

SAFETY DATA SHEET

Nitodek PAFS Topcoat Hardener

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|---------------------------|-------------------------------|
| Product name | Nitodek PAFS Topcoat Hardener |
| REACH registration number | 01-2119485796-17-XXXX |
| CAS number | 28182-81-2 |
| EC number | 931-274-8 |

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

| | |
|----------------------|--|
| Identified uses | Curing agent of two-part polyurethane system |
| Uses advised against | No specific uses advised against are identified. |

1.3. Details of the supplier of the safety data sheet

| | |
|----------|--|
| Supplier | Fosroc International Limited Drayton Manor Business Park Coleshill Road Tamworth Staffordshire B78 3XN England Tel: +44 (0) 1827 262222 Fax: +44 (0) 1827 262444 enquiryuk@fosroc.com |
|----------|--|

1.4. Emergency telephone number

| | |
|---------------------|--|
| Emergency telephone | +44(0) 1827 265 279 (Monday - Sunday 24 hours a day) |
|---------------------|--|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|-----------------------|--|
| Physical hazards | Not Classified |
| Health hazards | Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335 |
| Environmental hazards | Not Classified |

2.2. Label elements

| | |
|-----------|-----------|
| EC number | 931-274-8 |
|-----------|-----------|

Hazard pictograms



| | |
|-------------|---------|
| Signal word | Warning |
|-------------|---------|

Nitodek PAFS Topcoat Hardener

| | |
|---|---|
| Hazard statements | H332 Harmful if inhaled. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. |
| Precautionary statements | P261 Avoid breathing vapour/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. |
| Contains | HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER |
| Supplementary precautionary statements | P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P321 Specific treatment (see medical advice on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P312 Call a POISON CENTRE/doctor if you feel unwell. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations. |

2.3. Other hazards

Combustible liquid. Reacts with water, releasing Carbon Dioxide. This product does not meet the criteria for PBT or vPvB in accordance with Regulation (EC) NO. 1907/2006, Annex X111.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| | |
|---|----------------|
| HEXAMETHYLENE-1,6-DIISOCYANATE HOMOPOLYMER | 60-100% |
| CAS number: 28182-81-2 | |
| Classification | |
| Acute Tox. 4 - H332 | |
| Skin Sens. 1 - H317 | |
| STOT SE 3 - H335 | |

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments Contains non-volatile isocyanate.

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------|---|
| Inhalation | Move affected person to fresh air at once. Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. |
| Ingestion | Do not induce vomiting. Do not induce vomiting. Never give anything by mouth to an unconscious person. Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention. |
| Skin contact | Wash thoroughly with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel. |
| Eye contact | Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel. |

4.2. Most important symptoms and effects, both acute and delayed

Nitodek PAFS Topcoat Hardener

| | |
|----------------------------|---|
| General information | No further relevant information available. |
| Inhalation | Coughing, chest tightness, feeling of chest pressure. |
| Ingestion | Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. |
| Skin contact | Causes mild skin irritation. May cause skin sensitisation or allergic reactions in sensitive individuals. |
| Eye contact | Causes eye irritation. |

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|-----------------------------|--|
| Notes for the doctor | No further relevant information available. |
|-----------------------------|--|

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Water.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Special protective equipment for firefighters Wear full protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes. Do not breathe vapour.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide adequate ventilation. Do not allow contact with water. Observe any occupational exposure limits for the product or ingredients.

Advice on general occupational hygiene Eye wash facilities and emergency shower must be available when handling this product.

7.2. Conditions for safe storage, including any incompatibilities

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Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) See the technical information sheet of this product for more information.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

EU IOELV TWA(mg/M3) 0.075mg/M3.

United Kingdom WEL STEL - 1mg/m3.

DNEL DNEL/DMEL (Workers) - Acute systemic effects inhalation 0.07 mg/m3. Long term effects inhalation - 0.035 mg/m3.

8.2. Exposure controls

Protective equipment



Personal protection Wear suitable protective clothing.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

Hand protection Nitrile rubber gloves, solvent penetration time: 480 min, glove thickness: 0.1 - 0.4 mm. Viton rubber (fluoro rubber).

Other skin and body protection For the greatest protection, clothing should include anti-static overalls, boots and gloves.

Respiratory protection Use suitable respiratory protective device in case of insufficient ventilation.

Thermal hazards To protect hands from high temperatures, gloves should comply with European Standard EN407.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Colourless to pale yellow liquid.

Colour Light (or pale).

Odour Almost odourless.

Odour threshold No information available.

pH Not applicable.

Melting point < -20°C

Initial boiling point and range > 220°C @ 1.33 hPa

Flash point ~ 228°C DIN EN 22719

Evaporation rate No information available.

Evaporation factor No information available.

Flammability (solid, gas) No information available.

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| | |
|---------------------------|--|
| Vapour pressure | No information available. |
| Vapour density | No information available. |
| Relative density | No information available. |
| Bulk density | ~ 1.16 g/cm ³ |
| Solubility(ies) | Reacts with water Very soluble in the following materials: Aromatic solvents. Ketones. Esters. |
| Auto-ignition temperature | 460°C |
| Decomposition Temperature | No information available. |
| Viscosity | 1200 mPa s @ 20°C |
| Explosive properties | Product is not explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

| | |
|-------------------|--|
| Other information | No further relevant information available. |
|-------------------|--|

SECTION 10: Stability and reactivity

10.1. Reactivity

| | |
|------------|---|
| Reactivity | Reacts with water/moisture causing material to solidify and releasing carbon dioxide. |
|------------|---|

10.2. Chemical stability

| | |
|-----------|--|
| Stability | Stable at normal ambient temperatures. |
|-----------|--|

10.3. Possibility of hazardous reactions

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|------------------------------------|---|
| Possibility of hazardous reactions | Exothermic reaction with amines and alcohols; reacts with water forming CO ₂ ; in closed containers, risk of bursting owing to increase of pressure. |
|------------------------------------|---|

