



SAFETY DATA SHEET NITODEK FS HARDENER

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

1.1. Product identifier

Product name NITODEK FS HARDENER

Product number 1800760 UK9

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

Identified uses Catalytic curing agent for resin-based coating system.

1.3. Details of the supplier of the safety data sheet

Supplier

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

1.4. Emergency telephone number

Emergency telephone +44 (0) 1827 265 279 (08.30 to 17.00hrs Mon - Thu; 0.8.30 to 16.00hrs Fri)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Org. Perox. E - H242

Health hazards Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT RE 2 - H373

Environmental hazards Aquatic Acute 1 - H400

2.2. Label elements

Pictogram



Signal word

Warning

Hazard statements

H242 Heating may cause a fire.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
 H400 Very toxic to aquatic life.

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Precautionary statements	<p>P220 Keep away from combustible materials.</p> <p>P234 Keep only in original container.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p>
Contains	BENZOYL PEROXIDE, DIBUTYL MALEATE
Supplementary precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P260 Do not breathe vapour/ spray.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P314 Get medical advice/ attention if you feel unwell.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P391 Collect spillage.</p> <p>P410 Protect from sunlight.</p> <p>P411+P235 Store at temperatures not exceeding °C/°F. Keep cool.</p> <p>P420 Store away from other materials.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>

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

BENZOYL PEROXIDE		30-60%
CAS number: 94-36-0	EC number: 202-327-6	
M factor (Acute) = 10		
Classification		
Org. Perox. B - H241		
Eye Irrit. 2 - H319		
Skin Sens. 1 - H317		
Aquatic Acute 1 - H400		
DIETHYLENE GLYCOL		10-30%
CAS number: 111-46-6	EC number: 203-872-2	
Classification		Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302		Xn;R22,R48/22.

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DIBUTYL MALEATE	10-30%
CAS number: 105-76-0	EC number: 203-328-4
Classification Skin Sens. 1 - H317 STOT RE 2 - H373	
ZINC CARBOXYLATE	5-10%
CAS number: —	
Classification Not Classified	
2,6-DI-tert-BUTYL-4-METHYLPHENOL	<1%
CAS number: 128-37-0	
M factor (Chronic) = 1	
Classification Aquatic Chronic 1 - H410	

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.
Inhalation	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Get medical attention immediately. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person.
Skin contact	Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention promptly if symptoms occur after washing.
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	Persons with a pre-existing skin, respiratory and/or central nervous system disease may be at increased risk if exposed to this material.
Ingestion	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
Skin contact	May cause sensitisation by skin contact.
Eye contact	Causes eye irritation.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

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5.1. Extinguishing media

Suitable extinguishing media Foam. Dry chemicals, sand, dolomite etc. Powder. Water spray, fog or mist. Carbon dioxide (CO₂).

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

5.2. Special hazards arising from the substance or mixture

Specific hazards If involved in a fire, it contains a component that will support combustion. Explosion risk in case of fire. May ignite other combustible materials. Risk of re-ignition after fire has been extinguished.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO). Benzoic acid. benzene Biphenyl. Phenyl benzoate.

5.3. Advice for firefighters

Protective actions during firefighting Evacuate personnel to safe areas. Use water spray to cool unopened containers. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. After a fire, ventilate thoroughly the area and soak with water, clean the walls and metallic surfaces. Avoid the spillage or runoff entering drains, sewers or 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 Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Absorb spillage with non-combustible, absorbent material. Shovel into dry containers. Cover and move the containers. Flush the area with water. Keep contents damp. Do not close container tightly, due to the risk of excessive pressure build-up.

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 Provide adequate ventilation. Do not eat, drink or smoke when using this product. Avoid spilling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Danger of bursting when seal gasket. Do not allow to dry.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from food, drink and animal feeding stuffs. Keep in well ventilated place away from sources of heat, ignition & direct sunlight. Store separate from other chemicals. Store at temperatures not exceeding 25°C.

Storage class Oxidiser storage.

7.3. Specific end use(s)

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

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

BENZOYL PEROXIDE

Long-term exposure limit (8-hour TWA): WEL 5 mg/m³

Short-term exposure limit (15-minute): WEL

DIETHYLENE GLYCOL

Long-term exposure limit (8-hour TWA): WEL 23 ppm 101 mg/m³

ZINC CARBOXYLATE

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

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

Short-term exposure limit (15-minute): 12 mg/m³ respirable dust

Short-term exposure limit (15-minute): 20 mg/m³ inhalable dust

2,6-DI-tert-BUTYL-4-METHYLPHENOL

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

WEL = Workplace Exposure Limit

BENZOYL PEROXIDE (CAS: 94-36-0)

DNEL Industry - Inhalation; Long term systemic effects: 11.75 mg/m³
Industry - Dermal; Long term systemic effects: 6.6 mg/m³

PNEC

- Fresh water; 0.000602 mg/l
- Marine water; 0.0000602 mg/l
- Intermittent release; .000602 mg/l
- STP; 0.35 mg/l
- Sediment (Freshwater); 0.338 mg/kg
- Soil; 0.0758 mg/kg

DIBUTYL MALEATE (CAS: 105-76-0)

DNEL Workers - Inhalation; Long term systemic effects, local effects: 5.28 mg/m³
Workers - Dermal; Long term systemic effects: 0.42 mg/kg/day
Workers - Dermal; Short term systemic effects: 24.2 mg/kg/day
Workers - Dermal; Long term local effects: 4.12 mg/cm²
Workers - Dermal; Short term local effects: 4.13 mg/cm²

PNEC

- Fresh water; 0.0012 mg/l
- Marine water; 0.012 mg/l

2,6-DI-tert-BUTYL-4-METHYLPHENOL (CAS: 128-37-0)

DNEL Workers - Inhalation; Long term systemic effects: 3.5 mg/m³
Workers - Dermal; Long term systemic effects: 0.5 mg/kg/day

PNEC

- Fresh water; 0.199 µg/l
- Marine water; 0.0199 µg/l

8.2. Exposure controls

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Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Use explosion-proof ventilating equipment.

