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# 1. Scope of Works / Description of Systems of Plant & Equipment





## 1.1. Company Details:

Company name: **FORTEL SERVICES LIMITED**

Address Line 1: Unit 1 Diversity Drive, Walsall WS2 8DS

Postcode: WS2 8DS

Tel: 01902603409

Email: Bhavik.patel@fortel.co.uk

Web: www.fortel.co.uk

## 1.2 Project Details:

Principal Contractor: **WINVIC**

Site Address Line 1: **P23025 Panattoni, Poyle**

Site Postcode: SL3 0BB

## 1.3 Scope of Works:

Installing and pouring 190mm C40 N/mm<sup>2</sup> air entrainment concrete incorporating 1 layers A252 fabric reinforcement laid on a 1200-gauge polythene membrane. Surface received a brush finish with trowelled margin and cured with Sika cure hard 24 on external service yard at Winvic: **Panattoni, Poyle**



## 2. Suppliers and Manufacturers Directory





### 3. Manufacturers Information



**Section 1 ; Identification of the substance /mixture and of the company undertaking**

**1.1 Product Identifier**

**Product Name:** Adocure WW / Adocure WWT

**CAS Number:**

**EINECS Number:**

**Synonyms:** Concrete dustproofing and surface densifying compound. Also used as a curing compound

**1.2 Relevant identified uses of the substance or mixture & uses advised against**

**Use Of Substance /mixture :**Industrial uses. Concrete dustproofing and curing agent

**1.3 Details of the supplier of the safety data**

**Company Name:** Adomast Manufacturing Ltd  
Barkston Road, Carlton Industrial Estate  
Barnsley  
S71 3HU  
Tel: 01226 707863  
Fax: 01226 718051  
Email: sales@adomast.co.uk

**1.4 Emergency telephone number**

**Emergency Telephone Number :** 07887 416399 (24 hours)

**Section 2: Hazards Identification**

**2.1 Classification of the substance or mixture**

In compliance with EC Regulation No. EC 1272/2008 and its amendments

<b>Metal Corr.1</b>	<b>H290: May be corrosive to metals</b>
<b>Skin Corr 1B / Eye Dam. 1</b>	<b>H314: Causes severe skin burns and eye damage</b>
<b>STOT SE 3</b>	<b>H335: May cause respiratory irritation</b>

**2.2 Label elements**

In compliance with EC Regulation No. EC 1272/2008 and its amendments

**Hazard Pictogram**



**GHS07 : Exclamation mark**

**GHS 05: Corrosion**

**Signal words:** Warning

**Hazard statements :**

- H290: May be corrosive to metals**
- H314 : Causes severe skin burns and eye damage**
- H335 : may cause respiratory irritation**

**Precautionary statements : (mist/vapours/spray)**

- P261: Avoid Breathing**
- P262: Do not get in eyes, on skin, or on clothing.**
- P280: Wear Protective gloves/clothing/eye protection**
- P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.**
- P303 +361 + 353;IF ON SKIN OR HAIR : remove immediately all contaminated clothing. Rinse skin with water /shower**
- P304 =340 IF INHALED. Remove to fresh air and keep at rest in a position comfortable for breathing**
- P305 +351+338; IF IN EYES rinse carefully with water for several minutes. Remove contact lenses if present & easy to do so . Continue rinsing.**
- P501: Dispose of contents/container to: an approved waste facility**

**2.3 Other hazards:**

**PBT : This product is not identified as a PVT/vPvB substance**

**Section 3: Composition on ingredients**

**3.2 Mixtures**

**Hazardous ingredients : Disodium Metasilicate Pentahydrate**

Chemical Name	EINECS	CAS	Classification – REGULATION (EC) No 1272/2008	Percent
Disodium Metasilicate Pentahydrate	229-912-9	6834-92-0	Metal Corr.1-H290 Skin Corr. 1B/Eye Dam. 1—H314; STOT SE 3: H335	< 12%

**Section 4 : First Aid measures**

**4.1 Description of first aid measures :**

**Skin contact:** Remove contaminated clothes and footwear immediately. Unless stuck to skin. Drench the affected skin with running water for 10 minutes Transfer to hospital if there are symptoms of burns

**Eye Contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination

**Ingestion:** Wash the mouth out with water. Do not induce vomiting. If conscious , give half a litre of water to drink. Transfer to hospital as soon as possible

**Inhalation:** Remove casualty from exposure. If unconscious check for breathing & apply artificial respiration if necessary. Seek medical attention.

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

**Skin contact:** Irritation or pain may occur at tsite of contact. Severe burns may occur

**Eye Contact:** There may be irritation & redness. There may be severe pain. Corneal burns may occur. Risk of serious damage to eyes

**Ingestion:** There may be soreness & redness of the mouth & throat. Corrosive burns may appear around the lips. May cause throat burns. Nausea & stomach pains may occur. There may be vomiting.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest. May cause irritation to the mucous membrane and respiratory system. Corrosive to the mucous membrane. Prolonged or repeated exposure may cause ulceration & perforation to the nasal septum.



Delayed / Immediate effects : Immediate effects can be expected after short term exposure.

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

Immediate /special treatment : Eye bathing equipment should be available on the premises.

Obtain immediate medical attention

### Section 5 : Fire-Fighting measures

#### 5.1 Extinguishing media

Extinguishing media : No known UNSUITABLE extinguishing media. Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

#### 5.2 Special hazards arising from the substance or mixture

Exposure hazards: The material is not flammable. Even though it is not combustible , hazardous and toxic fumes may be generated if involved in a fire.

#### 5.3 Advice for fire-fighters

Advice for fire-fighters : Wear well contained breathing apparatus. Wear protective clothing to prevent contact with skin & eyes.

### Section 6 : Accidental release measures

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

Personal precautions : Wear suitable protective clothing. Refer to section 8 of SDS for personal protection details

#### 6.2 Environmental precautions

Environmental; precautions : Do not discharge into drains or rivers. Contain the spillage using bunding

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

**Clean up procedures:** Personal precautions: Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

**Section 7 Handling and storage**

**7.1 Precautions for safe handling :**

**Handling requirements:** Avoid direct contact with the substance. Avoid the formation or spread of mists in the air. Wear protective clothing. Eye wash facilities should be readily available

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

**Storage conditions :** Store in cool, well ventilated area. Keep container tightly closed. Keep away from acids. **Compatible materials:** Stainless steel. **Incompatible materials :** Zinc, Tin, Aluminium, Copper & their alloys

**Suitable packaging :** Plastic/ Plastic lined

**7.3 Specific end uses (s)**

**Specific end uses :** No special requirement

**Section 8 : Exposure control / personal protection**

**8.1 Control parameters**

	Workplace exposure limits		Respirable Dust	
Location	8 hour TWA	15 min STEL	8 Hour TWA	15 min STEL
UK	6.22 mg/m <sup>3</sup>			

**Hazardous ingredients : Di-Sodium Metasilicate Pentahydrate**

**UK                      8 hour TWA      15 min STEL**

**6.22mg/m<sup>3</sup>**

**DNEL / PNEC Values : No data available**

Type	Exposure	Value	Population	Effect
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**8.2 Exposure controls**

**Engineering measures:** Ensure there is sufficient ventilation of the area

**Respiratory protection:** Respiratory protection is not normally required However suitable respiratory equipment may need to be provided for those operations which generate vapour, mists or fumes and where exposure cannot be adequately controlled by local exhaust ventilation or other means

**Hand protection:** Protective gloves (alkali resistant)

**Eye protection:** Tightly fitting safety goggles. Ensure eye bath is to hand.

**Skin protection:** Protective clothing

**Environmental:** No special requirement

## Section 9.0 Physical and Chemical properties

### 9.1 Information on basic physical and chemical properties

**State:** Liquid  
**Colour:** Colourless  
**Odour:** Barely perceptible odour  
**Oxidising:** Non oxidising  
**Solubility in water:** Soluble  
**Viscosity:** Non viscous  
**Boiling point /range °C :**  
**Relative density:** 1.05-1.10  
**pH :** 11-12

### 9.2 Other information

**Other information :** Not applicable

## Section 10.0 Stability and reactivity

### 10.1 Reactivity

**Reactivity :** Aqueous solutions will react with aluminium, tin, zinc, copper & their alloys evolving hydrogen gas which can form an explosive mixture with air. Exothermic reaction if in contact with acids

### 10.2 Chemical stability

**Chemical stability :** Stable under recommended storage and handling conditions

### 10.3 Possibility of hazardous reactions

**Possibility of hazardous reactions:** Aqueous solutions will react with aluminium, tin, zinc, copper & their alloys evolving hydrogen gas which can form an explosive mixture with air. Exothermic reaction if in contact with acids

**10.4 Conditions to avoid**

Conditions to avoid: Avoid contact with concentrated acids

**10.5 Incompatible materials**

Materials to avoid: Zinc, Aluminium, Tin and their alloys.  
Strong acids, strong oxidising agents  
Fluorine gas

**10.6 Hazardous decomposition products**

Haz decomp products : Contact with Zinc, aluminium, Brass Tin and Zinc will liberate highly flammable & explosive hydrogen gas. This product may give rise to hazardous fumes in a fire.

**Section 11 Toxicological information**

**11.1 Information on toxicological effects : All symptoms of acute toxicity are due to high alkalinity**

Toxicity values: Contains Di—Sodium Metasilicate Pentahydrate

Eye & Skin Contact—Material can cause chemical burns. May cause permanent eye damage if eye is not immediately irrigated.

Route	species	Test	Value	Units
ORAL	RAT	LD50	1150-1349	mg/kg

Relevant effect for mixture :

Effect	Route	Basis	
Irritation	INH	Hazardous	Calculated
Corrosivity	MUS	Hazardous	calculated

**Symptoms / routes of exposure**

**Skin contact:** Corrosive to skin. Irritation or pain may occur at the site of contact.

**Eye contact :** There may be severe pain. Corneal burns may occur. Risk of serious damage to eyes

**Ingestion :** There may be soreness and redness of the throat. Corrosive burns may appear around the lips. May cause throat burns. Nausea and stomach pains may occur

**Inhalation :** There may be irritation of the throat and a feeling of tightness in the chest. May cause irritation of the mucous membranes and respiratory system

**Delayed / immediate effects:** Immediate effects can be experienced after short term exposure

**Other information:** No other information available at this moment

**Section 12 Ecological information**

**12.1 Toxicity:**

**Ecotoxicity values :**

Species	Test	Value	Units
Algae	72H EC50	345	mg/l
Daphnia magna	48H LC50	1700	mg/l
Fish	96H EC50	210	mg/l

**12.2 Persistence and degradability**

**Persistence and degradability :** Inorganic. Soluble silicates rapidly depolymerise into molecular species indistinguishable from natural dissolved silica. They combine with ions like Ca, Mg, Fe, Al and others to end up as insoluble compounds similar to constituents of natural soils

### 12.3 Bioaccumulative potential

**Bioaccumulative potential: Inorganic. There is no evidence of bioaccumulation**

### 12.4 Mobility in soil

**Mobility :** Readily absorbed into soil. Fully soluble in water

### 12.5 Results of PBT and vPvB assessment

**PBT identification :** This product is not identified as a PVt/vPvB substance

### 12.6 Other adverse effects

**Other adverse effects:** Do not allow to enter watercourses or soil. Spillage in sewers or waterways must be avoided. Alkalinity may have local effect on ecosystems sensitive to changes in pH

## Section 13 Disposal considerations

### 13.1 Waste treatment methods

**Disposal Operations:** Dispose of via an authorised person / licensed waste disposal contractor in accordance with local regulations. EWC number: 06 02 99

**Recovery operations :** No information available at this time

**Disposal of packaging :** May be reused following decontamination. Where practical containers and packaging should be recycled by a licensed contractor

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

**Section 14 Transport information**

**14.1 UN number:**

UN Number: N/A

**14.2 UN proper shipping name**

Shipping name : N/A

**14.3 Transport Hazard Class**

Transport class: N/A

**14.4 Packing Group**

Packing group : N/A

**14.5 Environmental hazards**

Environmentally hazardous : NO

Marine pollutant : NO

**14.6 Special precautions for user**

Special precautions: No special precautions

Tunnel code: NA

Transport category : NA

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**

Transport in bulk: Not applicable



## Section 15 Regulatory information

### 15.1 Safety, health and environmental regulations specific for the substance or mixture

Specific regulations :

**Hazard statements :** H290: May be corrosive to metals H314 : causes skin burns and eye damage H335 : may cause respiratory irritation

**Precautionary statements :** (mist/vapours/spray)  
P261: Avoid Breathing

P262: Do not get in eyes, on skin, or on clothing.  
P280: Wear Protective gloves/clothing/eye protection  
P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303 +361 + 353; IF ON SKIN OR HAIR : remove immediately all contaminated clothing. Rinse skin with water /shower  
P304 =340 IF INHALED. Remove to fresh air and keep at rest in a position comfortable for breathing  
P305 +351+338; IF IN EYES rinse carefully with water for several minutes. Remove contact lenses if present & easy to do so. Continue rinsing.  
P501: Dispose of contents/container to: an approved waste facility

### 15.2 Chemical Safety Assessment

**Chemical safety assessment :** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16 Other information

### 16.1 Other information :

**Other information:**

**Phrases used in s.2 and s.3 :**

**Hazard statements :** H290: May be corrosive to metals  
H314 : causes skin burns and eye damage  
H335 : may cause respiratory irritation

**Legal disclaimer :** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The company shall not be held liable for any damage resulting from handling or from contact with the above product.

# Adocure WW<sup>o9</sup> Technical Specifications

## t Water based Surface Hardener & Curing Agent

ADOCURE WW performs by physically "locking" moisture into freshly cast concrete surfaces to allow full hydration of the cement. This assist the concrete to achieve a full and optimum cure, giving the optimum compressive strength and highest quality surface. This is achieved by a chemical reaction between Adocure WW and the cement resulting in the blocking of the surface pores in the concrete. This in turn helps to retain hydration water within the concrete helping to optimise its curing. The treated surface is made denser and has reduced surface dusting & improved stain resistant properties.

ADOCURE WWT is identical in every respect to ADOCUREWW other than it contains a trace of blue dye to ease application and identify areas for treatment. This is a fugitive dye designed to become transparent under the action of sunlight (UV light), and correctly applied will not permanently discolour the concrete

### Advantages

- Economical and very easy to apply.
- Reacts with the concrete and helps prevents premature drying out of the concrete surface
- Reduced risks of surface cracking and reduced likelihood of surface dusting.

## T Application

Will enable the concrete to attain improved physical properties.

A tinted grade with a fugitive dye, ADOCURE WWT. is also available to assist in identification during application

#### Use on freshly cast surfaces

Apply progressively as soon as final tamping or trowelling of the concrete has been completed. If surface water is present a second application is recommended once the surface water has evaporated. Avoid ponding or over application of ADOCURE WW by applying at the correct rate, as ponding may glaze the surface of the concrete, leaving a white crystalline deposit on the surface which can be difficult to remove. Any excess Adocure WW remaining on the surface should be squeegeed away to avoid any risk of surface drying. Also avoid contact with glass or metals as permanent staining can also occur if Adocure WW is not quickly washed off and is allowed to dry.

#### Use on vertical cast surfaces

On vertical surfaces (struck from shuttering for example) less surface water is present and this may cause freshly applied ADOCURE WW not to perform as designed. In these cases it is recommended initially to flood coat the outer surface with water as soon as the formwork is struck and as soon as, this water has run off. apply ADOCURE WW. If this is not done it is possible that the curing compound will be absorbed below the concrete surface leaving the concrete surface unprotected and if ADOCURE WWT has been used UV light may be unable to act upon the "fugitive dye", thus leaving the concrete with a permanent blue hue. This advice regarding the flood coating of concrete surfaces protected by formwork is applicable whatever curing agent you may be using. Curing agents are designed to lock moisture into concrete; they can only achieve this by being on the concrete's surface.