10.4. Conditions to avoid

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|---------------------|---|
| Conditions to avoid | Avoid the accumulation of vapours in low or confined areas. |
|---------------------|---|

10.5. Incompatible materials

| | |
|--------------------|--|
| Materials to avoid | Alcohols, glycols. Water, steam, water mixtures. |
|--------------------|--|

10.6. Hazardous decomposition products

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|----------------------------------|---|
| Hazardous decomposition products | Thermal decomposition or combustion products may include the following substances: Oxides of nitrogen. Cyanides. Carbon dioxide (CO ₂). Carbon monoxide (CO). |
|----------------------------------|---|

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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|-----------------------|--|
| Toxicological effects | Inhalation: Harmful if inhaled. Not harmful by skin contact. Not harmful if swallowed. |
|-----------------------|--|

Acute toxicity - oral

| | |
|--------------------------------|-------------------------------|
| Notes (oral LD ₅₀) | >2500mg/kg (OECD423 (female)) |
|--------------------------------|-------------------------------|

Acute toxicity - inhalation

| | |
|----------------------------|---------|
| ATE inhalation (gases ppm) | 4,500.0 |
|----------------------------|---------|

| | |
|-------------------------------|------|
| ATE inhalation (vapours mg/l) | 11.0 |
|-------------------------------|------|

| | |
|-----------------------------------|-----|
| ATE inhalation (dusts/mists mg/l) | 1.5 |
|-----------------------------------|-----|

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Skin corrosion/irritation

Summary Not Classified. (OECD 404 method) rabbit. pH: not applicable.

Serious eye damage/irritation

Summary Not Classified. OECD Method 405. rabbit.

Respiratory sensitisation

Respiratory sensitisation not considered as respiratory sensitiser. Guinea-pig.

Skin sensitisation

Summary May cause an allergic skin reaction. (OECD 429 method) mouse.

Germ cell mutagenicity

Summary Not Classified.

Carcinogenicity

Summary Not Classified.

Reproductive toxicity

Summary Not Classified.

Specific target organ toxicity - single exposure

Summary May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Summary Not Classified.

STOT - repeated exposure NOAEL (inhalation, rat, vapour) 3mg/m³ (6h/ OECD TG403)

Aspiration hazard

Summary Not Classified.

SECTION 12: Ecological information

Ecotoxicity The product does not have any known adverse effects on the tested aquatic organisms.

12.1. Toxicity

Toxicity Not ecotoxic to fish/daphnia/algae in cured state.

Acute aquatic toxicity

Acute toxicity - fish LC50 fish 1 - 8.9mg/l (Brachydanio rerio)

Acute toxicity - aquatic invertebrates EC 50 Daphnia 1 - 127 mg/l (48 hrs static / EU C.2)

Acute toxicity - aquatic plants ErC 50 (Algae) - >1000mg/l (0 -72 hrs static / Desmodesmus subspicatus / EU C3)

Acute toxicity - microorganisms EC50 Other aquatic organisms 1 - >1000 mg/l (72h / Scenedesmus subspicatus / DIN 38412)

Acute toxicity - terrestrial EC50 ACTIVATED SLUDGE - 3828 mg/l (3 hours, (OECD 209 method))

12.2. Persistence and degradability

Persistence and degradability Biodegradability is expected to be low, so that the product may persist in the environment.

Biological oxygen demand 1 % (bacterie / EU C.4-E)

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely.

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12.4. Mobility in soil

Mobility The product reacts with water to form a solid, insoluble reaction product which is not biodegradable.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Note that fully cured material is not considered as hazardous waste.

Disposal methods Must be disposed of in accordance with local and national laws and regulations. It is strictly forbidden to dump the product into the soil, sewer, drain, groundwater or any body of water. There are potential hazards in the empty containers of the goods, and not to be pressurized, cutting, welding, copper, drilling, grinding, etc., do not expose it to heat, flame, spark, static electricity, electric current or other ignition source. Such as non - intended use, to avoid discharge to the environment. Proposed incineration method for disposal of waste. The proposal uses chemical incinerator equipped with afterburner and washing device for incineration. Contaminated containers can also be considered for the disposal of this method.

Waste class 08 05 01 waste isocyanates

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not Applicable.

Rail transport notes Not Applicable.

Sea transport notes Not classified.

Air transport notes Not classified.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No relevant data available.

14.6. Special precautions for user

Not applicable.

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14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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 specific for the substance or mixture

| | |
|--|--|
| National regulations | Control of Substances Hazardous to Health Regulations 2002 (as amended). |
| EU legislation | Commission Regulation (EU) No 453/2010 of 20 May 2010. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). |
| Authorisations (Annex XIV Regulation 1907/2006) | This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). |
| Restrictions (Annex XVII Regulation 1907/2006) | This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII) |

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

| | |
|---|---|
| Abbreviations and acronyms used in the safety data sheet | ADR / RID: European Agreement on the International Carriage of Dangerous Goods by Road / Regulation on the International Carriage of Dangerous Goods by Rail. BOD: Biochemical Oxygen Demand. CAS: Chemical Abstracts Service. CLP: Classification, Labeling and Packaging of substances and mixtures (European Regulation No. 1272/2008) DMEL: Derived Minimal Effect Level. GHS: Globally Harmonized System. PBT: Persistent, Bioaccumulative and Toxic substance. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. TWA: Time Weighted Average |
| Classification abbreviations and acronyms | Skin Sens. = Skin sensitisation STOT SE = Specific target organ toxicity-single exposure STOT RE = Specific target organ toxicity-repeated exposure |
| General information | For professional use only. |
| Training advice | Those who are employed in the use of this product must be given training which highlights the need to handle and use it only in the recommended manner and at all times make use of the prescribed personal protection equipment. |
| Revision comments | This is the first issue. |
| Revision date | 12/10/2020 |
| Revision | 0 |

Nitodek PAFS Topcoat Hardener

| | |
|----------------------------------|---|
| SDS number | 29228 |
| Hazard statements in full | H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H335 May cause respiratory irritation. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET

Nitoflor PAFS Membrane Base

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Nitoflor PAFS Membrane Base

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

Identified uses Membrane Base for Polyaspartic System

1.3. Details of the supplier of the safety data sheet

Supplier Fosroc International Limited
 Drayton Manor Business Park
 Coleshill Road
 Tamworth
 Staffordshire
 B78 3XN
 England
 Tel: +44 (0) 1827 262222
 Fax: +44 (0) 1827 262444
 enquiryuk@fosroc.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 1827 265 279 (Monday-Sunday 24 hours a day)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Skin Sens. 1 - H317
Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.