Personal protection

Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

Eye/face protection

Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated.

Hand protection

Wear protective gloves made of the following material: Neoprene. Butyl rubber. Chloroprene rubber. Nitrile rubber. Viton rubber (fluoro rubber).

Other skin and body protection

Wear appropriate clothing to prevent skin contamination.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Change work clothing daily before leaving workplace. Wash contaminated clothing before reuse.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Particulate filter, type P2.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Paste.
Colour	Off-white.
Odour	Slight.
Odour threshold	Not determined.
pH	Not applicable.
Melting point	Decomposes before melting
Initial boiling point and range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Decomposition products may be flammable.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.
Bulk density	Not determined.
Solubility(ies)	Insoluble in water.

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Partition coefficient	Not determined.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	SADT – (Self accelerating decomposition temperature) 50°C
Viscosity	Thixotropic paste.
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	The product contains a substance classified as oxidising.

9.2. Other information

Volatile organic compound	Not determined.
Active oxygen content	3.31 %

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: Organic peroxides/hydroperoxides.
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10.2. Chemical stability

Stability	SADT – (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT temperature (see section 9). Contact with incompatible substances can cause decomposition at or below the SADT.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.
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10.4. Conditions to avoid

Conditions to avoid	Keep at temperature not exceeding 25°C. Confinement must be avoided.
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10.5. Incompatible materials

Materials to avoid	Rust. Iron. Copper. Acids and bases. Heavy metal compounds. Reducing agents. Reacts violently in contact with acids, amines, driers, polymerisation accelerators and easily oxidized materials.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Benzoic acid. Benzene. Biphenyl. Phenyl benzoate.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	5,000.0
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BENZOYL PEROXIDE

Carcinogenicity

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Carcinogenicity NOAEL 500 mg/kg/day, Oral,

DIETHYLENE GLYCOL

Acute toxicity - oral

ATE oral (mg/kg) 500.0

2,6-DI-tert-BUTYL-4-METHYLPHENOL

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

SECTION 12: Ecological Information

BENZOYL PEROXIDE

Ecotoxicity Very toxic to aquatic life.

12.1. Toxicity

BENZOYL PEROXIDE

Acute aquatic toxicity

LE(C)₅₀ 0.01 < L(E)C₅₀ ≤ 0.1

M factor (Acute) 10

Acute toxicity - fish LC₅₀, 96 hours: 0.06 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.11 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 0.06 mg/l, Fish

Acute toxicity - microorganisms EC₅₀, : 35 mg/l, Activated sludge

2,6-DI-tert-BUTYL-4-METHYLPHENOL

Acute toxicity - fish LC₅₀, 96 hours: 0.199 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.48 mg/l, Daphnia magna

Chronic aquatic toxicity

M factor (Chronic) 1

12.2. Persistence and degradability

BENZOYL PEROXIDE

Persistence and degradability The product is biodegradable.

12.3. Bioaccumulative potential

Partition coefficient Not determined.

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BENZOYL PEROXIDE

Bioaccumulative potential BCF: 66.6,

12.4. Mobility in soil

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.

BENZOYL PEROXIDE

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

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Disposal must be in accordance with local and national legislation.
 Unused Product: Classified as a special waste. Dispose of through an authorised waste contractor to a licensed site.
 Used/Contaminated Product: As for Unused product.
 Packaging: Must be disposed of through an authorised waste contractor.

Disposal methods Waste is suitable for incineration.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3108
UN No. (IMDG)	3108
UN No. (ICAO)	3108
UN No. (ADN)	3108

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE)
Proper shipping name (IMDG)	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE)
Proper shipping name (ICAO)	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE)
Proper shipping name (ADN)	ORGANIC PEROXIDE TYPE E, SOLID (DIBENZOYL PEROXIDE)

14.3. Transport hazard class(es)

ADR/RID class	5.2
ADR/RID label	5.2
IMDG class	5.2
ICAO class/division	5.2
ADN class	5.2

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Transport labels



14.4. Packing group

ADR/RID packing group	None
IMDG packing group	None
ADN packing group	None
ICAO packing group	None

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-J, S-R
ADR transport category	2
Tunnel restriction code	(D)

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).
Guidance	Workplace Exposure Limits EH40. Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

General information	For professional users only. Only trained personnel should use this material.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	02/10/2015

NITODEK FS HARDENER

Revision	2
Hazard statements in full	H241 Heating may cause a fire or explosion. H242 Heating may cause a fire. H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed. H373 May cause damage to organs through prolonged or repeated exposure if swallowed. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Supersedes date	30/01/2015
SDS number	23334

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.