In extremes of temperature, to reduce the risk of thermal shock it may be desirable to preheat both the ADOCURE WW and the water used to flood coat the concrete prior to application.

ADOCURE WW and ADOCURE WWT are water based products and as such are capable of freezing in extreme weather conditions. If this should occur prior to application simply allow defrosting and ensure that the contents of the container are thoroughly agitated before use.

At normal concreting temperatures the curing compound will not freeze and there will be no problems regarding application. Formwork surfaces should preferably be struck at temperatures above freezing and once again there will be no problems regarding application. As soon as either ADOCURE WW or ADOCUREW WT come into contact with the concrete surface they immediately react with the cement particles and block the pores allowing undisturbed hydration to commence.

Under subsequent exposure to freezing conditions curing compounds do not provide thermal protection and it may be advisable to provide independent thermal protection.

Immediately after use the application equipment should be thoroughly washed out with clean water.

Care should be taken that over spray does not get onto paint or glass. Permanent damage may be caused if not rinsed off immediately. grade by spray or watering can at a rate of approximately 4-6 m<sup>2</sup> per litre taking care to ensure complete coverage.

S

Storage

Adocure WW & WWT should be protected from frost. Containers must be kept sealed after use. The product may require mild agitation before use if stored for more than 6 months.

t

Shelf Life

12 months in sealed containers, from date of manufacture. Use within 2 months of opening. Mix or agitate prior to use.

t

Specification

Adocure WW & WWT is manufactured by Adomast Manufacturing Ltd and shall be applied strictly in accordance with the manufacturer's instructions. For specific advice regarding any aspect of this product, please consult our Technical Department

t

Health and Safety

During application avoid contact with eyes and skin. In the event of eye contact irrigate immediately with copious quantities of water and then seek medical advice. In the event of skin contact, wash with soap and water

See separate Safety Data Sheet for further information.



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## FORTEL SERVICES

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COSHH ASSESSMENT FOR ADOCURE WW

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### DESCRIPTION OF MATERIAL

COLOURLESS LIQUID WITH VERY LOW ODOUR

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### HAZARDS

IRRITATING TO THE SKIN. RISK OF SERIOUS DAMAGE TO EYES

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### HEALTH

THERE MAY BE IRRITATION IF CONTACT WITH SKIN  
CONTACT WITH EYES MAY CAUSE SEVERE PAIN AND PERMANENT  
DAMAGE INGESTION MAY CAUSE SORENESS AND REDNESS OF THE  
MOUTH AND THROAT. NAUSEA AND STOMACH PAIN MAY OCCUR.  
INHALATION MAY CAUSE IRRITATION OF THE THROAT AND TIGHTNESS IN THE CHEST

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### FIRST AID

SKIN CONTACT - WASH IMMEDIATELY WITH SOAP AND WATER. REMOVE ANY  
CONTAMINATED CLOTHING.  
EYE CONTACT- WASH WITH COPIOUS AMOUNTS OF WATER. GO TO  
HOSPITAL FOR MEDICAL ATTENTION.  
INGESTION - WASH OUT MOUTH WITH WATER. DO NOT INDUCE VOMITTING. IF  
CONSCIOUS, GIVE HALF LITRE OF WATER TO DRINK IMMEDIATELY. SEEK  
MEDICAL ATTENTION INHALATION - REMOVE PERSON FROM EXPOSURE

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### SPILLAGE

MARK OUT AREA CONTAMINATED AND PREVENT UNAUTHORISED ACCESS. CLEAN UP PROCEDURE -  
ABSORB WITH DRY EARTH OR SAND. TRANSFER INTO CLOSABLE CONTAINER FOR CONTROLLED  
DISPOSAL. ENSURE OPERATIVES WEAR PROTECTIVE CLOTHING

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### CONTROL MEASURES

APPLY IN VENTILATED AREA.  
OPERATIVES TO WEAR RESPIRATORY PROTECTION, PROTECTIVE GLOVES,  
PROTECTIVE CLOTHING SUCH AS OVERALLS WITH NO EXPOSED SKIN

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### STORAGE AND APPLICATION

SUPPLIED IN 25 AND 200 LITRE CONTAINERS  
SHOULD BE KEPT IN A WELL VENTILATED AREA ON DRIP TRAYS LIQUID  
APPLIED TO CONCRETE SURFACE WITH A SUITABLE SPRAYER



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## FORTEL SERVICES

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COSHH ASSESSMENT - READY MIXED CONCRETE

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### COMPOSITION

MIXTURE OF NATURAL AGGREGATES AND CEMENTITIOUS MATERIAL

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### HAZARDS

#### WET CONCRETE

IRRITATING TO THE SKIN. RISK OF SERIOUS DAMAGE TO EYES CAUSES BURNS

#### CONCRETE DUST

DUST COULD CONTAIN PARTICLES OF RESPIRABLE SIZE WHICH MAY CONTAIN SILICA.

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### HEALTH

IRRITANT IF IN CONTACT WITH SKIN, CEMENT  
BURNS/DERMATITIS CONTACT WITH EYES WILL CAUSE  
IRRITATION INHALATION MAY CAUSE COUGHING OR WHEEZING.

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### FIRST AID

SKIN CONTACT - WASH IMMEDIATELY WITH SOAP AND WATER. REMOVE ANY CONTAMINATED CLOTHING. ANY SIGNS OF BREAKING OF SKIN/REDNESS SEEK MEDICAL ATTENTION

EYE CONTACT- WASH WITH COPIOUS AMOUNTS OF WATER. GO TO HOSPITAL FOR MEDICAL ATTENTION.

INGESTION OF WET CONCRETE SEEK MEDICAL  
INHALATION - REMOVE PERSON FROM EXPOSURE

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### SPILLAGE

PREVENT ENTRY INTO DRAINS AND WATER COURSES  
REMOVE AS QUICKLY AS POSSIBLE

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### CONTROL MEASURES

AVOID SKIN AND EYE CONTACT

OPERATIVES TO WEAR GLOVES, PROTECTIVE CLOTHING/GLASSES WHEN USING IN WET STATE WHEN CUTTING DRY CONCRETE THIS SHOULD BE CARRIED OUT AS A WET CUT OR IF DRY CUTTING DUST EXTRACTION SHOULD BE USED WITHIN BUILDINGS

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## Frank Mercer & Sons Ltd

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Chequerbent  
Westhoughton  
Bolton  
Lancashire BL5 3JF

Tel: 01942 841111 Fax: 01942 842388  
e-mail: sales@toughsheet.co.uk  
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Agrément Certificate  
**99/3603**  
Product Sheet 1

### FRANK MERCER MEMBRANES

### TOUGHSHEET 250, TOUGHSHEET 300 AND TOUGHSHEET 500 MAX DAMP-PROOF MEMBRANES

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes, polyethylene membranes for use in solid concrete ground floors that are not subject to hydrostatic pressure, to protect buildings against moisture from the ground.

(1) Hereinafter referred to as 'Certificate'.

#### CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

#### KEY FACTORS ASSESSED

Resistance to water and water vapour — the membranes provide an effective barrier to the passage of moisture from the ground (see section 6).

Resistance to puncture — the membranes have high resistance to puncture and on a smooth or blinded surface will not be damaged by foot or site traffic (eg wheelbarrows) (see section 7).

Durability — under normal service conditions, the membranes will provide an effective barrier to moisture for the life of the concrete slab in which they are installed (see section 10).



The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

John Albon — Head of Approvals  
Construction Products

Claire Curtis-Thomas  
Chief Executive

Date of Sixth issue: 15 June 2017

Originally certificated on 29 April 1999

*The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbacerts.co.uk](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

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# Regulations

In the opinion of the BBA, Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes, if installed, used and maintained in accordance with this Certificate, will satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



## The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	C2(a)	Resistance to moisture
Comment:		The products will satisfy this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.4	Moisture from the ground
Comment:		The products can enable a floor to satisfy the requirements of this Standard, with reference to clauses 3.4.1 <sup>(1)(2)</sup> , 3.4.2 <sup>(1)(2)</sup> , 3.4.4 <sup>(1)(2)</sup> and 3.4.6 <sup>(1)(2)</sup> . See section 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant Requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for the products under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The products will contribute to a roof satisfying this Regulation. See section 6 of this Certificate.

## Construction (Design and Management) Regulations 2015

## Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 1 *Description* (1.1) of this Certificate.

# Additional Information

## NHBC Standards 2017

NHBC accepts the use of Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Part 5 *Substructure, ground floors, drainage and basements*, Chapter 5.1 *Substructure and ground bearing floors*, Section M8 *Damp-proof membrane*.

## CE marking

The Certificate holder has taken the responsibility of CE marking the products in accordance with harmonised European standard BS EN 13967 : 2012. An asterisk (\*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

# Technical Specification

## 1 Description

1.1 Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes comprise a blown film of extruded low-density polyethylene (LDPE). The nominal characteristics are shown in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Grade		
	Toughsheet 250	Toughsheet 300	Toughsheet 500 Max
Thickness (µm)	250	300	500
Width (m)	4	4	4
Roll length (m)	25	25	12.5
Watertightness* (2 kPa)	pass	pass	pass
Durability (artificial ageing)*	pass	pass	pass
Durability (alkali)*	pass	pass	pass
Colour	black, blue, clear	black, blue, yellow	black, blue, yellow

1.2 Ancillary materials used with the membranes are:

- jointing tape — at least 0.2 mm thick and 25 mm wide, used for jointing
- girth tape — adhesive polyethylene tape, 100 mm wide, used for sealing joints.

## 2 Manufacture

2.1 The membranes are manufactured from a blown film of extruded LDPE.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of Frank Mercer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by ISOQAR (Certificate 2092QM8001).

## 3 Delivery and site handling

3.1 Rolls of the membranes are packed in wrappers bearing labels with the product name and the BBA logo incorporating the number of this Certificate. Rolls are supplied shrink-wrapped and on pallets.

3.2 Rolls should be stored under cover on the original pallet or individually, on end.

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes.

## Design Considerations

### 4 Use

4.1 Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes are satisfactory for use in concrete floors not subject to hydrostatic pressure, in accordance with the relevant clauses of BS 8102 : 2009 and CP 102 : 1973.

4.2 The membranes can be installed either as an oversite membrane, between a blinded hardcore bed and the base concrete, or as a sandwich membrane in base concrete or between the base concrete and the screed.

### 5 Practicability of installation

The products must be installed by a competent installer, or a contractor, experienced with these types of products.



## 6 Resistance to water and water vapour



The membranes and the methods of jointing provide an effective barrier to the passage of moisture from the ground and will enable a floor to comply with the requirements of the national Building Regulations.

## 7 Resistance to puncture

The membranes have a high resistance to puncture. On smooth or blinded surfaces they will not be damaged by normal foot or site traffic, eg wheelbarrows. However, since they can be punctured by sharp objects, care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screeds.

## 8 Underfloor heating

When used in accordance with underfloor heating under normal operating conditions there will be no adverse effect on the membranes. However, the Certificate holder's advice should be sought in these circumstances.

## 9 Maintenance

As the membranes are confined within concrete ground floors and have suitable durability (see section 10), maintenance is not required. Any damage occurring during installation must be repaired prior to overlaying with concrete (see section 14).

## 10 Durability



10.1 When subjected to the normal conditions of use, the membranes will provide an effective barrier to the transmission of liquid water and water vapour for the life of the concrete slab in which they are installed.

10.2 Long periods of exposure to ultraviolet light will reduce the effectiveness of the membranes. The membranes should be protected from such exposure during storage and when in use.

## 11 Reuse and recyclability

The membranes comprise polyethylene, which can be recycled.

# Installation

## 12 General

12.1 Installation of Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes should be in accordance with the Certificate holder's instructions and clause 11 of CP 102 : 1973, the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989, and section 13 of this Certificate.

12.2 Unless the base is smooth, a surface blinding of soft sand or similar material should be used to prevent puncturing during installation or when the concrete or screed is being placed.

12.3 The membranes must be clean and free from dirt and grease.

12.4 The membranes may be installed in all conditions normal to ground-floor slab construction. Where there is a risk of ground becoming waterlogged, sub-soil drainage must be provided in accordance with CP 102 : 1973.

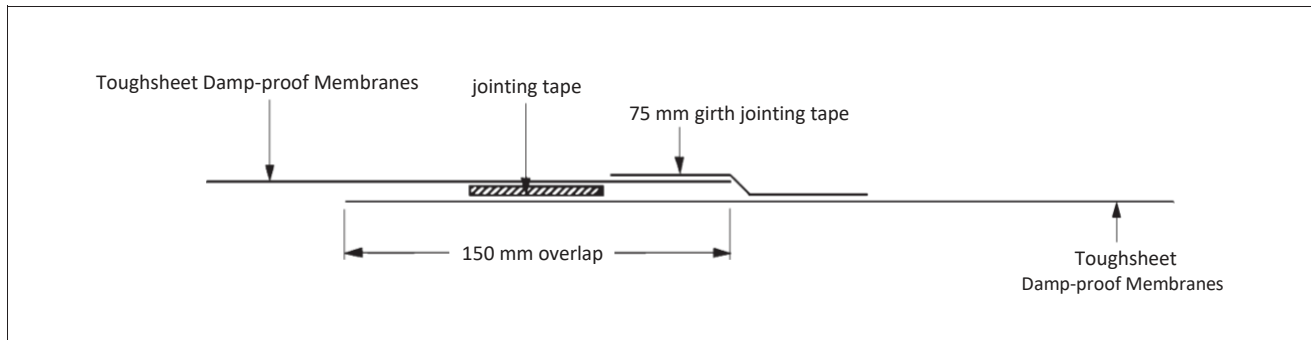
12.5 The membranes remain flexible in the extremes of temperature likely to occur in practice.

12.6 The type of floor finish to be used may limit the suitability of polyethylene damp-proof membranes. The guidance given in CP 102 : 1973 and BS 8102 : 2009, Table 1, should be followed.