Precautionary statements P261 Avoid breathing vapour/ spray.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P501 Dispose of contents/ container in accordance with national regulations.

Nitoflor PAFS Membrane Base

Contains Aspartic Ester, TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE

Supplementary precautionary statements P272 Contaminated work clothing should not be allowed out of the workplace.
P321 Specific treatment (see medical advice on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| | | | |
|--|---|--|---------------|
| Aspartic Ester | | | 30-60% |
| CAS number: 152637-10-0 | | | |
| Classification | Skin Sens. 1 - H317 | | |
| TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE | | | 5-10% |
| CAS number: 136210-30-5 | EC number: 429-270-1 | REACH registration number: 01-0000017556-64-0000 | |
| Classification | Skin Sens. 1 - H317 Aquatic Chronic 3 - H412 | | |
| SILICA FUME | | | 1-5% |
| CAS number: 112945-52-5 | EC number: 601-216-3 | | |
| Classification | Not Classified | | |
| ALUMINOSILICATE ZEOLITE A | | | 1-5% |
| CAS number: 1318-02-1 | EC number: 215-283-8 | REACH registration number: 01-2119429034-49-0000 | |
| Classification | Not Classified | | |
| TITANIUM DIOXIDE | | | 1-5% |
| CAS number: 13463-67-7 | EC number: 236-675-5 | REACH registration number: 01-2119489379-17-0000 | |
| Classification | Not Classified | | |

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

Nitoflor PAFS Membrane Base

4.1. Description of first aid measures

| | |
|----------------------------|---|
| General information | Get medical attention if any discomfort continues. Promptly remove any clothing that becomes contaminated. |
| Inhalation | Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues. |
| Ingestion | Do not induce vomiting. Get medical attention. |
| Skin contact | Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. |
| Eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes and get medical attention. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|---|
| General information | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| Inhalation | May cause respiratory system irritation. |
| Ingestion | May cause discomfort if swallowed. |
| Skin contact | Skin irritation. May cause sensitisation or allergic reactions in sensitive individuals. |
| Eye contact | Irritation of eyes and mucous membranes. |

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|-----------------------------|------------------------|
| Notes for the doctor | Treat symptomatically. |
|-----------------------------|------------------------|

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|---------------------------------------|--|
| Suitable extinguishing media | Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |

5.2. Special hazards arising from the substance or mixture

| | |
|--------------------------------------|---|
| Specific hazards | No unusual fire or explosion hazards noted. |
| Hazardous combustion products | Carbon monoxide (CO). Oxides of carbon. |

5.3. Advice for firefighters

| | |
|--|--|
| Protective actions during firefighting | No specific firefighting precautions known. Control run-off water by containing and keeping it out of sewers and watercourses. |
| Special protective equipment for firefighters | Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|-----------------------------|---|
| Personal precautions | Wear protective clothing as described in Section 8 of this safety data sheet. |
|-----------------------------|---|

6.2. Environmental precautions

| | |
|----------------------------------|---|
| Environmental precautions | Avoid discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. |
|----------------------------------|---|

Nitoflor PAFS Membrane Base

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

Reference to other sections For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions For professional users only. Provide adequate ventilation. Avoid the formation of mists. Avoid inhalation of vapours/spray and contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep only in the original container.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

SILICA FUME

Long-term exposure limit (8-hour TWA): WEL 2.4 mg/m³ respirable dust

Long-term exposure limit (8-hour TWA): WEL 6 mg/m³ inhalable dust

ALUMINOSILICATE ZEOLITE A

Long-term exposure limit (8-hour TWA): MEL 10 mg/m³ Inhal. Dust 4 mg/m³ Resp. Dust

TITANIUM DIOXIDE

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust

WEL = Workplace Exposure Limit.

TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE (CAS: 136210-30-5)

DNEL

Workers - Inhalation; Acute systemic effects: 112 mg/m³

Workers - Dermal; Long term systemic effects: 4 mg/kg bw/day

Workers - Inhalation; Long term systemic effects: 28 mg/m³

General population - Dermal; Acute systemic effects: 1.4 mg/kg bw

General population - Inhalation; Acute systemic effects: 4.8 mg/m³

General population - Oral; Long term systemic effects: 1.4 mg/kg bw/day

General population - Inhalation; Long term systemic effects: 4.8 mg/m³

General population - Dermal; Long term systemic effects: 1.4 mg/kg bw/day

TITANIUM DIOXIDE (CAS: 13463-67-7)

DNEL

Industry - Inhalation; Long term : 10 mg/m³

Consumer - Oral; Long term : 700 mg/kg/day

Nitoflor PAFS Membrane Base

PNEC

- Fresh water; >1 mg/l
- marine water; 0.127 mg/l
- Soil; 100 mg/kg
- STP; 100 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Butyl rubber. Nitrile rubber. Protective gloves should have a minimum thickness of 0.4 mm.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product. Do not smoke in work area.

