAS-No.

No Information

**SECTION 3: Composition/Information On Ingredients**

**3.1 Substances**

Not applicable

**3.2 Mixtures**

**Hazardous ingredients**

<u>Name According to EEC</u> <u>EINEC No.</u> <u>CAS-No.</u> <u>REACH Reg No.</u>	<u>%</u>	<u>Classifications</u>	SCL Value: ATE Value: M-Factor:
isocyanic acid, polymethylenepolyphenylene ester 618-498-9 9016-87-9 No Information	75-100	H315-317-319-332-334-335-351-373  Acute Tox. 4 Inhalation, Carc. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Irrit. 2, Skin Sens. 1, STOT RE 2, STOT SE 3 RTI	SCL Value: - ATE Value: - M-Factor: -

4,4'-methylenediphenyl diisocyanate 202-966-0 101-68-8 No Information	2.5 - <10	H315-317-319-332-334-335-351-373  Acute Tox. 4 Inhalation, Carc. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Irrit. 2, Skin Sens. 1, STOT RE 2, STOT SE 3 RTI	<b>SCL Value:</b>	-
			<b>ATE Value:</b>	-
			<b>M-Factor:</b>	-

**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.

**AFTER INHALATION:** Move to fresh air. 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.

**AFTER EYE CONTACT:** 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. Never give anything by mouth to an unconscious person.

#### 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: Firefighting Measures

### 5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

**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

In the event of fire, wear self-contained breathing apparatus. Dry powderFoamCarbon dioxide (CO2).

## SECTION 6: Accidental Release Measures

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

#### 6.1.1 For non-emergency personnel

Ensure adequate ventilation. Use personal protective equipment.

**6.1.2 For emergency responders**

No Information

**6.2 Environmental precautions**

No Information

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

Pick up and transfer to properly labelled containers. No special environmental precautions required. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

**FURTHER INSTRUCTIONS:** Please refer to EU disposal requirements or country specific disposal requirements for this material. See Section 8 and 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. Avoid prolonged contact with eyes, skin and clothing.

When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**CONDITIONS TO AVOID:** Avoid dust accumulation in enclosed space.

**STORAGE CONDITIONS:** Keep tightly closed in a dry and cool place.

**7.3 Specific end use(s)**

No specific advice for end use available.

**SECTION 8: Exposure Controls/Personal Protection****8.1 Control parameters****Ingredients with Occupational Exposure Limits (EU)**

<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				
4,4'-methylenediphenyl diisocyanate	101-68-8			0.07	

<u>Name</u>	<u>CAS-No.</u>	<u>OEL Note</u>
isocyanic acid, polymethylenepolyphenylene ester	9016-87-9	
4,4'-methylenediphenyl diisocyanate	101-68-8	

**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.

**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	

**8.2 Exposure controls****Personal Protection****RESPIRATORY PROTECTION:** In case of insufficient ventilation wear suitable respiratory equipment.**EYE PROTECTION:** Tightly fitting safety goggles.**HAND PROTECTION:** Impervious 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.**OTHER PROTECTIVE EQUIPMENT:** No Information**ENGINEERING CONTROLS:** Ensure adequate ventilation, especially in confined areas.**SECTION 9: Physical and Chemical Properties****9.1 Information on basic physical and chemical properties**

<b>Colour:</b>	Brown Liquid
<b>Physical State</b>	Liquid
<b>Odor</b>	Earthy, Musty
<b>Odor threshold</b>	Not determined
<b>pH</b>	Not determined
<b>Melting point / freezing point (°C)</b>	Not determined
<b>Boiling point or initial boiling point and boiling range (°C)</b>	N.D. - N.D.
<b>Flash Point, (°C)</b>	220
<b>Evaporation rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not determined
<b>Lower and upper explosive limit</b>	Not determined
<b>Vapour Pressure</b>	Not determined
<b>Relative vapour density</b>	Not determined
<b>Density and/or relative density</b>	Not determined
<b>Solubility in / Miscibility with water</b>	

	Immiscible
<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>Kinematic viscosity</b>	Not determined
<b>Particle characteristics</b>	Not applicable to liquids

**9.2 Other information**

<b>VOC Content g/l:</b>	0.00
<b>Specific Gravity (g/cm3)</b>	1.233

## SECTION 10: Stability and Reactivity

**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous polymerisation does not occur.

**10.4 Conditions to avoid**

Avoid dust accumulation in enclosed space.

**10.5 Incompatible materials**

No Information

**10.6 Hazardous decomposition products**

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke.

## SECTION 11: Toxicological information

**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute Toxicity:**

**Oral LD50:** No information available.

**Inhalation LC50:** No information available.

**Dermal LD50:** 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:

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>	<u>Gas LC50</u>	<u>Dust/Mist LC50</u>
9016-87-9	isocyanic acid, polymethylenepolyphenylene ester	>10000 mg/kg	>9400 mg/kg	0..49 mg/l (4 h, Aerosol. rat)	0.000	
101-68-8	4,4'-methylenediphenyl diisocyanate	15000 mg/kg oral		43 ppm vapor 4 hrs	0.000	0.000

**Additional Information:**

No Information

**11.2 Information on other hazards**

**Endocrine disrupting properties - Toxicity**

Name According to EEC	CAS-No.
No Information	

## 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

**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 Endocrine disrupting properties**

**Endocrine disrupting properties - Ecotoxicity**

Name According to EEC	CAS-No.
No Information	



**12.7 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>
9016-87-9	isocyanic acid, polymethylenepolyphenylene ester	No information	1640 mg/l	>1000 mg/l
101-68-8	4,4'-methylenediphenyl diisocyanate	>1000 mg/l	No information	>1000 mg/l

### SECTION 13: Disposal Considerations

**13.1 WASTE TREATMENT METHODS:** 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.

**European Waste Code:** 080111  
**Packaging Waste Code:** 150110

**SECTION 14: Transport Information**

	ADR/RID	ADN	IMDG	IATA
14.1 UN-number or ID number	None	None	None	None
14.2 UN proper shipping name	Not Regulated	Not Regulated	Not Regulated	Not Regulated
14.3 Transport Hazard Class(es)	None	None	None	None
14.4 Packing Group	Not applicable	Not applicable	Not applicable	Not applicable
14.5 Enviromental Hazards	No Information	No Information	No Information	No Information

- 14.6 Special precautions for user                      Unknown  
 EmS-No.:    NONE
- 14.7 Maritime transport in bulk according to IMO      Unknown  
 intruments

**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
- Germany WGK Class:    Not available

<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, Regulation (CE) 1907/2006 - Authorisation List:****CAS-No.      Name According to EEC**

Not Applicable

**SVHC - Substances of very high concern (Candidate List - Art. 59 REACH):****CAS-No.      Name According to EEC**

Not Applicable

**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:**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

**Reasons for revision**

No Information

**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.
- Joint Research Centre in Ispra, Italy.
- Regulation (EC) 1272/2008 with subsequent amendments.
- Regulation (EC) 1272/2006 with subsequent amendments.
- Commission Regulation (EU) 2020/878
- EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"
- Safety Data Sheet from raw material supplier
- The classification of the product is based on the calculation methods set out in Annex I and Annex II of the CLP Reg. 1272/2008 on the exact composition of the formula

**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
IMO	International Maritime Organization
Note P:	The classification as a carcinogen or mutagen need not apply; the substance contains less than 0,1 % w/w benzene
Note 10:	The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

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.