## 13 Procedure

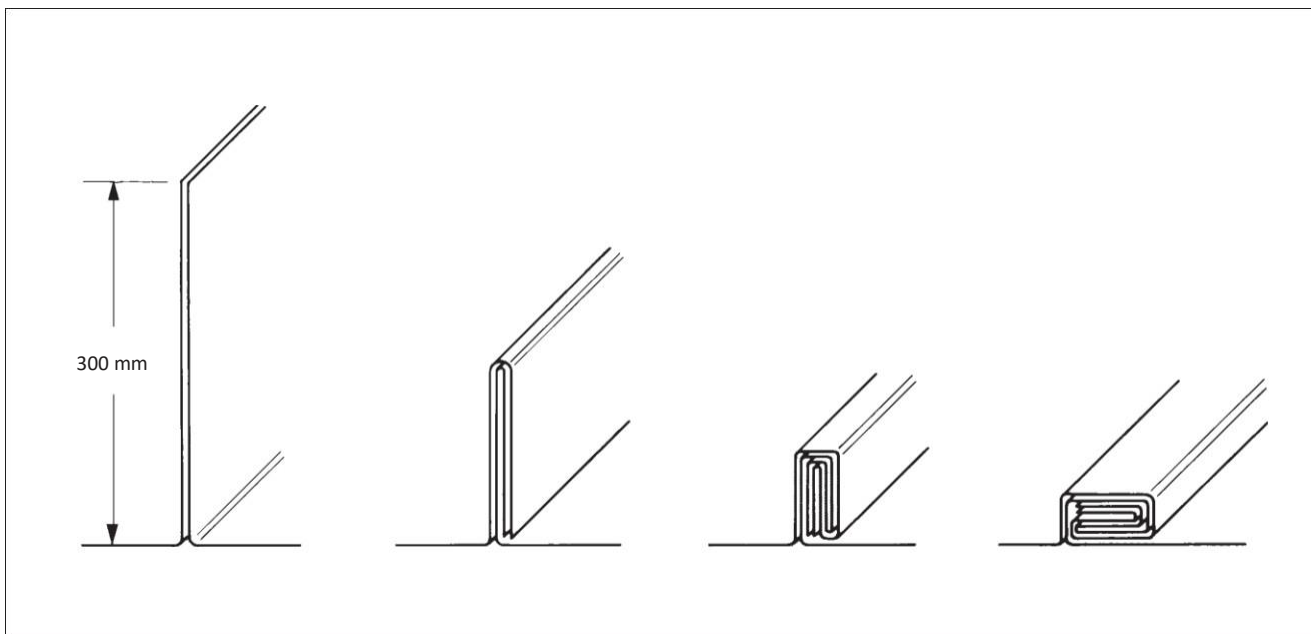
13.1 Adjacent sheets should be overlapped by at least 150 mm, and should be bound with mastic strips and sealed with 100 mm wide girth jointing tape (see Figure 1).

Figure 1 Jointing tape joint



13.2 Alternatively, when it is not possible to keep the sheet dry, a double-welted fold should be formed using at least 300 mm of the membrane (see Figure 2). It is essential that the fold is held in position prior to placing the concrete, eg by weighting with bricks.

Figure 2 Double-welted fold joint



13.3 The membrane must be continuous with the damp-proof course in the surrounding walls. Where necessary the membrane should be used as a vertical damp-proof course to link the two.

13.4 The membrane must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed over the membrane. Sufficient allowance should be made to avoid bridging (ie creating areas of unsupported membrane) during screeding operations at details such as internal angles.

## 14 Repair

Perforations or punctures in the membranes should be patched with sheets of identical thickness, lapped at least 150 mm beyond the limits of the puncture and the laps sealed with double-sided pressure sensitive tape.

## Technical Investigations

### 15 Tests

Tests were carried out on Toughsheet 250, Toughsheet 300 and Toughsheet 500 Max Damp-proof Membranes and the results assessed to determine:

- dimensions
- density
- water vapour resistance
- water vapour permeability
- dart impact

- tensile strength and elongation
- low temperature flexibility
- nail tear
- trouser tear
- dimensional stability
- heat ageing at 80° for 56 days followed by tensile strength, elongation and nail tear
- short term UV ageing followed by tensile strengths and elongation
- tensile strength of joints
- heat ageing of joints at 60° for 28 days followed by tensile strength and elongation.

## 16 Investigations

The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

BS EN 13967 : 2012 *Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet — Definitions and characteristics*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

## 17 Conditions

17.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

17.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

17.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

17.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

17.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

17.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.



Tel: +44 (0) 1327 272569  
 Fax: +44 (0) 1327 270157

**Material Specification**  
**MS41 Expansion Joint Filler Foam**  
**Closed Cell Colour Natural**

	<u>UNITS</u>	<u>VALUES</u>
DENSITY	Kg/m <sup>3</sup>	25
TENSILE STRENGTH	Mpa	0.22 Longitudinal 0.18 Transversal
ELONGATION AT BREAK	%	100 Longitudinal 110 Transversal
COMPRESSION STRESS 10% 25% 50%	Kpa	16 36 91
COMPRESSION SET FOR 22Hours at 25% at 23°C ½ Hour 24 Hours	% %	18 10
OPERATING TEMPERATURE RANGE	°C	-40 to +90
THERMAL CONDUCTIVITY At 0°C At 20°C	W/m°K	0.040 0.041
WATER ABSORPTION After 28 days	%	0.685

Meets Department of Transport Highways Works Volume 1 1991, Clause 1015 and 2303.  
 For use as Expansion, Joint Filler and former in concrete panels and brick work.  
 Resists polysulphide and polyurethane sealants. Suitable for use with sewage.

February 2008

# Hanson Cement

## Material Safety Data Sheet - Common Cements

According to Regulation (EC) No 1907/2006 (REACH)



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

#### 1.1 Product identifier

Products EN 197-1 Common cements and mixtures containing them	
Trade Names	
Bulk Cements	Packed Cements
Hanson Portland Cement Hanson Rapid Hardening Portland Cement Hanson Coarse Ground Portland Cement	Hanson Multicem Hanson General Purpose Cement Hanson +SR Hanson White Cement

The following are the substances in the cement that contribute to the classification of the mixture as regards acute toxicity, skin corrosion or serious eye damage, respiratory or skin sensitisation, specific target organ toxicity (STOT) or aspiration hazard

Substance	EINECS	CAS	Hazard
Portland cement clinker	266-043-4*	65997-15-1	Serious eye damage, Skin sensitisation and STOT SE
Flue dust from production of cement clinker**	270-659-9	68475-76-3	Serious eye damage, Skin sensitisation and STOT SE

\* Entry is called Cement, Portland, Chemicals.

\*\* May exist in some products. For the purposes of this SDS information assume this substance exists.

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

Cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, plasters as well as precast concrete.

Common cements and cement containing mixtures (hydraulic binders) are used industrially, by professionals as well as by consumers in building and construction work, indoor and outdoor. The identified uses of cements and cement containing mixtures cover the dry products and the products in a wet suspension (paste).

Any uses not mentioned above, are advised against.

#### 1.3 Details of the supplier of the safety data sheet

Hanson Cement Ltd  
Ketton  
Stamford  
Lincolnshire  
PE9 3SX

#### Hanson Cement Customer Services

Tel: 0330 123 2074  
e-mail: cement.customer.services@hanson.biz

#### 1.4 Emergency telephone number

Emergency telephone number: 0330 123 2074  
Hours of operation: 08.45 – 17.00 (Monday-Thursday) 08.45 – 16.00 (Friday)

Service is provided in English

Emergency telephone number is not available outside office hours.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### 2.1.1 According to Regulation (EC) No 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statements
Skin irritation	2	H318: Causes serious eye damage
Serious eye damage/eye irritation	1	H315: Causes skin irritation
Skin sensitisation	1B	H317: May cause an allergic skin reaction
Specific target organ toxicity single exposure respiratory tract irritation	3	H335: May cause respiratory irritation

### 2.2 Label elements

#### According to Regulation (EC) No 1272/2008 (CLP)

##### *Hazard pictograms*



##### *Signal word*

Danger

##### *Hazard statements*

H318 Causes serious eye damage  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H335 May cause respiratory irritation

##### *Precautionary statements*

P102 Keep out of reach of children.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P302+P352+P333+P313	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
P261+P304+P340+P312	Avoid breathing dust. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P501	Dispose of product/packaging by hardening with the application of water and dispose of as concrete waste.

### **Supplemental information**

Skin contact with wet cement, fresh concrete or mortar may cause irritation, dermatitis or burns. May cause damage to products made of aluminium or other non-noble metals.

## **2.3 Other hazards**

Cement does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH (Regulation (EC) No 1907/2006).

When cement reacts with water, for instance when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced. Due to the high alkalinity, wet cement may provoke skin and eye irritation.

The product contains chromate reducing agent. As a result, the content of soluble chromium (VI) is less than 2 ppm. If the storage conditions are not appropriate or the storage period is exceeded, the effectiveness of the reducing agent can diminish, and the cement can become skin sensitizing.

## **SECTION 3: Composition/information on ingredients**

### **3.1 Substances**

Not applicable

### **3.2 Mixtures**

Common cement types according to the EN 197-1 standard:

CEM I 52,5N  
 CEM I 52,5R  
 CEM I 42,5N  
 CEM II A-LL 32,5R  
 CEM II A-LL 42,5N  
 CEM III A 42,5N LH

which contain less than 1% crystalline silica and :



Substance	Concentration Range (W/W in cement)	Registration Number	EINECS	CAS	Classification Regulation 1272/2008	
					Hazard Class	Hazard Statement
Portland cement clinker	5-100%	(a)	266-043-4	65997-15-1	STOT SE 3	H335: May cause respiratory irritation
					Skin irritation 2	H315: Causes skin irritation
					Serious eye damage/eye irritation 1	H318: Causes serious eye damage
					Skin sensitisation 1B	H317: May cause an allergic skin reaction
Flue dust (b)	0-5%	01-2119486767-17-0054	270-659-9	68475-76-3	STOT SE 3	H335: May cause respiratory irritation
					Skin irritation 2	H315: Causes skin irritation
					Serious eye damage/eye irritation 1	H318: Causes serious eye damage
					Skin sensitisation 1	H317: May cause an allergic skin reaction

- (a) Portland cement clinker is, according to Art. 2.7(b) and Annex V.10 of EC Regulation 1907/2006 (REACH), exempt from the registration requirement.
- (b) "Flue Dust" is a substance (UVCB), arising during production of cement clinker; other conventional names are cement kiln dust, bypass meal, filter dust, ESP dust and clinker dust.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### **General notes**

No personal protective equipment is needed for first aid responders. First aid workers should avoid contact with wet cement or wet cement containing mixtures.

#### **Following contact with eyes**

Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress. Remove contact lenses if any. Incline head to injured eye, open the eyelid(s) widely and flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. Avoid flushing particles into uninjured eye. If possible, use isotonic water (0.9% NaCl). Contact a specialist of occupational medicine or an eye specialist.

#### **Following skin contact**

For dry cement, remove and rinse abundantly with water. For wet cement, wash skin with plenty of water. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them. Seek medical treatment in all cases of irritation or burns.

#### **Following inhalation**

Move the person to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms persist.

### ***Following ingestion***

Do not induce vomiting. If the person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention or contact the anti poison centre.

## **4.2 Most important symptoms and effects, both acute and delayed**

### ***Eyes***

Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries.

### ***Skin***

Cement may have an irritating effect on moist skin (due to sweat or humidity) after prolonged contact or may cause contact dermatitis after repeated contact. Prolonged skin contact with wet cement or wet concrete may cause serious burns because they develop without pain being felt (for example when kneeling in wet concrete even when wearing trousers).

For more details see Reference (1).

### ***Inhalation***

Repeated inhalation of dust of common cements over a long period of time increases the risk of developing lung diseases.

### ***Environment***

Under normal use, common cement is not hazardous to the environment.

## **4.3 Indication of any immediate medical attention and special treatment needed**

When contacting a physician, take this MSDS with you.

## **SECTION 5: Fire-fighting measures**

### **5.1 Extinguishing media**

Cements are not flammable.

### **5.2 Special hazards arising from the substance or mixture**

Cements are non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.

### **5.3 Advice for fire-fighters**

Cement poses no fire-related hazards. No need for special protective equipment for fire fighters.

## **SECTION 6: Accidental release measures**

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

#### **6.1.1 For non-emergency personnel**

Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

### 6.1.2 For emergency responders

Emergency procedures are not required. However, respiratory protection is needed in situations with high dust levels. Contact should be avoided with wet cement or wet cement containing mixtures.

### 6.2 Environmental precautions

Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).

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

Collect the spillage in a dry state if possible.

#### ***Dry cement***

Use clean up methods such as vacuum clean-up or vacuum extraction (Industrial portable units, equipped with high efficiency air filters (EPA and HEPA filters, EN 1822-1:2009) or equivalent technique) which do not cause airborne dispersion. Never use compressed air. Alternatively, wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry. If not possible, remove by slurring with water (see wet cement). When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading. Avoid inhalation of cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Section 13.

#### ***Wet cement***

Clean up wet cement and place in a container. Allow material to dry and solidify before disposal as described under Section 13.

### 6.4 Reference to other sections

See Sections 8 and 13 for more details.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

For more information, refer to the practice guidelines adopted under the Social Dialogue Agreement on Workers' Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it, by Employee and Employer European sectoral associations, among which CEMBUREAU. These safe handling practices It can be found via the following link:

<http://www.nepsi.eu/agreement-good-practice-guide/good-practice-guide.aspx>.

#### 7.1.1 Protective measures

Follow the recommendations as given under Section 8.  
To clean up dry cement, see Subsection 6.3.

#### ***Measures to prevent fire***

Not applicable.

### **Measures to prevent aerosol and dust generation**

Do not sweep. Use dry clean up methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

### **Measures to protect the environment**

No special measures required.

#### **7.1.2 Information on general occupational hygiene**

Do not handle or store near food and beverages or smoking materials. In dusty environment, wear dust mask and protective goggles. Use protective gloves to avoid skin contact.

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

Bulk cement should be stored in silos that are waterproof, dry (i.e. with internal condensation minimised), clean and protected from contamination. Engulfment hazard: To prevent engulfment or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement without taking the proper safety measures. Cement can build-up or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality. Bags should be stacked in a stable manner. Do not use aluminium containers for the storage or transport of wet cement containing mixtures due to incompatibility of the materials.

#### **7.3 Specific end use(s)**

No additional information for the specific end uses (see section 1.2).

#### **7.4 Control of soluble Cr (VI)**

For cements treated with a Cr (VI) reducing agent according to the regulations given in Section 15, the effectiveness of the reducing agent diminishes with time. Therefore, cement bags and/or delivery documents will contain information on the packaging date, the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below 0.0002 % of the total dry weight of the cement ready for use, according to EN 196-10. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the reducing agent.

### **SECTION 8: Exposure controls/personal protection**

#### **8.1 Control parameters**

##### **8.1.1 Exposure limit values (Workplace Exposure Limits WEL)**

<b>Substance</b>	<b>CAS</b>	<b>Long Term Exposure Limit (8hr TWA Reference Method)</b>	<b>Legal Reference</b>
Portland Cement Clinker	65997-15-1	-	COSHH 2002 & HSE EH40/2005
Inhalable dust		10 mg/m <sup>3</sup>	
Respirable dust		4 mg/m <sup>3</sup>	

Recommendations given here are based on a DNEL level of 3mg/m<sup>3</sup>.

## 8.2 Exposure controls

For each individual PROC, users can choose from either option A) or B) in the table above, according to what is best suited to their specific situation. If one option is chosen, then the same option has to be chosen in the table from section “8.2.2 Individual protection measures such as personal protection equipment” - Specification of respiratory protective equipment. Only combinations between A) – A) and B) – B) are possible.

### 8.2.1 Appropriate engineering controls

Measures to reduce generation of dust and to avoid dust propagating in the environment such as dedusting, exhaust ventilation and dry clean-up methods which do not cause airborne dispersion.

Exposure Scenario	PROC*	Exposure	Technical Installation	Efficiency	
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	week	Not required	-	
	14, 26		A) Not required or B) Generic local exhaust ventilation	- 78%	
	5, 8b, 9		A) General ventilation or B) Generic local exhaust ventilation	17% 78%	
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2	shifts	Not required	-	
	14, 22, 26		A) Not required or B) Generic local exhaust ventilation	- 78%	
	5, 8b, 9		A) General ventilation or B) Generic local exhaust ventilation	17 % 78 %	
Industrial uses of wet suspension of hydraulic building and construction materials	7	per shift, 5	A) Not required or B) Generic local exhaust ventilation	- 78%	
	2, 5, 8b, 9, 10, 13, 14		4	Not required	-
	2			A) Not required or B) Generic local exhaust ventilation	- 72 %
construction material Professional use of dry hydraulic building and (indoor, outdoor)	9, 26	minutes (up to 8)	A) Not required or B) Integrated local exhaust ventilation	- 87 %	
	5, 8a, 8b, 14		Duration is not	Localised controls are not applicable, process only in good ventilated rooms or outdoor	-
	19			A) Not required or B) Generic local exhaust ventilation	- 72 %
	11		8	Not required	-
2, 5, 8a, 8b, 9, 10,					
Professional uses of wet suspensions of hydraulic building and construction materials	13, 14, 19				

\* PROC's are identified uses and defined in section 16.2.