Respiratory protection

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|-----------------|
| Appearance | Liquid. |
| Colour | White. |
| Odour | Mild. |
| Odour threshold | Not applicable. |
| pH | Not determined. |
| Melting point | Not determined. |
| Initial boiling point and range | >185°C/>365°F |
| Flash point | > 115 °C |
| Evaporation rate | Not determined. |
| Evaporation factor | Not determined. |
| Flammability (solid, gas) | No. |
| Upper/lower flammability or explosive limits | Not determined. |
| Other flammability | Not applicable. |

Nitoflor PAFS Membrane Base

| | |
|---|---|
| Vapour pressure | Not determined. |
| Vapour density | Not determined. |
| Relative density | Not determined. |
| Bulk density | Not determined. |
| Solubility(ies) | Insoluble in water. |
| Partition coefficient | Highly insoluble in water. |
| Auto-ignition temperature | >375°C |
| Decomposition Temperature | >230°C |
| Viscosity | Not determined. |
| Explosive properties | Not considered to be explosive. |
| Explosive under the influence of a flame | Not considered to be explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

Other information No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products When heated, vapours/gases hazardous to health may be formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---------------------|--|
| Inhalation | Gas or vapour may irritate the respiratory system. |
| Ingestion | May cause discomfort if swallowed. |
| Skin contact | Irritating to skin. May cause sensitisation by skin contact. |
| Eye contact | Irritating to eyes. |

Nitoflor PAFS Membrane Base

Toxicological information on ingredients.

Aspartic Ester

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 2,000.0 mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.0 mg/kg)

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 4.224

Species Rat

TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 2,000.0 mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.0 mg/kg)

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 4.224

Species Rat

SECTION 12: Ecological information

Ecotoxicity May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Toxicity The product contains a substance which is harmful to aquatic organisms.

Ecological information on ingredients.

Aspartic Ester

Acute aquatic toxicity

Acute toxicity - fish IC₅₀, 96 hours: 66 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 100 mg/l, Daphnia magna

Nitoflor PAFS Membrane Base

Acute toxicity - aquatic plants ErC50, 72 hours: 100 mg/l, Desmodemus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: 1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is not expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Highly insoluble in water.

12.4. Mobility in soil

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Nitoflor PAFS Membrane Base

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 specific for the substance or mixture

| | |
|-----------------------------|--|
| National regulations | The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended). |
| EU legislation | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. |
| Guidance | Workplace Exposure Limits EH40. Respiratory protective equipment at work (HSG53). |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

| | |
|---|--|
| Abbreviations and acronyms used in the safety data sheet | DMEL: Derived Minimal Effect Level. DNEL: Derived No Effect Level. EC ₅₀ : 50% of maximal Effective Concentration. LC ₅₀ : Lethal Concentration to 50 % of a test population. LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose). PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative. PNEC: Predicted No Effect Concentration. |
| General information | Only trained personnel should use this material. |
| Revision comments | NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Revision date | 13/01/2022 |
| Revision | 0 |
| SDS number | 29222 |
| Hazard statements in full | H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET NITOFLOR PAFS PRIMER HARDENER

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|---------------------------|-------------------------------|
| Product name | NITOFLOR PAFS PRIMER HARDENER |
| REACH registration number | 01-2119485796-17-XXXX |
| CAS number | 28182-81-2 |
| EC number | 931-274-8 |

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

| | |
|-----------------|---|
| Identified uses | Hardener component of two part polyurethane coating |
|-----------------|---|

1.3. Details of the supplier of the safety data sheet

| | |
|----------|--|
| Supplier | Fosroc International Limited Drayton Manor Business Park Coleshill Road Tamworth Staffordshire B78 3XN England Tel: +44 (0) 1827 262222 Fax: +44 (0) 1827 262444 enquiryuk@fosroc.com |
|----------|--|

1.4. Emergency telephone number

| | |
|---------------------|-------------------------|
| Emergency telephone | + 44 1827 265279 (24hr) |
|---------------------|-------------------------|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|-----------------------|--|
| Physical hazards | Not Classified |
| Health hazards | Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335 |
| Environmental hazards | Not Classified |

2.2. Label elements

| | |
|-----------|-----------|
| EC number | 931-274-8 |
|-----------|-----------|

Hazard pictograms



| | |
|-------------|---------|
| Signal word | Warning |
|-------------|---------|

NITOFLOR PAFS PRIMER HARDENER

| | |
|---|--|
| Hazard statements | H332 Harmful if inhaled. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. |
| Precautionary statements | P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P285 In case of inadequate ventilation wear respiratory protection. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. |
| Supplementary precautionary statements | P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P312 Call a POISON CENTRE/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations. |

2.3. Other hazards

Combustible liquid. Reacts with water, releasing Carbon Dioxide.
This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|----------------------------------|-------------------------------|
| Product name | NITOFLOR PAFS PRIMER HARDENER |
| REACH registration number | 01-2119485796-17-XXXX |
| CAS number | 28182-81-2 |
| EC number | 931-274-8 |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|----------------------------|---|
| General information | Show this Safety Data Sheet to the medical personnel. |
| Inhalation | Remove affected person from source of contamination. Move affected person to fresh air at once. Get medical attention immediately. |
| Ingestion | Do not induce vomiting. Give nothing to drink. Get medical attention immediately. |
| Skin contact | Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist. |
| Eye contact | Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|--|
| General information | No further relevant information available. |
|----------------------------|--|

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|-----------------------------|------------------------|
| Notes for the doctor | Treat symptomatically. |
|-----------------------------|------------------------|

SECTION 5: Firefighting measures

NITOFLOR PAFS PRIMER HARDENER

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Water.

5.2. Special hazards arising from the substance or mixture

Specific hazards Combustible liquid.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO). Isocyanates. Hydrogen cyanide (HCN).

5.3. Advice for firefighters

Protective actions during firefighting Evacuate area. Cool containers exposed to flames with water until well after the fire is out. Do not allow water to enter the container as it will react with the product. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes. Avoid inhalation of vapours. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Do not close container tightly, due to the risk of excessive pressure build-up. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Dispose of contents/container in accordance with national regulations.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions For professional users only. This product is not to be used under conditions of poor ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid direct physical contact. Protect from moisture.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a dry place. Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed. Do not use containers made of the following materials: Copper. Copper alloys. Tin

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

NITOFLOR PAFS PRIMER HARDENER

8.1. Control parameters

Occupational exposure limits

Short-term exposure limit (15-minute): WEL 1 mg/m³

WEL = Workplace Exposure Limit.

DNEL Workers - Inhalation; Short term local effects: 1 mg/m³
Workers - Inhalation; Long term local effects: 0.5 mg/m³

PNEC

- Fresh water; 127 µg/l
- marine water; 12.7 µg/l
- Intermittent release; 1270 µg/l
- Sediment; 266.7 g/kg
- Soil; 53.2 g/kg
- STP; 38.28 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

All handling should only take place in well-ventilated areas. Mechanical ventilation or local exhaust ventilation may be required.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Wear protective gloves. Nitrile rubber. Viton rubber (fluoro rubber). The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Wear protective clothing. Provide eyewash station and safety shower.

Hygiene measures

Take off contaminated clothing and wash it before reuse. Clean equipment and the work area every day. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. When spraying, wear a suitable supplied-air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|----------------------------|
| Appearance | Liquid. |
| Colour | Colourless to pale yellow. |
| Odour | Odourless. |
| Odour threshold | Not available. |
| pH | Not applicable. |
| Melting point | < -20°C |
| Initial boiling point and range | > 220°C |
| Flash point | 137°C DIN EN 22719 |
| Evaporation rate | Not determined. |

NITOFLOR PAFS PRIMER HARDENER

| | |
|----------------------------------|--|
| Flammability (solid, gas) | Not applicable. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | 1.16 |
| Solubility(ies) | Reacts with water Soluble in the following materials: Hydrocarbons. Ketones. Esters. |
| Partition coefficient | Not applicable. |
| Auto-ignition temperature | 460°C |
| Decomposition Temperature | Not available. |
| Viscosity | 1200 mPa s @ 25°C |
| Explosive properties | Not considered to be explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

Other information No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The reactivity data for this product will be typical of those for the following class of materials: Isocyanates.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Exothermic reaction with amines and alcohols, Reaction with water releases CO₂, leading to increase in pressure in closed containers creating a danger of bursting.

10.4. Conditions to avoid

Conditions to avoid No additional information available

10.5. Incompatible materials

Materials to avoid No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Carbon monoxide (CO). Carbon dioxide (CO₂). Isocyanates. Hydrogen cyanide (HCN).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2500 mg/kg, , Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, , Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 0.39

NITOFLOR PAFS PRIMER HARDENER

| | |
|--|--|
| Species | Rat |
| ATE inhalation (vapours mg/l) | 11.0 |
| <u>Skin corrosion/irritation</u> | |
| Skin corrosion/irritation | Conclusive data but not sufficient for classification. |
| <u>Serious eye damage/irritation</u> | |
| Serious eye damage/irritation | Conclusive data but not sufficient for classification. |
| <u>Respiratory sensitisation</u> | |
| Respiratory sensitisation | Conclusive data but not sufficient for classification. |
| <u>Skin sensitisation</u> | |
| Skin sensitisation | May cause an allergic skin reaction. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vitro | Conclusive data but not sufficient for classification. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | Conclusive data but not sufficient for classification. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | Conclusive data but not sufficient for classification. |
| Reproductive toxicity - development | Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - single exposure</u> | |
| STOT - single exposure | May cause respiratory irritation. NOAEL 3 mg/m ³ , Inhalation, Rat |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | NOAEL 3.36 mg/l/6h/day, Inhalation, Rat Conclusive data but not sufficient for classification. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Conclusive data but not sufficient for classification. |

SECTION 12: Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, : 8.9 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 127 mg/l, Daphnia magna

Acute toxicity - aquatic plants ErC50, 0 - 72 hours: >1000 mg/l, Desmodemus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: 3828 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential BCF: 3.2, Fish The product is not bioaccumulating.

Partition coefficient Not applicable.

NITOFLOR PAFS PRIMER HARDENER

12.4. Mobility in soil

Mobility The product reacts with water to form a solid, insoluble reaction product which is not biodegradable.

Adsorption/desorption coefficient Water - Log Koc: 7.8 @ 25°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not regarded as dangerous for the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Dispose of waste product or used containers in accordance with local regulations Waste is classified as hazardous waste. Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility.

Waste class 08 05 01 Waste isocyanates

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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 specific for the substance or mixture

National regulations Control of Substances Hazardous to Health Regulations 2002 (as amended).

NITOFLOR PAFS PRIMER HARDENER

| | |
|--|--|
| EU legislation | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 453/2010 of 20 May 2010. Commission Regulation (EU) No 2015/830 of 28 May 2015. |
| Guidance | Isocyanates: Health hazards and precautionary measures EH16. Workplace Exposure Limits EH40. |
| Authorisations (Annex XIV Regulation 1907/2006) | No specific authorisations are known for this product. |
| Restrictions (Annex XVII Regulation 1907/2006) | No specific restrictions on use are known for this product. |

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

| | |
|----------------------------------|---|
| General information | Only trained personnel should use this material. |
| Revision comments | NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Revision date | 08/02/2022 |
| Revision | 1 |
| SDS number | 30497 |
| Hazard statements in full | H317 May cause an allergic skin reaction. H332 Harmful if inhaled. H335 May cause respiratory irritation. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET

Nitoflor PAFS Topcoat Base

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Nitoflor PAFS Topcoat Base

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

Identified uses Membrane Base for Polyaspartic System

1.3. Details of the supplier of the safety data sheet

Supplier Fosroc International Limited
 Drayton Manor Business Park
 Coleshill Road
 Tamworth
 Staffordshire
 B78 3XN
 England
 Tel: +44 (0) 1827 262222
 Fax: +44 (0) 1827 262444
 enquiryuk@fosroc.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 1827 265 279 (Monday-Sunday 24 hours a day)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Skin Sens. 1 - H317
Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P321 Specific treatment (see medical advice on this label).
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P501 Dispose of contents/ container in accordance with national regulations.