## 8.2.2 Individual protection measures such as personal protection equipment

### **General**

During work avoid kneeling in fresh mortar or concrete wherever possible. If kneeling is absolutely necessary then appropriate waterproof personal protective equipment must be worn. Do not eat, drink or smoke when working with cement to avoid contact with skin or mouth. Before starting to work with cement, apply a barrier cream and reapply it at regular intervals. Immediately after working with cement or cement-containing materials, workers should wash or shower or use skin moisturisers. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.

### **Eye/face protection**



Wear approved glasses or safety goggles according to EN 166 when handling dry or wet cement to prevent contact with eyes.

### **Skin protection**



Use watertight, wear and alkali resistant gloves (e.g. Nitrile soaked cotton gloves with CE Marking) internally lined with cotton, boots, closed long-sleeved protective clothing as well as skin care products (including barrier creams) to protect the skin from prolonged contact with wet cement. Particular care should be taken to ensure that wet cement does not enter the boots,. For the gloves, respect the maximum wearing time to avoid skin problems. In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

### **Respiratory protection**



When a person is potentially exposed to dust levels above exposure limits, use appropriate respiratory protection. The type of respiratory protection should be adapted to the dust level and conform to the relevant EN standard, (e.g. EN 149, EN 140, EN 14387, EN 1827) or national standard.

### **Thermal hazards**

Not applicable

Use	PROC*	Exposure	Specification of respiratory protective equipment (RPE)	RPE efficiency - assigned protection factor (APF)
Industrial manufacture/formulation of hydraulic building and construction materials	2, 3	Duration i not restricted (ur t 480 minutes per shift, 5 shifts ε week)	Not required	-
	14, 26		A) P1 mask (FF, FM) or B) Not required	APF=4  -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10  APF=4
Industrial uses of dry hydraulic building and construction materials (indoor, outdoor)	2		Not required	-
	14, 22, 26		A) P1 mask (FF, FM) or B) Not required	APF=4  -
	5, 8b, 9		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10  APF=4
Industrial uses of wet suspension of hydraulic building and construction materials	7		A) P1 mask (FF, FM) or B) Not required	APF=4  -
	2, 5, 8b, 9, 10, 13, 14		Not required	-
Professional use of dry hydraulic building and construction material (indoor, outdoor)	2		P1 mask (FF, FM)	APF=4
	9, 26		A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10  APF=4
	5, 8a, 8b, 14		A) P3 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 20  APF=4
	19		P2 mask (FF, FM)	APF = 10
	11	A) P2 mask (FF, FM) or B) P1 mask (FF, FM)	APF = 10  APF=4	
Professional uses of wet suspensions of hydraulic building and construction materials	2, 5, 8a, 8b, 9, 10, 13, 14, 19	Not required	-	

\* PROC's are identified uses and defined in section 16.2.

An overview of the APFs of different RPE (according to EN 529:2005) can be found in the glossary of MEASE (16). Any RPE as defined above shall only be worn if the following principles are implemented in parallel: The duration of work (compare with "duration of exposure" above) should reflect the additional physiological stress for the worker due to the breathing resistance and mass of the RPE itself, due to the increased thermal stress by enclosing the head. In addition, it shall be considered that the worker's capability of using tools and of communicating are reduced during the wearing of RPE. For reasons as given above, the worker should therefore be (i) healthy (especially in view of medical problems that may affect the use of RPE), (ii) have suitable facial characteristics reducing leakages between face and mask (in view of scars and facial hair). The recommended devices above which rely on a tight face seal will not provide the required protection unless they fit the contours of the

face properly and securely. The employer and self-employed persons have legal responsibilities for the maintenance and issue of respiratory protective devices and the management of their correct use in the workplace. Therefore, they should define and document a suitable policy for a respiratory protective device programme including training of the workers.

### 8.2.3 Environmental exposure controls

#### ***Air***

Environmental exposure control for the emission of cement particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles. Storing, loading or unloading cement in bulk prior to further transportation in bulk, blending cement in bulk or using cement in bulk other than at a construction site, including the bagging of cement and cement mixtures, the batching of ready-mixed concrete and the manufacture of concrete blocks and other cement products, requires a permit under the Environmental Permitting Regulations 2010.

#### ***Water***

Do not wash cement into sewage systems or into bodies of water, to avoid high pH. Above pH 9 negative eco-toxicological impacts are possible.

#### ***Soil and terrestrial environment***

No special emission control measures are necessary for the exposure to the terrestrial environment.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

This information applies to the whole mixture.

- (a) Appearance: Dry cement is a finely ground solid inorganic material (grey or white powder). Main particle size: 5-30 µm
- (b) Odour: Odourless
- (c) Odour threshold: No odour threshold, odourless
- (d) pH: (T = 20°C in water, water-solid ratio 1:2): 11-13.5
- (e) Melting point:  $\geq 1,250^{\circ}\text{C}$
- (f) Initial boiling point and boiling range: Not applicable as under normal atmospheric conditions, melting point  $\geq 1,250^{\circ}\text{C}$
- (g) Flash point: Not applicable as is not a liquid
- (h) Evaporation rate: Not applicable as is not a liquid
- (i) Flammability (solid, gas): Not applicable as is a solid which is non combustible and does not cause or contribute to fire through friction
- (j) Upper/lower flammability or explosive limits: Not applicable as is not a flammable gas
- (k) Vapour pressure: Not applicable as melting point  $\geq 1,250^{\circ}\text{C}$
- (l) Vapour density: Not applicable as melting point  $\geq 1,250^{\circ}\text{C}$
- (m) Relative density: 2.75-3.20; Apparent density: 0.9-1.5 g/cm<sup>3</sup>
- (n) Solubility(ies) in water (T = 20°C): slight (0.1-1.5 g/l)
- (o) Partition coefficient: n-octanol/water: Not applicable as is inorganic mixture
- (p) Auto-ignition temperature: Not applicable (no pyrophoricity – no organo-metallic, organo-metalloid or organo-phosphine bindings or of their derivatives, and no other pyrophoric constituent in the composition)
- (q) Decomposition temperature: Not applicable as no organic peroxide present
- (r) Viscosity: Not applicable as not a liquid
- (s) Explosive properties: Not applicable. Not explosive or pyrotechnic. Not in itself capable by chemical reaction of producing gas at such temperature and pressure and



- at such a speed as to cause damage to the surroundings. Not capable of a self-sustaining exothermic chemical reaction.
- (t) Oxidising properties: Not applicable as does not cause or contribute to the combustion of other materials

## 9.2 Other information

Not applicable.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

When mixed with water, cements will harden into a stable mass that is not reactive in normal environments.

### 10.2 Chemical stability

Dry cements are stable as long as they are properly stored (see Section 7) and compatible with most other building materials. They should be kept dry.

Contact with incompatible materials should be avoided. Wet cement is alkaline and incompatible with acids, with ammonium salts, with aluminium or other non-noble metals. Cement dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

### 10.3 Possibility of hazardous reactions

Cements do not cause hazardous reactions.

### 10.4 Conditions to avoid

Humid conditions during storage may cause lump formation and loss of product quality.

### 10.5 Incompatible materials

Acids, ammonium salts, aluminium or other non-noble metals. Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

### 10.6 Hazardous decomposition products

Cements will not decompose into any hazardous products.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Hazard class	Cat	Effect	Reference
Acute toxicity - dermal	-	Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight – no lethality. Based on available data, the classification criteria are not met.	(2)
Acute toxicity- inhalation	-	No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.	(9)
Acute toxicity - oral	-	No indication of oral toxicity from studies with cement kiln dust.	Literature survey

		Based on available data, the classification criteria are not met.	
Skin corrosion/irritation	2	Cement in contact with wet skin may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion may cause severe burns.	(2) Human experience
Serious eye damage/irritation	1	Portland cement clinker caused a mixed picture of corneal effects and the calculated irritation index was 128. Common cements contain varying quantities of Portland cement clinker, blast furnace slag, gypsum and limestone. Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry cement or splashes of wet cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.	(10), (11)
Skin sensitisation	1	Some individuals may develop eczema upon exposure to wet cement dust, caused either by the high pH which induces irritant contact dermatitis after prolonged contact, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of the two above mentioned mechanisms. If the cement contains a soluble Cr (VI) reducing agent and as long as the mentioned period of effectiveness of the chromate reduction is not exceeded, a sensitising effect is not expected [Reference (3)].	(3), (4)
Respiratory sensitisation	-	There is no indication of sensitisation of the respiratory system. Based on available data, the classification criteria are not met.	(1)
Germ cell mutagenicity	-	No indication. Based on available data, the classification criteria are not met.	(12), (13)
Carcinogenicity	-	No causal association has been established between Portland cement exposure and cancer. The epidemiological literature does not support the designation of Portland cement as a suspected human carcinogen. Portland cement is not classifiable as a human carcinogen (According to ACGIH A4: Agents that cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity that are sufficient to classify the agent with one of the other notations.). Based on available data, the classification criteria are not met.	(1)  (14)
Reproductive toxicity	-	Based on available data, the classification criteria are not met.	No evidence from human experience
STOT-single exposure	3	Cement dust may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits. Overall, the pattern of evidence clearly indicates that occupational exposure to cement dust has produced deficits in respiratory function. However, evidence available at the	(1)

		present time is insufficient to establish with any confidence the dose-response relationship for these effects.	
STOT-repeated exposure	-	There is an indication of COPD. The effects are acute and due to high exposures. No chronic effects or effects at low concentration have been observed. Based on available data, the classification criteria are not met.	(15)
Aspiration hazard	-	Not applicable as cements are not used as an aerosol.	

Apart from skin sensitisation, Portland cement clinker and common cements have the same toxicological and eco-toxicological properties.

***Medical conditions aggravated by exposure***

Inhaling cement dust may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

**SECTION 12: Ecological information**

**12.1 Toxicity**

The product is not hazardous to the environment. Ecotoxicological tests with Portland cement on *Daphnia magna* [Reference (5)] and *Selenastrum coli* [Reference (6)] have shown little toxicological impact. Therefore LC50 and EC50 values could not be determined [Reference (7)]. There is no indication of sediment phase toxicity [Reference (8)]. The addition of large amounts of cement to water may, however, cause a rise in pH and may, therefore, be toxic to aquatic life under certain circumstances.

**12.2 Persistence and degradability**

Not relevant. After hardening, cement presents no toxicity risks.

**12.3 Bioaccumulative potential**

Not relevant. After hardening, cement presents no toxicity risks.

**12.4 Mobility in soil**

Not relevant. After hardening, cement presents no toxicity risks.

**12.5 Results of PBT and vPvB assessment**

Not relevant. After hardening, cement presents no toxicity risks.

**12.6 Other adverse effects**

Not relevant.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Do not dispose of into sewage systems or surface waters.

***Product - cement that has exceeded its shelf life***

EWC entry: 10 13 99 (Wastes not otherwise specified)

(and when demonstrated that it contains more than 0.0002% soluble Cr (VI)): shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

***Product - unused residue or dry spillage***

EWC entry: 10 13 06 (other particulates and dust)

Pick up dry unused residue or dry spillage as is. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to "Product – after addition of water, hardened"

***Product – slurries***

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under "Product - after addition of water, hardened".

***Product - after addition of water, hardened***

EWC entries: 10 13 14 (waste from manufacturing of cement – waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes - concrete).

Dispose of according to the local legislation. Avoid entry into the sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

***Packaging***

EWC entries: 15 01 01 (waste paper and cardboard packaging). 15 01 02 (Plastic packaging)

Completely empty the packaging and process it according to local legislation.

**SECTION 14: Transport information**

Cement is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID), therefore no classification is required. No special precautions are needed apart from those mentioned under Section 8.

**14.1 UN number**

Not relevant

**14.2 UN proper shipping name**

Not relevant

**14.3 Transport hazard class(es)**

Not relevant

**14.4 Packing group**

Not relevant

**14.5 Environmental hazards**

Not relevant

#### 14.6 Special precautions for user

Not relevant

#### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Cement is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH).

The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI) (REACH Annex XVII point 47 Chromium VI compounds)

##### ***National regulatory information***

CONIAC Health Hazard Information Sheet No 26 (CEMENT)

Health & Safety at Work, etc. Act 1974

Control of Substances Hazardous to Health Regulations (COSHH) 2002

Control of Substances Hazardous to Health (Amendment) Regulations 2004

Environmental Protection Act 1990

HSE Guidance Note EH40 (Workplace Exposure Limits)

Any authorised manual on First Aid by St.John's/St. Andrews/Red Cross

Manual Handling Operations Regulations 1992 (as amended)

PORTLAND CEMENT DUST – criteria document for an occupational exposure limit. June 1994 (ISBN 07176 – 0763 – 1)

HSE Guidance Notes EH26 (Occupational Skin Diseases – Health and Safety Precautions)

#### 15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture by the supplier.

### SECTION 16: Other information

#### 16.1 Indication of changes

This MSDS (Version 3 September 2015) replaces Version 2 'Material Safety Data Sheet – Common Cements' which was published in May 2015. It has been reviewed and rewritten to reflect the new structure to meet changes in legislation to the requirements of the CLP regulations (Regulation EC 1272/2008) according to guidelines published by CEMBUREAU, the representative organisation of the cement industry in Europe.

## 16.2 Identified uses and use descriptors and categories

The table below gives an overview of all relevant identified uses of cement or cement containing hydraulic binders. All the uses have been grouped in these identified uses because of the specific conditions of exposure for human health and environment. For each specific use, a set of risk management measures or localised controls has been derived (see section 8) which need to be put in place by the user of cement or cement containing hydraulic binders to bring the exposure to an acceptable level.