Nitoflor PAFS Topcoat Base

Contains TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE

Supplementary precautionary statements P261 Avoid breathing vapour/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P362+P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| | |
|--|--|
| TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE | 60-100% |
| CAS number: 136210-30-5 | EC number: 429-270-1 |
| | REACH registration number: 01-0000017556-64-0000 |
| Classification | |
| Skin Sens. 1 - H317 | |
| Aquatic Chronic 3 - H412 | |

| | |
|----------------------------------|--|
| ALUMINOSILICATE ZEOLITE A | 1-5% |
| CAS number: 1318-02-1 | EC number: 215-283-8 |
| | REACH registration number: 01-2119429034-49-0000 |
| Classification | |
| Not Classified | |

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|----------------------------|---|
| General information | Get medical attention if any discomfort continues. Promptly remove any clothing that becomes contaminated. |
| Inhalation | Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues. |
| Ingestion | Do not induce vomiting. Get medical attention. |
| Skin contact | Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. |
| Eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes and get medical attention. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|---|
| General information | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| Inhalation | May cause respiratory system irritation. |
| Ingestion | May cause discomfort if swallowed. |
| Skin contact | Skin irritation. May cause sensitisation or allergic reactions in sensitive individuals. |
| Eye contact | Irritation of eyes and mucous membranes. |

Nitoflor PAFS Topcoat Base

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Carbon monoxide (CO). Oxides of carbon.

5.3. Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

Reference to other sections For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions For professional users only. Provide adequate ventilation. Avoid the formation of mists. Avoid inhalation of vapours/spray and contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep only in the original container.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

Nitoflor PAFS Topcoat Base

8.1. Control parameters

Occupational exposure limits

ALUMINOSILICATE ZEOLITE A

Long-term exposure limit (8-hour TWA): MEL 10 mg/m³ Inhal. Dust 4 mg/m³ Resp. Dust

Ingredient comments MEL = Maximum Exposure Limit.

TETRAETHYL N,N'-(METHYLENEDICYCLOHEXANE-4,1-DIYL)BIS-DL-ASPARTATE (CAS: 136210-30-5)

| | |
|-------------|--|
| DNEL | Workers - Inhalation; Acute systemic effects: 112 mg/m ³ Workers - Dermal; Long term systemic effects: 4 mg/kg bw/day Workers - Inhalation; Long term systemic effects: 28 mg/m ³ General population - Dermal; Acute systemic effects: 1.4 mg/kg bw General population - Inhalation; Acute systemic effects: 4.8 mg/m ³ General population - Oral; Long term systemic effects: 1.4 mg/kg bw/day General population - Inhalation; Long term systemic effects: 4.8 mg/m ³ General population - Dermal; Long term systemic effects: 1.4 mg/kg bw/day |
|-------------|--|

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Butyl rubber. Nitrile rubber. Protective gloves should have a minimum thickness of 0.4 mm.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product. Do not smoke in work area.

Respiratory protection

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|------------------------|-----------------|
| Appearance | Liquid. |
| Colour | Beige. |
| Odour | Mild. |
| Odour threshold | Not applicable. |

Nitoflor PAFS Topcoat Base

| | |
|---|---|
| pH | Not determined. |
| Melting point | Not determined. |
| Initial boiling point and range | >185°C/>365°F |
| Flash point | > 115 °C |
| Evaporation rate | Not determined. |
| Evaporation factor | Not determined. |
| Flammability (solid, gas) | No. |
| Upper/lower flammability or explosive limits | The product is not flammable. |
| Other flammability | Not applicable. |
| Vapour pressure | Not determined. |
| Vapour density | Not determined. |
| Relative density | Not determined. |
| Bulk density | Not determined. |
| Solubility(ies) | Insoluble in water. |
| Partition coefficient | Highly insoluble in water. |
| Auto-ignition temperature | >375°C |
| Decomposition Temperature | >230°C |
| Viscosity | Not determined. |
| Explosive properties | Not considered to be explosive. |
| Explosive under the influence of a flame | Not considered to be explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

Other information No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Oxidising agents. Isocyanates. Acids.

Nitoflor PAFS Topcoat Base

10.6. Hazardous decomposition products

Hazardous decomposition products When heated, vapours/gases hazardous to health may be formed. Carbon dioxide (CO₂). Carbon monoxide (CO). Ammonia or amines.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Conclusive data but not sufficient for classification.

Other health effects No specific health hazards known.

Acute toxicity - oral

Summary Conclusive data but not sufficient for classification.

Notes (oral LD₅₀) CAS 136210-30-5. Rat, > 2000 mg/kg- Oral.

Acute toxicity - dermal

Summary Conclusive data but not sufficient for classification.

Notes (dermal LD₅₀) CAS 136210-30-5. Rat >2000 mg/kg.

Acute toxicity - inhalation

Summary Conclusive data but not sufficient for classification.

Notes (inhalation LC₅₀) CAS 136210-30-5. LC50 vapour Rat >4.224 mg/l.

Skin corrosion/irritation

Summary Conclusive data but not sufficient for classification.

Skin corrosion/irritation Prolonged and frequent contact may cause redness and irritation. May cause skin sensitisation or allergic reactions in sensitive individuals.

Extreme pH Not determined.

Serious eye damage/irritation

Summary Conclusive data but not sufficient for classification.

Serious eye damage/irritation May cause slight irritation to eyes. (OECD 405 method)

Respiratory sensitisation

Summary Conclusive data but not sufficient for classification.

Skin sensitisation

Summary May cause an allergic skin reaction. OECD 406 method.

Skin sensitisation Skin Sensitisation Category 1.