PROC	Identified Uses - Use Description	Manufacture/ Formulation of	Professional/ Industrial use of
		building and construction materials	
2	Use in closed, continuous process with occasional controlled exposure, e.g. industrial or professional manufacture of hydraulic binders.	X	X
3	Use in closed batch process, e.g. industrial or professional manufacture of ready-mix concrete.	X	X
5	Mixing or blending in batch process for formulation of mixtures and articles, e.g. industrial or professional manufacture of pre-cast concrete.	X	X
7	Industrial spraying, e.g. Industrial use of wet suspensions of hydraulic binders by spraying		X
8a	Transfer of substance or mixture from/to vessels/large containers at non-dedicated facilities, e.g. use of cement in bags to prepare mortar		X
8b	Transfer of substance or mixture from/to vessels/large containers at dedicated facilities, e.g. filling of silos or road/ rail tankers at cement plants.	X	X
9	Transfer of substance or mixture into small containers, e.g. filling of cement bags in cement plants.	X	X
10	Roller application or brushing, e.g. Products to improve adherence between building surfaces and finishing products		
11	Non-Industrial spraying, e.g. professional use of wet suspensions of hydraulic binders by spraying.		X
13	Treatment of articles by dipping and pouring, e.g. covering of construction product with a layer to improve the performance of the product.		X
14	Production of mixtures or articles by tableting, compression extrusion, palletisation, e.g. production of floor tiling.	X	X
19	Hand-mixing with intimate contact and only PPE available, e.g. mixture of wet hydraulic binder on a construction site.		X
22	Potentially closed processing operations with minerals/metals at elevated temperature in Industrial setting, e.g. production of bricks.		X
26	Handling of solid inorganic substances at ambient temperature, e.g. mixture of wet hydraulic binders.	X	X

## 16.3 Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
APF	Assigned protection factor
CAS	Chemical Abstracts Service

CLP	Classification, labelling and packaging (Regulation (EC) No 1272/2008)
COPD	Chronic Obstructive Pulmonary Disease
DNEL	Derived no-effect level
EC50	Half maximal effective concentration
ECHA	European Chemicals Agency
EINECS	European INventory of Existing Commercial chemical Substances
EPA	Type of high efficiency air filter
ES	Exposure scenario
EWC	European Waste Catalogue
FF P	Filtering facepiece against particles (disposable)
FM P	Filtering mask against particles with filter cartridge
GefStoffV	Gefahrstoffverordnung
HEPA	Type of high efficiency air filter
H&S	Health and Safety
IATA	International Air Transport Association
IMDG	International agreement on the Maritime transport of Dangerous Goods LC50 Median lethal dose
MEASE	Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, <a href="http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php">http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php</a>
MS	Member State
MSDS	Material safety Data Sheet
OELV	Occupational exposure limit value
PBT	Persistent, bio-accumulative and toxic
PNEC	Predicted no-effect concentration
PROC	Process category
RE	Repeated exposure
REACH	Registration, Evaluation and Authorisation of Chemicals
RPE	Respiratory protective equipment
SCOEL	Scientific Committee on Occupational Exposure Limit Values
SDS	Safety Data Sheet
SE	Single exposure
STP	Sewage treatment plant
STOT	Specific Target Organ Toxicity
TLV-TWA	Threshold Limit Value-Time-Weighted Average
TRGS	Technische Regeln für Gefahrstoffe
VLE-MP	Exposure limit value-weighted average in mg by cubic meter of air
vPvB	Very persistent, very bio-accumulative
WEL	Workplace exposure limit
w/w	Weight by weight
WWTP	Waste water treatment plant

#### 16.4 Key literature references and sources of data

- (1) *Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006.*  
Available from: <http://www.hse.gov.uk/pubns/web/portlandcement.pdf>.
- (2) *Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).*
- (3) *European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission, 2002).*  
[http://ec.europa.eu/health/archive/ph\\_risk/committees/sct/documents/out158\\_en.pdf](http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf).
- (4) *Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, NIOH, Page 11, 2003.*

- (5) U.S. EPA, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, 3rd ed. EPA/600/7-91/002, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1994a) and 4th ed. EPA-821-R-02-013, US EPA, office of water, Washington D.C. (2002).
- (6) U.S. EPA, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th ed. EPA/600/4-90/027F, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1993) and 5th ed. EPA-821-R-02-012, US EPA, office of water, Washington D.C. (2002).
- (7) *Environmental Impact of Construction and Repair Materials on Surface and Ground Waters. Summary of Methodology, Laboratory Results, and Model Development.* NCHRP report 448, National Academy Press, Washington, D.C., 2001.
- (8) *Final report Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker prepared for Norcem A.S. by AnalyCen Ecotox AS, 2007.*
- (9) TNO report V8801/02, *An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats, August 2010.*
- (10) TNO report V8815/09, *Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test, April 2010.*
- (11) TNO report V8815/10, *Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test, April 2010.*
- (12) *Investigation of the cytotoxic and proinflammatory effects of cement dusts in rat alveolar macrophages, Van Berlo et al, Chem. Res. Toxicol., 2009 Sept; 22(9):1548-58.*
- (13) *Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro; Gminski et al, Abstract DGPT conference Mainz, 2008.*
- (14) *Comments on a recommendation from the American Conference of governmental industrial Hygienists to change the threshold limit value for Portland cement, Patrick A. Hessel and John F. Gamble, EpiLung Consulting, June 2008.*
- (15) *Prospective monitoring of exposure and lung function among cement workers, Interim report of the study after the data collection of Phase I-II 2006-2010, Hilde Notø, Helge Kjuus, Marit Skogstad and Karl-Christian Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.*
- (16) *MEASE, Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, <http://www.ebrc.de/industrial-chemicals-reach/projects-and-references/mease.php>*
- (17) *Occurrence of allergic contact dermatitis caused by chromium in cement. A review of epidemiological investigations, Kåre Lervik, Helge Kjuus, NIOH, Oslo, December 2011.*

## 16.5 Relevant H-Statements

- H318: Causes serious eye damage
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H335: May cause respiratory irritation



**16.6 Training advice**

In addition to health, safety and environmental training programs for their workers, companies must ensure that workers read, understand and apply the requirements of this SDS.

**16.7 Further information**

The data and test methods used for the purpose of classification of common cements, are given or referred to in section 11.1.

**16.8 Disclaimer**

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process, is the responsibility of the user.

It is implicit that the user is responsible for determining appropriate safety measures and for applying the legislation covering his/her own activities.

**For further information contact:**

Hanson House  
14 Castle Hill  
Maidenhead  
SL6 4JJ

**Customer Services:**

Tel: 01628 774 100  
Email: [enquiries@hanson.com](mailto:enquiries@hanson.com)

# Aggregates

## Material Safety Data Sheet (MSDS)



### 1. IDENTIFICATION OF SUBSTANCE/ MIXTURE & COMPANY/UNDERTAKING

Name of substance: Natural aggregates

For further details of the specification refer to the relevant Material Safety Data Sheet.

### 2. HAZARD IDENTIFICATION

NOT classified as dangerous in accordance with Directive 67/548/EEC or EC 1272/2008.

Respirable dust may be released during processing, handling and use of natural aggregates, particularly through crushing, drilling, cutting, loading and unloading of bulk aggregates, or if the aggregate is supplied as a fine powder. If inhaled in excessive quantities over a prolonged period or extended period, respirable dust can constitute a long-term health hazard.

Dusts containing Respirable Crystalline Silica (quartz) present a greater hazard.

Long-term exposure to respirable dust can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

Some sand aggregates are unsuitable for sand blasting operations as they may break down, producing respirable dust containing quartz.

The quartz content of the product will vary, and is related to the type of mineral deposit from which the aggregate is produced. Advice on the quartz content and other chemical information is available from the supplying unit.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Produced from naturally occurring rock or sand and gravel mineral deposits.

The mineral composition and characteristics of the aggregate will depend on the type of mineral deposit from which the aggregate is produced. Further information on the composition, including free silica (quartz) content is available from the supplying unit. In general, quartzite, sandstone, sand & gravel will have the highest levels of quartz.

Hazardous ingredients:

Substance Name	EC No	%	DSD Classification	CLP Classification
Crystalline Silica*	238-878-4	Variable	Xn R48/20	H372

#### **4. FIRST AID MEASURES**

**Inhalation:**

Immediately remove to fresh air. If breathing difficulties are experienced, seek medical attention.

**Skin contact:**

Wash with water. Prolonged contact may cause irritation. If symptoms develop or persist, seek medical attention.

**Eye Contact:**

Do not rub eyes, as the material is abrasive and may scratch the surface of the eye. Immediately and thoroughly irrigate with eye wash solution or clean water. If symptoms develop or persist, seek medical attention.

**Ingestion:**

Remove to fresh air. If person is conscious, rinse out mouth and give water to drink. Seek medical advice if symptoms develop.

#### **5. FIRE FIGHTING MEASURES**

Natural aggregates are non-flammable and are not combustible.

Suitable Extinguishing Media: Not applicable.

Unsuitable Extinguishing Media: Not applicable.

Special Exposure Hazards in Fire: None.

Special Protective Equipment for Fire Fighters: None.

#### **6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

Avoid breathing in dust. Keep dust out of eyes. See Section 8 for guidance on personal protective equipment. See Section 7 for guidance on handling the product.

**Environmental Precautions:**

Natural aggregates are inert, but dust and fine particles should be prevented from entering watercourses and drains. Deposition of dust on vegetation and surrounding property should be avoided controlling the release of dust at source.

**Methods for Cleaning:**

Avoid dry sweeping, which creates dust. Use vacuum cleaning where practicable, or suppress dust using water sprays before cleaning up.

#### **7. HANDLING AND STORAGE**

**Handling:**

The product should be handled to minimise the creation of airborne dust. Conveyor systems should be fitted with covers to minimise wind whipping. Very fine, dry material should be conveyed in an enclosed system. Water sprays and/or local exhaust ventilation and filtration should be used as required to minimise generation of dust.

Manual handling of the product should be avoided where possible. If manual handling is necessary, full account should be taken of the Manual Handling Regulations.

#### Storage:

The product should be stored to minimise the creation of airborne dust. Very fine, dry product in bulk should be stored in enclosed silos.

Bulk aggregate containing fine material (<3mm) should not be stored in the open unless it is conditioned with water. Stockpiles should be sited to avoid wind-whipping where possible. Storage bays should be fitted with 3 sides and the aggregate stored below the level of the sides to avoid wind-whipping.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Take Measures to Prevent:

Inhalation of excessive quantities of dust.

#### Exposure Control Limits / Source

Total Dust	W.E.L.	10mg/m <sub>3</sub>	8 Hrs	T.W.A.
Respirable Dust	W.E.L.	4mg/m <sub>3</sub>	8 Hrs	T.W.A.
Respirable Quartz (Crystalline Silica SiO <sub>2</sub> )	W.E.L.	0.1mg/m <sub>3</sub>	8 Hrs	T.W.A.

W.E.L. = Workplace Exposure Limit

T.W.A. = Time Weighted Average

#### Control Measures:

Dust should be controlled by containment, suppression and extraction/ filtration where possible.

Regular monitoring should be undertaken to identify where people may be exposed to respirable dust so that further measures can be implemented to reduce exposure.



EN149 FFP3

#### Respiratory Protection:

Suitable respiratory protection should be used to protect against inhalation of dust, and to ensure exposure is below the Workplace Exposure Levels given at the start of this section.



#### Hand Protection:

Gloves should be worn to avoid abrasion of the skin when handling the product. Wear waterproof gloves if the product is wet.



IF CONTACT LIKELY

#### Eye Protection:

Goggles or protective glasses should be worn to prevent dust entering the eyes if required.



KEEP SKIN COVERED

#### Skin Protection:

Overalls to protect skin and clothes. The use of skin barrier cream is also recommended. Hands should be washed thoroughly before handling or eating food or drink.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Granular solid
Odour	None
pH	Various
Boiling Point / Range	Not determined
Melting Point / Range	Not determined
Flash Point	Not applicable
Auto Flammability	Not applicable
Flammability	Not applicable
Explosive Properties	Not applicable
Oxidising Properties	Not determined
Vapour Pressure:	Not applicable
Relative Density:	Above 2.0
Water Solubility:	Dependant on rock type
Fat Solubility:	Not determined

## 10. STABILITY AND REACTIVITY

Conditions to Avoid:

None.

Materials to Avoid:

Acids (for aggregates containing CaCO<sub>3</sub> & MgCO<sub>3</sub>)

Hazardous Decomposition Products:

Limestone aggregates may react with acid groundwater to release carbon dioxide gas, which may build up in confined spaces to hazardous concentrations.

## 11. TOXICOLOGICAL INFORMATION

Inhalation:

If inhaled over a prolonged or extended period, respirable dust from natural aggregate can lead to respiratory system damage and disease. Respirable crystalline silica has been associated with the lung disease silicosis.

Skin Contact:

Prolonged contact with skin may cause irritation and dryness, which may lead to dermatitis.

Eye Contact:

Particles of grit or dust from natural aggregates may irritate and scratch eyes.

Ingestion:

Unlikely to cause any problems.

## 12. ECOLOGICAL INFORMATION

Environmental Assessment:

When used and disposed of as intended, no adverse environmental effects are foreseen. Aggregates are naturally occurring, inert minerals and do not pose a significant ecological hazard.

Mobility:

Aggregates are non-volatile, inert materials that will sink in water and form a layer on the surface of the ground. Dust may become airborne, leading to deposition on vegetation.

Persistence and Degradability:

Aggregates are resistant to degradation and will persist in the environment.

Ecotoxicity:

Not expected to be toxic to aquatic organisms.

### **13. DISPOSAL CONSIDERATION**

Safe Handling of Residues / Waste Product:

Natural aggregates are classed as 'inert' but should be disposed of in accordance with local and national legal requirements. Natural aggregates can be readily reused or recycled.

### **14. TRANSPORT INFORMATION**

Special Carriage Requirements:

None – not classified as dangerous for transport.

Open vehicles should be sheeted or loads conditioned with water to avoid dust nuisance.

### **15. REGULATORY INFORMATION**

Classification: Not classified as dangerous.

However, consideration of the following risk & safety phrases is recommended:

67/548/EEC

Risk Phrases:

R36/37 – Irritating to eyes and respiratory system.

R48/20 – Harmful: danger of serious damage to health by prolonged exposure through inhalation (if respirable silica is present).

Safety Phrases:

S36/ 37/ 39 – Wear suitable protective clothing, gloves and eye/face protection.

EC1272/2008

Hazard Statements:

H317 – May cause skin irritation

H335 – May cause respiratory irritation

H372 – Causes damage to organs through prolonged or repeated exposure (relates possible lung damage if exposed to respirable silica).

Precautionary Statements:

P261 – Avoid breathing dust

P281 – Use personal protective equipment as required (see Section 8)

## 16. OTHER INFORMATION

Training Advice:

Wear and use of PPE.

Recommended Uses and Applications:

Industrial and construction applications.

Further Information:

Contact Product Technical Support at Hanson UK using the details given in Section 1.

HSE Guidance Note EH40/2007 PPE Regulations 1992

COSHH Regulations 2002 Environmental Protection Act 1990

HSE Crystalline Silica EH59

Dangerous Substances Directive (DSD) 67/548/EEC

Classification, Labelling and Packaging Regulations (CLP) EC1272/2008

Further copies of this Material Safety Data Sheet may be obtained from Hanson UK.

Prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006

## 17. DISCLAIMER

The information in this Material Safety Data Sheet was believed to be correct at the time of issue. It does not, however, give assurances of product properties and establishes no contract legal rights.

If you have purchased this product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and any of the precautions, which should be taken.

This Material Safety Data Sheet does not constitute the user's own assessment of workplace risk, and it is the user's sole responsibility to take all necessary safety precautions when using this product.

The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

For further information contact:

Hanson House  
14 Castle Hill  
Maidenhead  
SL6 4JJ

Customer Services:

Tel: 01628 774 100  
Email: [enquiries@hanson.com](mailto:enquiries@hanson.com)



## 1. Product and company identification

<b>Product name</b>	Fuels, diesel
<b>MSDS #</b>	SMI2110.
<b>Code</b>	SMI2110.
<b>Product use</b>	Fuel for marine engines. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Synonyms</b>	Distillate Marine Fuels DMA, DMALS, DMAXX, DMALSXX DMB, DMBLS, DMBXX, DMBLSXX DMZ, DMZLS, DMZXX, DMZLSXX F-76
<b>Supplier</b>	BP Products North America Inc 30 South Wacker Drive Chicago, Illinois 60606
<b>EMERGENCY HEALTH INFORMATION:</b>	Direct Phone +1 630 961 6200 (24/7) Toll Free 1 800 321 8642 (24/7)
<b>E-mail address</b>	bpcares@bp.com

## 2. Hazards identification

<b>Physical state</b>	Liquid.
<b>Color</b>	Amber./ Dark Brown.
<b>Emergency overview</b>	WARNING !  COMBUSTIBLE LIQUID AND VAPOR. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION. ASPIRATION HAZARD. HARMFUL OR FATAL IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE.  Combustible liquid. Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. If ingested, do not induce vomiting. Avoid contact with eyes, skin and clothing. Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	Dermal contact. Eye contact. Inhalation.
<b>Potential health effects</b>	
<b>Eyes</b>	May cause eye irritation.
<b>Skin</b>	Causes skin irritation.
<b>Inhalation</b>	Vapors may cause drowsiness and dizziness. Can cause central nervous system(CNS) depression. May cause respiratory tract irritation.
<b>Ingestion</b>	Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.

See toxicological information (Section 11)



### 3. Composition/information on ingredients

Complex mixture of middle distillate hydrocarbons, with carbon numbers in C10 to C28 range. May contain 2 % Sulphur or Sulfur (Maximum)

Ingredient name	CAS #	%
Fuels, diesel	68334-30-5	100
Contains:		
Naphthalene	91-20-3	1 - 3
Sulfur	7704-34-9	0 - 2

### 4. First aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.	
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.	
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.	
<b>Ingestion</b>	Aspiration hazard if swallowed. Can enter lungs and cause damage. Never give anything by mouth to an unconscious person. Get medical attention immediately.	Do not induce vomiting.
<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects.	
	Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.	

### 5. Fire-fighting measures

<b>Flammability of the product</b>	Combustible liquid.
<b>Auto-ignition temperature</b>	250°C (482°F)
<b>Flash point</b>	Closed cup: >60°C (>140°F)
<b>Explosion limits</b>	Lower: 0.6% Upper: 6.5%
<b>Fire/explosion hazards</b>	Combustible liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
<b>Extinguishing media</b>	
<b>Suitable</b>	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Not suitable</b>	Do not use water jet.
<b>Fire-fighting procedures</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Hazardous combustion products</b>	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> etc.)
<b>Protective clothing (fire)</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

### Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Personal protection in case of a large spill

Chemical splash goggles. Chemical-resistant protective suit. Boots. Chemical-resistant gloves. Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Suggested protective clothing might not be adequate. Consult a specialist before handling this product. CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

### Methods for cleaning up

#### Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

#### Small spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

### Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Never siphon by mouth. If ingested, do not induce vomiting. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

### Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### Other information

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. Entry to any tanks or other confined space requires a full risk assessment and appropriate control measures to be put in place in conformance with appropriate regulations and industry practice on confined space entry. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapor mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurized fuel pipes, the vapor or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### Ingredient name

Fuels, diesel

Naphthalene

### Occupational exposure limits

#### ACGIH TLV (United States). Absorbed through skin.

TWA: 100 mg/m<sup>3</sup>, (measured as total hydrocarbons) 8 hour(s). Issued/Revised: 1/2007 Form: Total hydrocarbons

#### ACGIH TLV (United States).

STEL: 79 mg/m<sup>3</sup> 15 minute(s). Issued/Revised: 5/1996

STEL: 15 ppm 15 minute(s). Issued/Revised: 5/1996

TWA: 52 mg/m<sup>3</sup> 8 hour(s). Issued/Revised: 5/1996

TWA: 10 ppm 8 hour(s). Issued/Revised: 5/1996

#### OSHA PEL (United States).

TWA: 50 mg/m<sup>3</sup> 8 hour(s). Issued/Revised: 6/1993

TWA: 10 ppm 8 hour(s). Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

### Some states may enforce more stringent exposure limits.

#### Control Measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

#### Personal protection

##### Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

##### Skin and body

Do not get on skin or clothing. Wear suitable protective clothing.

##### Respiratory

Use adequate ventilation. Do not breathe vapor or mist. If ventilation is inadequate, use a NIOSH-certified respirator with an organic vapor cartridge and P95 particulate filter.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

##### Hands

Wear gloves that cannot be penetrated by chemicals or oil.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

## 9. Physical and chemical properties

#### Physical state

Liquid.

#### Color

Amber./ Dark Brown.

#### Odor

Gas oil

#### Flash point

Closed cup: >60°C (>140°F)

#### Explosion limits

Lower: 0.6%

Upper: 6.5%

#### Auto-ignition temperature

250°C (482°F)

#### Density

<900 kg/m<sup>3</sup> (<0.9 g/cm<sup>3</sup>) at 15°C

#### Viscosity

Kinematic: 2 to 11 mm<sup>2</sup>/s (2 to 11 cSt) at 40°C

#### Boiling point / Range

150 to 385°C (302 to 725°F)

Product name Fuels, diesel

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(ENGLISH)

Vapor pressure	<0.04 kPa (<0.301 mm Hg) at 20°C
Vapor density	>2 [Air = 1]

## 10. Stability and reactivity

<b>Stability and reactivity</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame). Avoid excessive heat.
<b>Incompatibility with various substances</b>	Reactive or incompatible with the following materials: oxidizing materials.
<b>Hazardous decomposition products</b>	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> etc.)
<b>Hazardous polymerization</b>	Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Fuels, diesel	LD50 Dermal	Rabbit	>4300 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Dermal	Rabbit	>4300 mg/kg	-	Based on Diesel fuel
	LD50 Oral	Rat	17900 mg/kg	-	Based on No. 2 Heating Oil.
	LD50 Oral	Rat	7600 mg/kg	-	Based on Diesel fuel
	LC50 Inhalation Vapor	Rat	4.1 mg/l	4 hours	Based on Diesel fuel

### Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Conc.	Remarks
Fuels, diesel	Rabbit	Skin - Irritation	-	-	-	-	Based on No. 2 Heating Oil.
	Rabbit	Skin - Irritation	-	-	-	-	Based on Diesel fuel
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on No. 2 Heating Oil.
	Rabbit	Eyes - Non-irritating to the eyes.	-	-	-	-	Based on Diesel fuel

**Conclusion/Summary** Not available.

### Sensitizer

Product/ingredient name	Route of exposure	Species	Result	Remarks
Fuels, diesel	skin	Guinea pig	Not sensitizing	Based on No. 2 Heating Oil.
	skin	Guinea pig	Not sensitizing	Based on Diesel fuel

**Conclusion/Summary** Not available.

### Carcinogenicity

Product/ingredient name	Test authority/Test number	Species	Route	Exposure	Result	Remarks
Fuels, diesel	Equivalent to 451 OECD	Mouse	Dermal	2 years	Positive - Dermal - Unspecified	Based on Heating Oil.

**Conclusion/Summary** Suspected of causing cancer.

<b>Product name</b> Fuels, diese <sub>l</sub>	<b>Product code</b> SMI2110.	<b>Page:</b> 5/10
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		<b>Language</b> ENGLISH (ENGLISH)

## Classification

<b>Product/ingredient name</b>	<b>IARC</b>	<b>NTP</b>	<b>OSHA</b>
Fuels, diesel	3	-	-
Naphthalene	2B	Possible	-

IARC :  
2B - Possible carcinogen to human.  
3 - Not classifiable as a human carcinogen.

NTP :  
Possible - Reasonably anticipated to be human carcinogens.

## Mutagenicity

<b>Product/ingredient name</b>	<b>Test</b>	<b>Experiment</b>	<b>Result</b>	<b>Remarks</b>
Fuels, diesel	OECD 471	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Diesel fuel
	Equivalent to OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Negative	Based on Heating Oil.
	not guideline	Experiment: In vivo Subject: Unspecified Cell: Somatic	Negative	Based on Heating Oil.

## Conclusion/Summary

Not classified. Based on available data, the classification criteria are not met.

## Reproductive toxicity

<b>Product/ingredient name</b>	<b>Maternal toxicity</b>	<b>Fertility</b>	<b>Development toxin</b>	<b>Species</b>	<b>Result</b>	<b>Exposure</b>	<b>Remarks</b>
Fuels, diesel	-	-	Negative	Rat	Dermal	20 days	Effects observed at maternally toxic doses. (Based on Condensates (petroleum), vacuum tower)
	-	-	Negative	Rat	Dermal	10 days	Effects observed at maternally toxic doses. (Based on Diesel fuel)
	-	-	Negative	Rat	Dermal	10 days	Effects observed at maternally toxic doses. (Based on No. 2 Heating Oil.)

## Conclusion/Summary

Development: Not classified. Based on available data, the classification criteria are not met.  
Fertility: Not classified. Based on available data, the classification criteria are not met.  
Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

## Other information

Middle distillate: From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess weak carcinogenic activity in laboratory animals. In these tests, the material is painted on the shaved backs of mice twice a week for their lifetime. The material is not washed off between applications. Therefore, there may be a potential risk of skin cancer from prolonged or repeated skin contact with this product in the absence of good personal hygiene. This particular product has not been tested for carcinogenic activity, but we have chosen to be cautious in light of the findings with other distillate streams.

Occasional skin contact with this product is not expected to have serious effects, but good personal hygiene should be practiced and repeated skin contact avoided. This product can also be expected to produce skin irritation upon prolonged or repeated skin contact. Personal hygiene measures taken to prevent skin irritation are expected to be adequate to prevent risk of skin cancer.

Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

Naphthalene has been reported to cause developmental toxicity in mice after oral exposure to relatively high dose levels, but developmental toxicity was not observed in NTP (National Toxicology Program) sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphate dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans.

## Potential chronic health effects

### Carcinogenicity

Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

## 12. Ecological information

### Ecotoxicity

Product/ingredient name	Test authority/Test number	Species	Type/Result	Exposure	Effects	Remarks
Fuels, diesel	OECD 202	Daphnia	Acute EL50 210 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD 202	Daphnia	Acute EL50 68 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD 201	Algae	Acute EL50 22 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Modeled data	Micro-organism	EL50 >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	OECD 201	Algae	Acute ErL50 78 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD 203	Fish	Acute LL50 65 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	OECD 203	Fish	Acute LL50 21 mg/l Nominal Fresh water	96 hours	Mortality	Based on Diesel fuel
	OECD 202	Daphnia	Acute NOELR 46 mg/l Nominal Fresh water	48 hours	Mobility	Based on Diesel fuel
	OECD 201	Algae	Acute NOELR 10 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	OECD 201	Algae	Acute NOELR 1 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Diesel fuel
	Modeled data	Fish	Chronic NOEL 0.083 mg/l Nominal Fresh water	14 days	Mortality	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Modeled data	Micro-organism	NOELR 3.217 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel
	Modeled data	Daphnia	Chronic NOELR 0.2 mg/l Nominal Fresh water	21 days	Immobilization	Based on Vacuum gas oil / Hydrocracked gas oil / Distillate Fuel

## Biodegradability

Product/ingredient name	Test authority/Test number	Result - Exposure	Remarks
Fuels, diesel	OECD 301 F OECD 301 F Equivalent to EPA OTS 796.3100	60 % - Readily - 28 days 57.5 % - Not readily - 28 days 35 % - Not readily - 28 days	Based on Diesel fuel Based on Diesel fuel Based on Gas Oils (petroleum), solvent refined
<b>Persistence/degradability</b>	IOPC Persistent/not persistent. oil: Persistent		
<b>Mobility</b>	Spillages may penetrate the soil causing ground water contamination. This material may accumulate in sediments.		
<b>Bioaccumulative potential</b>	Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.		
<b>Other ecological information</b>	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.		

## 13. Disposal considerations

<b>Waste information</b>	The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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**NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal**

## 14. Transport information

### International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
<b>DOT Classification</b>	NA 1993	DIESEL FUEL	Combustible liquid.	III	-
<b>TDG Classification</b>	UN 1202	DIESEL FUEL	3	III	-
<b>IMDG Classification</b>	UN 1202	Diesel Fuel. Marine pollutant (Fuels, diesel)	3	III	<b>Emergency schedules (EmS)</b> F-E, S-E <b>Remarks</b> Marine pollutant
<b>IATA/ICAO Classification</b>	UN 1202	Diesel Fuel	3	III	<b>Remarks</b> Environmentally hazardous substance mark.

## 15. Regulatory information

### U.S. Federal Regulations

#### United States inventory (TSCA 8b)

All components are listed or exempted.

**TSCA 12(b) one-time export:** Naphthalene

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** Sulfur; Naphthalene

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Fuels, diesel: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

#### SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Naphthalene	91-20-3	1 - 3
Supplier notification	Naphthalene	91-20-3	1 - 3
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: Naphthalene: 100 lbs. (45.4 kg);		

### State regulations

#### Massachusetts Substances

The following components are listed: NAPHTHALENE; SULFUR

#### New Jersey Hazardous Substances

The following components are listed: NAPHTHALENE; MOTH FLAKES; SULFUR

#### Pennsylvania RTK Hazardous Substances

The following components are listed: NAPHTHALENE; SULFUR

#### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer. Naphthalene

### Other regulations

#### Canada inventory

All components are listed or exempted.

#### REACH Status

The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

#### Australia inventory (AICS)

All components are listed or exempted.

#### China inventory (IECSC)

All components are listed or exempted.

#### Japan inventory (ENCS)

All components are listed or exempted.

#### Korea inventory (KECI)

All components are listed or exempted.

#### Philippines inventory (PICCS)

All components are listed or exempted.

## 16. Other information

### Label requirements

WARNING !

COMBUSTIBLE LIQUID AND VAPOR.  
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.  
CAUSES SKIN IRRITATION.  
MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION.  
ASPIRATION HAZARD.  
HARMFUL OR FATAL IF SWALLOWED.  
CAN ENTER LUNGS AND CAUSE DAMAGE.



**HMIS® Rating :**

**Health** \* 1  
**Flammability** 2  
**Physical Hazard** 0  
**Personal protection** X

**National Fire Protection Association (U.S.A.)**



**History**

**Date of issue** 06/27/2011.  
**Date of previous issue** No previous validation.  
**Prepared by** Product Stewardship  
**Notice to reader**

*All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.*

*The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.*

*It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.*



## 1 . Identification of the material and supplier

<b>Product name</b>	<b>AdBlue</b>
<b>SDS no.</b>	0000003947
<b>Product use</b>	Reactant for reducing NOx-emissions.
<b>Supplier</b>	BP Australia Pty Ltd Level 17, 717 Bourke Street Docklands, Victoria 3008 ABN 53 004 085 616
	Technical Helpline Number: 1300 139 700 www.bp.com.au
<b>EMERGENCY TELEPHONE NUMBER</b>	1800 638 556
<b>Product code</b>	0000003947

## 2 . Hazards identification

<b>Statement of hazardous/dangerous nature</b>	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
--	---

## 3 . Composition/information on ingredients

Water and Urea (31.8 - 33.2%)

**This product does not contain any hazardous ingredients at or above regulated thresholds.**

## 4 . First-aid measures

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
<b>Inhalation</b>	If inhaled, remove to fresh air. Get medical attention if symptoms appear. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Ingestion</b>	Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Advice to doctor</b>	Treatment should in general be symptomatic and directed to relieving any effects.

## 5 . Fire-fighting measures

<b>Extinguishing media</b>	
<b>Suitable</b>	In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.
<b>Not suitable</b>	Do not use water jet.
<b>Hazardous decomposition products</b>	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) nitrogen oxides
<b>Unusual fire/explosion hazards</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Special fire-fighting procedures</b>	No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
<b>Protection of fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6 . Accidental release measures

<b>Personal precautions</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7 . Handling and storage

<b>Handling</b>	Put on appropriate personal protective equipment.
<b>Storage</b>	Store and use only in equipment/containers designed for use with this product. Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10).
<b>Not suitable</b>	Prolonged exposure to elevated temperature.