Germ cell mutagenicity

Summary Conclusive data but not sufficient for classification. Ames test

Carcinogenicity

Summary Conclusive data but not sufficient for classification.

Reproductive toxicity

Summary Conclusive data but not sufficient for classification.

Specific target organ toxicity - single exposure

Summary Conclusive data but not sufficient for classification.

STOT - single exposure NOAEL CAS 136210-30-5. Oral, Rat. 1000 mg/kg bodyweight (OECD 407 method).

Specific target organ toxicity - repeated exposure

Nitoflor PAFS Topcoat Base

Summary Conclusive data but not sufficient for classification.

Aspiration hazard

Summary Conclusive data but not sufficient for classification.

Inhalation Gas or vapour may irritate the respiratory system.

Ingestion May cause discomfort if swallowed.

Skin contact Irritating to skin. May cause sensitisation by skin contact.

Eye contact Irritating to eyes.

SECTION 12: Ecological information

Ecotoxicity May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Toxicity The product contains a substance which is harmful to aquatic organisms.

Acute aquatic toxicity

Summary Conclusive data but not sufficient for classification.

Acute toxicity - fish CAS 136210-30-5 -
Brachydanio rerio (Zebra Fish)
LC₅₀
fish-1. 66mg/l (OECD 203 method)

Acute toxicity - aquatic invertebrates EC50 Daphnia 1 - 88.6mg/l.

Acute toxicity - microorganisms EC50 72h algae (1) - 1319mg/l (OECD 201 method)

Chronic aquatic toxicity

Summary Harmful to aquatic life with long lasting effects.

Toxicity to soil This material has not been tested. No information available about this product.

12.2. Persistence and degradability

Persistence and degradability The product is not expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Highly insoluble in water.

12.4. Mobility in soil

Mobility The product is insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

Nitoflor PAFS Topcoat Base

13.1. Waste treatment methods

| | |
|----------------------------|---|
| General information | Waste is classified as hazardous waste. |
| Disposal methods | Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. |

SECTION 14: Transport information

| | |
|----------------|--|
| General | The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). |
|----------------|--|

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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 specific for the substance or mixture

| | |
|-----------------------------|--|
| National regulations | The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended). |
| EU legislation | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. |
| Guidance | Workplace Exposure Limits EH40. |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Nitoflor PAFS Topcoat Base

| | |
|---|--|
| Abbreviations and acronyms used in the safety data sheet | DMEL: Derived Minimal Effect Level. DNEL: Derived No Effect Level. EC ₅₀ : 50% of maximal Effective Concentration. LC ₅₀ : Lethal Concentration to 50 % of a test population. LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose). PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative. PNEC: Predicted No Effect Concentration. |
| General information | For professional users only. |
| Revision comments | This is the first issue. |
| Revision date | 13/01/2022 |
| Revision | 0 |
| SDS number | 29229 |
| Hazard statements in full | H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET NITOFLOR PAFS TOPCOAT HARDENER

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|---------------------------|--------------------------------|
| Product name | NITOFLOR PAFS TOPCOAT HARDENER |
| REACH registration number | 01-2119485796-17-XXXX |
| CAS number | 28182-81-2 |
| EC number | 931-274-8 |

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

| | |
|-----------------|---|
| Identified uses | Hardener component of two part polyurethane coating |
|-----------------|---|

1.3. Details of the supplier of the safety data sheet

| | |
|----------|--|
| Supplier | Fosroc International Limited Drayton Manor Business Park Coleshill Road Tamworth Staffordshire B78 3XN England Tel: +44 (0) 1827 262222 Fax: +44 (0) 1827 262444 enquiryuk@fosroc.com |
|----------|--|

1.4. Emergency telephone number

| | |
|---------------------|-------------------------|
| Emergency telephone | + 44 1827 265279 (24hr) |
|---------------------|-------------------------|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|-----------------------|--|
| Physical hazards | Not Classified |
| Health hazards | Acute Tox. 4 - H332 Skin Sens. 1 - H317 STOT SE 3 - H335 |
| Environmental hazards | Not Classified |

2.2. Label elements

| | |
|-----------|-----------|
| EC number | 931-274-8 |
|-----------|-----------|

Hazard pictograms



| | |
|-------------|---------|
| Signal word | Warning |
|-------------|---------|

NITOFLOR PAFS TOPCOAT HARDENER

| | |
|---|--|
| Hazard statements | H332 Harmful if inhaled. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation. |
| Precautionary statements | P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P285 In case of inadequate ventilation wear respiratory protection. P302+P352 IF ON SKIN: Wash with plenty of water. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. |
| Supplementary precautionary statements | P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P312 Call a POISON CENTRE/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations. |

2.3. Other hazards

Combustible liquid. Reacts with water, releasing Carbon Dioxide.
This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|----------------------------------|--------------------------------|
| Product name | NITOFLOR PAFS TOPCOAT HARDENER |
| REACH registration number | 01-2119485796-17-XXXX |
| CAS number | 28182-81-2 |
| EC number | 931-274-8 |

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|----------------------------|---|
| General information | Show this Safety Data Sheet to the medical personnel. |
| Inhalation | Remove affected person from source of contamination. Move affected person to fresh air at once. Get medical attention immediately. |
| Ingestion | Do not induce vomiting. Give nothing to drink. Get medical attention immediately. |
| Skin contact | Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist. |
| Eye contact | Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|----------------------------|--|
| General information | No further relevant information available. |
|----------------------------|--|

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|-----------------------------|------------------------|
| Notes for the doctor | Treat symptomatically. |
|-----------------------------|------------------------|

SECTION 5: Firefighting measures

NITOFLOR PAFS TOPCOAT HARDENER

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media Water.

5.2. Special hazards arising from the substance or mixture

Specific hazards Combustible liquid.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO). Isocyanates. Hydrogen cyanide (HCN).