## 8 . Exposure controls/personal protection

<b>Occupational exposure limits</b>	<b>No exposure standard allocated.</b>
<b>Biological Limit Values</b>	No biological limit allocated.
<b>Exposure controls</b>	
<b>Occupational exposure controls</b>	<p>Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.</p> <p>All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.</p> <p>Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.</p> <p>The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.</p>
<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	<p>Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure.</p> <p>In case of insufficient ventilation, wear suitable respiratory equipment.</p> <p>The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.</p>
<b>Skin and body</b>	<p>Use of protective clothing is good industrial practice.</p> <p>Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.</p> <p>Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.</p>
<b>Hand protection</b>	<p>Wear protective gloves if prolonged or repeated contact is likely.</p> <p>The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.</p>
<b>Eye protection</b>	Safety glasses with side shields.

## 9 . Physical and chemical properties

Physical state	Liquid.
Colour	Clear. Colourless.
Odour	Ammoniacal. [Slight]
Vapour pressure	Not available.
Vapour density	Not available.
pH	9.5
Boiling point / range	Not available.
Melting point / range	Not available.
Relative density/Specific gravity	Not available.
Density	1094 kg/m <sup>3</sup> (1.094 g/cm <sup>3</sup> ) at 20°C
Solubility	Soluble in water.
Partition coefficient (LogKow)	<1

## 10 . Stability and reactivity

Stability	The product is stable.
Conditions to avoid	Avoid contamination by any source including metals, dust and organic materials.
Incompatibility with various substances/Hazardous Reactions	No hazardous reactions identified.
Hazardous decomposition products	Combustion products may include the following: carbon oxides (CO, CO <sub>2</sub> ) (carbon monoxide, carbon dioxide) nitrogen oxides

## 11 . Toxicological information

Eyes	No significant health hazards identified.
Skin	No significant health hazards identified.
Inhalation	No significant health hazards identified.
Ingestion	Ingestion of large quantities may cause nausea and diarrhoea.
Acute toxicity	Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.  Unlikely to cause harm to the skin on brief or occasional contact but prolonged or repeated exposure may lead to dermatitis.  Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhoea.  At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.
Chronic toxicity	
Other chronic toxicity data	Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.
Carcinogenic effects	No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC), the European Commission (EC), or the National Occupational Health and Safety Commission (Australia).
Mutagenic effects	No known significant effects or critical hazards.

## 12 . Ecological information

Ecotoxicity	Not classified as environmentally hazardous in accordance with the 'Approved Criteria for Classifying Hazardous Substances' [NOHSC (1008)/2004 as amended and adapted].		
Biodegradability			
Bioaccumulative potential			
Product/ingredient name	<u>LogP<sub>ow</sub></u>	<u>BCF</u>	<u>Potential</u>
AdBlue	<1	-	low
Persistence/degradability	Expected to be biodegradable.		
Mobility	Soluble in water.		
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.		

## 13 . Disposal considerations

### Disposal considerations / Waste information

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

### Special Precautions for Landfill or Incineration

No additional special precautions identified.

## 14 . Transport information

### International transport regulations

Not classified as dangerous for transport (ADG, IMDG, ICAO/IATA).

**Special precautions for user** No known special precautions required. See Section: "Handling and storage" for additional information.

## 15 . Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

Not regulated.

### Control of Scheduled Carcinogenic Substances

#### Ingredient name

#### Schedule

No Listed Substance

#### Other regulations

<b>REACH Status</b>	For the REACH status of this product please consult your company contact, as identified in Section 1.
<b>United States inventory (TSCA 8b)</b>	All components are listed or exempted.
<b>Australia inventory (AICS)</b>	All components are listed or exempted.
<b>Canada inventory</b>	All components are listed or exempted.
<b>China inventory (IECSC)</b>	All components are listed or exempted.
<b>Japan inventory (ENCS)</b>	All components are listed or exempted.
<b>Korea inventory (KECI)</b>	All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	All components are listed or exempted.

## 16 . Other information

### Key to abbreviations

AMP = Acceptable Maximum Peak  
ACGIH = American Conference of Governmental Industrial Hygienists, an agency that promulgates exposure standards.  
ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail  
ADG Code = Australian Code for the Transport of Dangerous Goods by Road and Rail  
CAS Number = Chemical Abstracts Service Registry Number  
HAZCHEM Code = Emergency action code of numbers and letters which gives information to emergency services. Its use is required by the ADG Code for Dangerous Goods in bulk.  
ICAO = International Civil Aviation Organization.  
IATA = International Air Transport Association, the organization promulgating rules governing shipment of goods by air.  
IMDG = International Maritime Organization Rules, rules governing shipment of goods by water.  
IP 346 = A chemical screening assay for dermal toxicity. The European Commission has recommended that Method IP 346 be used as the basis for labelling certain lubricant oil base stocks for carcinogenicity. The EU Commission has stipulated that the classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. (See Note L, European Commission Directive 67/548/EEC as amended and adapted.)  
DMSO is a solvent.  
NOHSC = National Occupational Health & Safety Commission, Australia  
TWA = Time weighted average  
STEL = Short term exposure limit  
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

### History

<b>Date of issue</b>	16/09/2013.
<b>Date of previous issue</b>	No previous validation.
<b>Prepared by</b>	Product Stewardship
<b>Notice to reader</b>	

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The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.



## 4. As Built Drawings

N/A





## 5. Testing & Commissioning Results and Certificates





# CERTIFICATE OF APPROVAL



**Product Conformity Certification - BS 8666 and related activities**

**Page 1 of 5**

This is to certify that

**ArcelorMittal Kent Wire Limited T\A AMCS**

at its establishment at

**Chatham Docks, Chatham, Kent, ME4 4SW, United Kingdom**

has satisfied the Authority that it operates a quality management system that complies with the requirements of BS EN ISO 9001 and the relevant CARES Quality and Operations Assessment Schedules. Where appropriate, and as listed below, it has further satisfied the Authority that it manufactures and/or supplies products that conform with the stated product standards and is entitled to use the CARES marks on its products using the processes and procedures registered with the Authority.

### **Scope of certification:**

Processing of steel reinforcement as stated on the attached appendices

This certificate remains the property of the Authority and is issued subject to the Regulations of the Authority. This certificate is uncontrolled when printed. To check the validity of this certificate please scan the above Static QR Code with the CARES Cloud App or contact us on +44 1732 450000.

CERTIFICATE NUMBER	FIRST APPROVAL	ISSUE DATE	EXPIRY DATE
<b>901202</b>	<b>April 2012</b>	<b>01 January 2023</b>	<b>31 December 2023</b>

SIGNED FOR UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS

Lee Brankley,  
Chief Executive Officer

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 0002.

UK Certification Authority for Reinforcing Steels, Pembroke House, 21 Pembroke Road, Sevenoaks, Kent, TN13 1XR, UK.

A Company Limited by Guarantee. Registered in England No. 1762448.

Cert. Ref: A11C112010 18602 990 v05



0002

# APPENDIX TO CARES CERTIFICATE NO. 901202

**ARCELORMITTAL KENT WIRE LIMITED T/A AMCS  
CHATHAM DOCKS  
CHATHAM  
KENT, ME4 4SW  
UNITED KINGDOM**



**Product Conformity Certification - BS 8666 and related activities**

**Page  
2 of 5**

## **SRC-Appendix 02 Processing and supply of bar, coil and fabric**

### **Scope of certification:**

Processing of steel reinforcement to BS 8666:2020

Stocking and distribution of BS 4449:2005, BS 4482:2005 and BS 4483:2005.

This certificate remains the property of the Authority and is issued subject to the Regulations of the Authority. This certificate is uncontrolled when printed. To check the validity of this certificate please scan the above Static QR Code with the CARES Cloud App or contact us on +44 1732 450000.

CERTIFICATE NUMBER	FIRST APPROVAL	ISSUE DATE	EXPIRY DATE
<b>901202</b>	<b>April 2012</b>	<b>01 January 2023</b>	<b>31 December 2023</b>

SIGNED FOR UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS

Lee Brankley,  
Chief Executive Officer

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 0002.

UK Certification Authority for Reinforcing Steels, Pembroke House, 21 Pembroke Road, Sevenoaks, Kent, TN13 1XR, UK.

A Company Limited by Guarantee. Registered in England No. 1762448.

Cert. Ref: A1IC112010 18602 990 v05



0002

# APPENDIX TO CARES CERTIFICATE NO. 901202

**ARCELORMITTAL KENT WIRE LIMITED T/A AMCS  
CHATHAM DOCKS  
CHATHAM  
KENT, ME4 4SW  
UNITED KINGDOM**



**Product Conformity Certification - BS 8666 and related activities**

**Page  
3 of 5**

## **SRC-Appendix 08 Mechanical coupling**

### **Scope of certification:**

Application of Erico Lenton Taper Threaded standard (A12N) and positional (P13LN and P14LN) mechanical couplers to CARES Appendix TA1-B using BS 4449:2005 grades B500B and B500C in the size range 12 to 50mm for use in accordance with Technical Approval report TA1-B 5029.

Application of Erico Lenton Taper Threaded standard (A12) and positional (P13 and P14) mechanical couplers to CARES Appendix TA1-B using BS 4449:2005 grades B500B and B500C in the size range 12 to 50mm (A12) and 12 to 40mm (P13 and P14) for use in accordance with Technical Approval report TA1-B - 5027.

Application of Erico Lenton Ultimate Standard and Positional mechanical couplers to CARES Appendix TA1-A & TA1-B using BS 4449:2005 grades B500B and B500C in the size range 16 to 40mm for use in accordance with Technical Approval report TA1-A & TA1-B 5085.

This certificate remains the property of the Authority and is issued subject to the Regulations of the Authority. This certificate is uncontrolled when printed. To check the validity of this certificate please scan the above Static QR Code with the CARES Cloud App or contact us on +44 1732 450000.

CERTIFICATE NUMBER	FIRST APPROVAL	ISSUE DATE	EXPIRY DATE
<b>901202</b>	<b>April 2012</b>	<b>01 January 2023</b>	<b>31 December 2023</b>

SIGNED FOR UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS

Lee Brankley,  
Chief Executive Officer

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UK Certification Authority for Reinforcing Steels, Pembroke House, 21 Pembroke Road, Sevenoaks, Kent, TN13 1XR, UK.

A Company Limited by Guarantee. Registered in England No. 1762448.

Cert. Ref: A11C112010 18602 990 v05



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# APPENDIX TO CARES CERTIFICATE NO. 901202

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CHATHAM DOCKS  
CHATHAM  
KENT, ME4 4SW  
UNITED KINGDOM**



**Product Conformity Certification - BS 8666 and related activities**

**Page  
4 of 5**

## **SRC-Appendix 11 Tack Welding (ISO 17660)**

### **Scope of certification:**

Manufacture of pre-assembled MAG welded fabrications using reinforcing bar in the size range 10 to 50mm to the relevant requirements of BS EN ISO 17660-2:2006 and BS 8548:2017 and CARES Quality and Operations Assessment Schedule 11 using tack joints produced under factory conditions.

This certificate remains the property of the Authority and is issued subject to the Regulations of the Authority. This certificate is uncontrolled when printed. To check the validity of this certificate please scan the above Static QR Code with the CARES Cloud App or contact us on +44 1732 450000.

CERTIFICATE NUMBER	FIRST APPROVAL	ISSUE DATE	EXPIRY DATE
<b>901202</b>	<b>April 2012</b>	<b>01 January 2023</b>	<b>31 December 2023</b>

SIGNED FOR UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS

Lee Brankley,  
Chief Executive Officer

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 0002.

UK Certification Authority for Reinforcing Steels, Pembroke House, 21 Pembroke Road, Sevenoaks, Kent, TN13 1XR, UK.

A Company Limited by Guarantee. Registered in England No. 1762448.

Cert. Ref: A1IC112010 18602 990 v05



0002

# APPENDIX TO CARES CERTIFICATE NO. 901202

**ARCELORMITTAL KENT WIRE LIMITED T/A AMCS  
CHATHAM DOCKS  
CHATHAM  
KENT, ME4 4SW  
UNITED KINGDOM**



**Product Conformity Certification - BS 8666 and related activities**

**Page 5 of 5**

## **SRC-Appendix 12 Semi structural and structural welding (ISO 17660)**

### **Scope of certification:**

Manufacture of pre-assembled MAG welded fabrications using reinforcing bar in the size range 10 to 50mm to the relevant requirements of BS EN ISO 17660-1:2006 and BS 8548:2017 and CARES Quality and Operations Assessment Schedule 12 using semi-structural joints produced under factory conditions.

This certificate remains the property of the Authority and is issued subject to the Regulations of the Authority. This certificate is uncontrolled when printed. To check the validity of this certificate please scan the above Static QR Code with the CARES Cloud App or contact us on +44 1732 450000.

CERTIFICATE NUMBER	FIRST APPROVAL	ISSUE DATE	EXPIRY DATE
<b>901202</b>	<b>April 2012</b>	<b>01 January 2023</b>	<b>31 December 2023</b>

SIGNED FOR UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS

Lee Brankley,  
Chief Executive Officer

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A Company Limited by Guarantee. Registered in England No. 1762448.

Cert. Ref: A11C112010 18602 990 v05



0002



# Responsible Sourcing of Construction Products

*Construction Products Certification certifies that*

## Ready Mixed Concrete

*produced and supplied by*

### Hanson Quarry Products Europe Ltd

**Hanson House, 14 Castle Hill, Maidenhead, Berkshire SL6 4JJ**

*from its production plants listed on the attached schedule  
conforms to the following standard:*

***BES 6001:Issue 3.1  
Framework Standard for Responsible Sourcing***

*with a Performance Rating of*

**Excellent**



**Certificate No: CPRS 00001 Issue No 10**

Colin Head  
Chief Executive

Date Authorised: 31 December 2021  
Date of issue of first certificate: 9 September 2009

**THIS CERTIFICATE IS VALID FROM 1 JANUARY 2022 TO 31 DECEMBER 2024**

subject to continued compliance with the above standard as confirmed by routine surveillance. Confirmation of the current validity status of Certification may be obtained by enquiry to the CPC Central Records Office or by reference to BRE's Green Book Live website: [www.greenbooklive.com](http://www.greenbooklive.com)

*This Responsible Sourcing certification has been carried out under licence using BRE's Responsible Sourcing scheme methodology, scheme documentation and underpinning processes*

1 Mount Mews  
High Street, Hampton  
Middlesex TW12 2SH  
Telephone: 020 8481 9640  
Facsimile: 020 8979 4558  
[www.qsrmc.co.uk](http://www.qsrmc.co.uk)

# Certificate of Conformity



**CPC**  
Construction  
Products  
Certification

Appendix 1 to Certificate No CPRS 00001 Issue No: 10

## Hanson Quarry Products Europe Ltd

Hanson House, 14 Castle Hill, Maidenhead, Berkshire SL6 4JJ

### Scoring Table

Section		Score					
		1	2	3	4	5	Bonus
3.2.1	Responsible sourcing policy	C					
3.2.2	Legal compliance	C					
3.2.3	Quality management system	C					
3.2.4	Supplier management system	C					
3.3.1	Material traceability through supply chain	C					
3.3.2	EMS in the supply chain	C					
3.3.3	H&SMS in the supply chain	C					
3.4.1	Greenhouse gas emissions	C					
3.4.2	Energy management	C					
3.4.3	Resource use	C					
3.4.4	Waste prevention and management	C					
3.4.5	Water abstraction	C					
3.4.6	Life cycle assessment (LCA)	C					
3.4.7	Ecotoxicity	C					
3.4.8	Transports impacts	C					
3.4.9	Employment and skills	C					
3.4.10	Local community engagement	C					
3.4.11	Business ethics	C					
	Key	C	Points Scored				
			Possible maximum clause score				
		C	Compulsory				
	Total Section Score	C+	Sections 3.2 and 3.3			<b>16</b>	
		C+	Section 3.4			<b>36</b>	
	<b>Overall Rating</b>		<b>Excellent</b>				

In accordance with the scheme requirements, CPC must be notified of any changes in circumstances so that the certification details can be amended.