5.3. Advice for firefighters

Protective actions during firefighting Evacuate area. Cool containers exposed to flames with water until well after the fire is out. Do not allow water to enter the container as it will react with the product. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes. Avoid inhalation of vapours. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Do not close container tightly, due to the risk of excessive pressure build-up. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Dispose of contents/container in accordance with national regulations.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions For professional users only. This product is not to be used under conditions of poor ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid direct physical contact. Protect from moisture.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a dry place. Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed. Do not use containers made of the following materials: Copper. Copper alloys. Tin

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

NITOFLOR PAFS TOPCOAT HARDENER

8.1. Control parameters

Occupational exposure limits

Short-term exposure limit (15-minute): WEL 1 mg/m³

WEL = Workplace Exposure Limit.

DNEL Workers - Inhalation; Short term local effects: 1 mg/m³
Workers - Inhalation; Long term local effects: 0.5 mg/m³

PNEC

- Fresh water; 127 µg/l
- marine water; 12.7 µg/l
- Intermittent release; 1270 µg/l
- Sediment; 266.7 g/kg
- Soil; 53.2 g/kg
- STP; 38.28 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

All handling should only take place in well-ventilated areas. Mechanical ventilation or local exhaust ventilation may be required.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Wear protective gloves. Nitrile rubber. Viton rubber (fluoro rubber). The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Wear protective clothing. Provide eyewash station and safety shower.

Hygiene measures

Take off contaminated clothing and wash it before reuse. Clean equipment and the work area every day. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. When spraying, wear a suitable supplied-air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|----------------------------|
| Appearance | Liquid. |
| Colour | Colourless to pale yellow. |
| Odour | Odourless. |
| Odour threshold | Not available. |
| pH | Not applicable. |
| Melting point | < -20°C |
| Initial boiling point and range | > 220°C |
| Flash point | 137°C DIN EN 22719 |
| Evaporation rate | Not determined. |

NITOFLOR PAFS TOPCOAT HARDENER

| | |
|----------------------------------|--|
| Flammability (solid, gas) | Not applicable. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | 1.16 |
| Solubility(ies) | Reacts with water Soluble in the following materials: Hydrocarbons. Ketones. Esters. |
| Partition coefficient | Not applicable. |
| Auto-ignition temperature | 460°C |
| Decomposition Temperature | Not available. |
| Viscosity | 1200 mPa s @ 25°C |
| Explosive properties | Not considered to be explosive. |
| Oxidising properties | Does not meet the criteria for classification as oxidising. |

9.2. Other information

Other information No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The reactivity data for this product will be typical of those for the following class of materials: Isocyanates.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Exothermic reaction with amines and alcohols, Reaction with water releases CO₂, leading to increase in pressure in closed containers creating a danger of bursting.

10.4. Conditions to avoid

Conditions to avoid No additional information available

10.5. Incompatible materials

Materials to avoid No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Carbon monoxide (CO). Carbon dioxide (CO₂). Isocyanates. Hydrogen cyanide (HCN).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2500 mg/kg, , Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, , Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 0.39

NITOFLOR PAFS TOPCOAT HARDENER

| | |
|--|--|
| Species | Rat |
| ATE inhalation (vapours mg/l) | 11.0 |
| <u>Skin corrosion/irritation</u> | |
| Skin corrosion/irritation | Conclusive data but not sufficient for classification. |
| <u>Serious eye damage/irritation</u> | |
| Serious eye damage/irritation | Conclusive data but not sufficient for classification. |
| <u>Respiratory sensitisation</u> | |
| Respiratory sensitisation | Conclusive data but not sufficient for classification. |
| <u>Skin sensitisation</u> | |
| Skin sensitisation | May cause an allergic skin reaction. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vitro | Conclusive data but not sufficient for classification. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | Conclusive data but not sufficient for classification. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | Conclusive data but not sufficient for classification. |
| Reproductive toxicity - development | Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - single exposure</u> | |
| STOT - single exposure | May cause respiratory irritation. NOAEL 3 mg/m ³ , Inhalation, Rat |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | NOAEL 3.36 mg/l/6h/day, Inhalation, Rat Conclusive data but not sufficient for classification. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Conclusive data but not sufficient for classification. |

SECTION 12: Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, : 8.9 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 127 mg/l, Daphnia magna

Acute toxicity - aquatic plants ErC50, 0 - 72 hours: >1000 mg/l, Desmodemus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: 3828 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential BCF: 3.2, Fish The product is not bioaccumulating.

Partition coefficient Not applicable.

NITOFLOR PAFS TOPCOAT HARDENER

12.4. Mobility in soil

Mobility The product reacts with water to form a solid, insoluble reaction product which is not biodegradable.

Adsorption/desorption coefficient Water - Log Koc: 7.8 @ 25°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not regarded as dangerous for the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Dispose of waste product or used containers in accordance with local regulations Waste is classified as hazardous waste. Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility.

Waste class 08 05 01 Waste isocyanates

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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 specific for the substance or mixture

National regulations Control of Substances Hazardous to Health Regulations 2002 (as amended).

NITOFLOR PAFS TOPCOAT HARDENER

| | |
|--|---|
| EU legislation | <p>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).</p> <p>Commission Regulation (EU) No 453/2010 of 20 May 2010.</p> <p>Commission Regulation (EU) No 2015/830 of 28 May 2015.</p> |
| Guidance | <p>Isocyanates: Health hazards and precautionary measures EH16.</p> <p>Workplace Exposure Limits EH40.</p> |
| Authorisations (Annex XIV Regulation 1907/2006) | No specific authorisations are known for this product. |
| Restrictions (Annex XVII Regulation 1907/2006) | No specific restrictions on use are known for this product. |

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

| | |
|----------------------------------|--|
| General information | Only trained personnel should use this material. |
| Revision comments | NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Revision date | 08/02/2022 |
| Revision | 1 |
| SDS number | 30500 |
| Hazard statements in full | <p>H317 May cause an allergic skin reaction.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation.</p> |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.