Colin Head  
Chief Executive

Date Authorised: 31 December 2021  
Date of issue of first certificate: 9 September 2009

**THIS CERTIFICATE IS VALID FROM 1 JANUARY 2022 TO 31 DECEMBER 2024**

subject to continued compliance with the above standard as confirmed by routine surveillance. Confirmation of the current validity status of Certification may be obtained by enquiry to the CPC Central Records Office or by reference to BRE's Green Book Live website: [www.greenbooklive.com](http://www.greenbooklive.com)

1 Mount Mews  
High Street, Hampton  
Middlesex TW12 2SH  
Telephone: 020 8481 9640  
Facsimile: 020 8979 4558  
[www.qsrmc.co.uk](http://www.qsrmc.co.uk)

Schedule to Certificate No CPRS 00001 Issue No: 10

# Hanson Quarry Products Europe Ltd

Hanson House, 14 Castle Hill, Maidenhead, Berkshire SL6 4JJ

## Manufacturing Plants Table

<i>Plant</i>	<i>Address</i>	<i>Postcode</i>
ACTON	Hanson UK, British Rail Goods Yard, Horn Lane, Acton, London	W3 0BP
AINTREE	Hanson UK, Hartley's Avenue, Hartley's Village, Aintree, Liverpool	L9 7DB
AIRDRIE	Hanson UK, Petersburn Road, Airdrie, North Lanarkshire	ML6 8RG
ALLERTON PARK	Hanson UK, Allerton Park Quarry, Allerton Park, Knaresborough, North Yorkshire	HG5 0SD
ALTRINCHAM	Hanson UK, George Richards Way, Broad Heath, Altrincham, Cheshire	WA14 5DD
ANDOVER	Hanson UK, Shepherds Spring Lane, Andover, Hampshire	SP10 1DL
APPLEDORE	Hanson UK, Bidna Yard, Hubbastone Road, Appledore, Bideford, Devon	EX39 1LZ
ASHBOURNE	Hanson UK, Moor Farm Road East, Airfield Industrial Estate, Ashbourne, Derbyshire	DE6 1HA
ASHFORD	Hanson UK, Leacon Road, Fairwood Industrial Estate, Ashford, Kent	TN23 2TX
AUCKLEY	Hanson UK, Auckley Quarry, Hurst Lane, Auckley, Doncaster, South Yorkshire	DN9 3HQ
AVONMOUTH	Hanson UK, St. Andrew's Road, Avonmouth, Bristol	BS11 9HS
AYLESBURY	Hanson UK, Rabans Lane, Aylesbury, Buckinghamshire	HP19 8RT
BAMBER BRIDGE	Hanson UK, Charnley Fold Lane, Bamber Bridge, Preston, Lancashire	PR5 6QD
BANBURY	Smiths Concrete, Southam Road, Banbury, Oxfordshire	OX16 2RR
BASINGSTOKE	Hanson UK, Swing Swang Lane, Daneshill Industrial Estate, Basingstoke, Hampshire	RG24 0NR
BATH	Hanson UK, Newbridge Road, Bath, Somerset	BA1 3HH
BATTERSEA	Hanson UK, Kirtling Street, Nine Elms, London	SW8 5BP
BEACONSFIELD	Hanson UK, Springfield Farm Quarry, Broad Lane, Holtspur, Beaconsfield, Buckinghamshire	HP9 1XD
BEDFORD	Hanson UK, Cople Turn, Sandy Road, Cople, Bedford	MK44 3TP
BEDWORTH	Hanson UK, Bryant Road, Bayton Road Industrial Estate, Exhall, Coventry, Warwickshire	CV7 9EN
BICESTER	Smiths Concrete, Blackthorn Station, Blackthorn, Bicester, Oxfordshire	OX6 2AH
BLACKBURN	Hanson UK, Greenbank Industrial Estate, Green Bank Road, Whitebirk, Blackburn, Lancashire	BB1 3HT
BORDON	Hanson UK, Picketts Hill Lane, Sleaford, nr Bordon, Hampshire	GU35 8TF
BOURNEMOUTH	Hanson UK, Mannings Heath Road, Parkstone, Poole, Dorset	BH12 4NQ
BRACKLEY	Smiths Concrete, Shires Road, Buckingham Road Industrial Estate, Brackley, Northamptonshire	NN13 7EZ



<i>Plant</i>	<i>Address</i>	<i>Postcode</i>
BRIDGEND	Hanson UK, Lithalun Quarry, Eweny, Bridgend, Bridgend	CF35 5AN
BRIDGWATER	Hanson UK, Colley Lane Industrial Estate, Brue Avenue, Bridgwater, Somerset	TA6 5LT
BRIDLINGTON	Hanson UK, Pinfold Lane, Bridlington, East Riding of Yorkshire	YO16 6XP
BRISTOL	Hanson UK, Victoria Road, St Phillips, Bristol	BS2 OUT
BUDE	Hanson UK, Herdbury Quarry, Ivyleaf Hill, Bush, Bude, Cornwall	EX23 9LD
BURTON	Hanson UK, off Walton Lane, Barton under Needwood, Staffordshire	DE13 8EJ
BYFLEET	Hanson UK, Wintersells Road, Bfleet, Surrey	KT14 7LF
CAMBRIDGE	Hanson UK, Coldhams Lane, Cherry Hinton, Cambridge	CB1 3HS
CAMBRIDGE (MCP UK R Rapid 120)	Hanson UK, AstraZeneca, Co Skanska, Francis Crick Avenue, off Addenbrookes Road, Cambridge	CB2 0QH
CANNINGTON	Hanson UK, Castle Hill Quarry, Chads Hill, Cannington, Bridgwater, Somerset	TA5 2QF
CANNOCK	Hanson UK, Pottal Pool Quarry, Teddesley Hay, Penkridge, Staffordshire	ST19 5RR
CANTERBURY	Hanson UK, 254 Broadoak Road, Canterbury, Kent	CT2 7QL
CARDIFF ST DAVIDS	Hanson UK, Cardiff Wharf, Roath Dock Road, Northside Roath Dock, Cardiff	CF10 4ED
CARLISLE	Hanson UK, Willowholme Industrial Estate, Carlisle, Cumbria	CA2 5RZ
CARMARTHEN	Hanson UK, Plot 11, Cillefwr Industrial Estate, Johnstown, Carmarthen	SA31 3RU
CASTLEFORD	Hanson UK, Carrwood Road, Carrwood Industrial Estate, Castleford, West Yorkshire	WF10 4PS
CEMMAES ROAD	Hanson UK, Station Yard, Cemmaes Road, Nr. Machynlleth, Powys	SY20 8JZ
CHANDLERS FORD	Hanson UK, School Lane, Chandlers Ford, Hampshire	SO53 3DG
CHELMSFORD	Hanson UK, Bulls Lodge Quarry, Generals Lane, Boreham, Chelmsford, Essex	CM3 3HR
CHELTENHAM	Hanson UK, Tewkesbury Road, Cheltenham, Gloucestershire	GL51 9PJ
CHESTER	Hanson UK, Knutsford Way, Sealand Trading Estate, Chester, Cheshire	CH1 4NS
CHIPPING SODBURY	Hanson UK, Chipping Sodbury Quarry, Wickwar Road, Chipping Sodbury, Gloucestershire	BS37 6AY
COLCHESTER	Hanson UK, Roundbush Corner, Maldon Road, Layer Marney, Nr. Colchester, Essex	CO5 9XE
COVENTRY	Hanson UK, Torrington Avenue, Tile Hill, Coventry, West Midlands	CV4 9AP
COVENTRY	Smiths Concrete, Waverley Wood Farm, Weston Lane, Bubbenhall, Warwickshire	CV8 3BN
CRAWLEY	Hanson UK, Stephenson's Place, Three Bridges, Crawley, West Sussex	RH10 1TN
CROSSHANDS	Hanson UK, Plot 9, Crosshands Business Park, Crosshands, Carmarthenshire	SA14 6RB
CROYDON	Beddington Farm Road, Croydon, London	CR0 4XB
DAVYHULME	Davyhulme W.W.T.W, Trafford Way, Urmston, Manchester	M17 8DD
DENBIGH	Hanson UK, Denbigh Quarry, Craig Road, Denbigh	LL16 3YE
DENHAM	Hanson UK, Skip Lane, Harvil Road, Ickenham, Nr Uxbridge, London	UB10 8AU
DERBY	Hanson UK, Acre Lane, Aston on Trent, Shardlow, Derbyshire	DE72 2SP
DRUMCHAPEL	Hanson UK, Dalsetter Avenue, Drumchapel, Glasgow	G15 8SZ
DUMFRIES	Hanson UK, Heathhall Industrial Estate, Dumfries, Dumfries & Galloway	DG1 3PH
EBBW VALE	Hanson UK, Waun-y-Pound Industrial Estate, Ebbw Vale, Blaenau Gwent	NP23 6PL
EDINBURGH	Hanson UK, Edinburgh Depot, Nivensknow Road, Loanhead, City of Edinburgh	EH20 9AU
EDMONTON	Hanson UK, Stacey Avenue, off First Avenue, Edmonton, London	N18 3PL
EGREMONT	Hanson UK, Croft Pit Yard, Bigrigg, Egremont, Cumbria	CA22 2TX
ELY	Hanson UK, Angel Drove, Ely, Cambridgeshire	CB6 2AY
ERITH	Hanson UK, Church Manor Way, Erith, London	DA8 1DE

<i>Plant</i>	<i>Address</i>	<i>Postcode</i>
EXETER	Hanson UK, 16 Hennock Road, Marsh Barton Industrial Estate, Exeter, Devon	EX2 8RU
FROME	Hanson UK, Whatley Quarry, Frome, Somerset	BA11 3LF
GARSTON	Hanson UK, Dock Road, Garston, Liverpool, Merseyside	L19 2JW
GAYDON	Hanson UK, Leopold Farm, Leopold Lane, Gaydon, Warwickshire	CV35 0RR
GLASGOW CENTRAL	Hanson UK, 60-70 Jessie Street, Glasgow	G42 0PG
GOSPORT	Hanson UK, Fareham Road, Gosport, Hampshire	PO13 0AQ
GREENWICH	Hanson UK, 231 Tunnel Avenue, North Greenwich, London	SE10 0QE
GUILDFORD	Hanson UK, Riverway Estate, Peasmarsh, Guildford, Surrey	GU3 1LZ
GUNNISLAKE (HINGSTON DOWN)	Hanson UK, Hingston Down Quarry, Gunnislake, Cornwall	PL18 9AU
GWALCHMAI	Hanson UK, Caer Claw Quarry, Gwalchmai, Isle of Anglesey	LL65 4PW
HAILSHAM	Hanson UK, Diplocks Way Industrial Estate, Diplocks Way, Hailsham, East Sussex	BN27 3JF
HAVANT	Hanson UK, Harts Farm Way, Bedhampton, Havant, Hampshire	PO9 1JN
HAVERHILL	Hanson UK, Keddington Road, Sturmer, Haverhill, Suffolk	CB9 7XR
HEMEL HEMPSTEAD	Hanson UK, River End Road, Boxmoor, Hemel Hempstead, Hertfordshire	HP3 9AJ
HEXHAM	Hanson UK, Howford Quarry, Acomb, Hexham, Northumberland	NE46 4RY
HINKLEY POINT	Hanson UK, HPC Plants 1-4, EDF Energy, Hinkley Point C Power Station, Hinkley Point, Bridgwater, Somerset	TA5 1UD
HORSHAM	Hanson UK, Foundry Lane, Horsham, West Sussex	RH13 5PX
IPSWICH	Hanson UK, Sproughton Road, Ipswich, Suffolk	IP1 5AN
ISLE OF GRAIN	Hanson UK, Grain Road, Isle of Grain, Rochester, Kent	ME3 0AB
KETTERING	Hanson UK, Pytchley Lodge Road, Kettering, Northamptonshire	NN15 6JR
KINGS CROSS	Hanson UK, British Rail Goods Yard, Kings Cross, Off York Way, London	N1C 4AU
LEEDS 1	Hanson UK, Cross Green Way, Cross Green Industrial Estate, Leeds, West Yorkshire	LS9 0SE
LEEDS 2	Hanson UK, Knowesthorpe Road, Cross Green Industrial Estate, Leeds, West Yorkshire	LS9 0SA
LEICESTER	Hanson UK, Groby Quarry, Newtown Linford Lane, Groby, Leicester, Leicestershire	LE6 0HF
LEITH	Hanson UK, 24 West Shore Road, Granton, Edinburgh	EH5 1QD
LOW MOOR	Hanson UK, Common Road, Low Moor, Bradford, West Yorkshire	BD12 0SW
LUTON	Hanson UK, Cosgrove Way, Luton, Bedfordshire	LU1 1XL
MANCHESTER	Hanson UK, Great Jackson Street, Manchester	M15 4PA
MARKET HARBOROUGH	Hanson UK, Rockingham Road, Market Harborough, Leicestershire	LE16 7QE
MELTON MOWBRAY	Hanson UK, Welby Road, Asfordby Hill, Melton Mowbray, Leicestershire	LE14 3QX
MERCIA PARK	Hanson UK, A444, Swadlincote, Derbyshire	DE12 8AA
MILDENHALL	Hanson UK, Worlington Quarry, Bay Farm, Elms Road, Red Lodge, Worlington, Mildenhall, Suffolk	IP28 6BS
MILES PLATTING	Hanson UK, Norton Street, Miles Plating, Manchester	M40 8HD
MILTON KEYNES	Hanson UK, Old Wolverton Road, Wolverton, Milton Keynes, Buckinghamshire	MK12 5QP
MOLD	Hanson UK, Gas Lane, Mold, Flintshire	CH7 1UR
NEWBURY	Hanson UK, Boundary Road, Newbury, Berkshire	RG14 5RR
NEWPORT	Hanson UK, Felnex Industrial Estate, East Bank Road, Monmouthshire	NP9 0PP
NEWTON ABBOT	Hanson UK, Royal Aller Vale Quarry, Newton Abbot, Devon	TQ13 4NW
NORTHAMPTON	Hanson UK, Weedon Road Industrial Estate, Weedon Road, Northampton	NN5 5AL

<i>Plant</i>	<i>Address</i>	<i>Postcode</i>
NOTTINGHAM	Hanson UK, Wigwam Lane, Hucknall, Nottinghamshire	NG15 7TA
OLDBURY	Hanson UK, Roway Lane, Oldbury, Warley, West Midlands	B69 3EH
OLDHAM	Hanson UK, Forge Hill, Peel Street, Chadderton, Oldham	OL9 9LN
OXFORD	Hanson UK, Horspath Road, Oxford	OX4 2DP
OXFORD	Smiths Concrete, Eynsham Road, Cassington, Oxfordshire	OX8 1DG
PANNAL HARROGATE	Hanson UK, Building 16, Pannal Business Park, North Yorkshire	HG3 1JL
PEMBROKE	Hanson UK, Carew Airfield, Milton, Tenby, Pembrokeshire	SA70 8SX
PENDERYN	Hanson UK, Penderyn Quarry, Penderyn, Nr. Aberdare, Rhondda Cynon Taff	CF44 0TX
PENYBONT	Hanson UK, Hendy Wind Farm, Llandegley, Powys	LD1 5UF
PENMAENMAWR	Hanson UK, Penmaenmawr Quarry, Bangor Road, Penmaenmawr, Conwy	LL34 5NA
PENRITH	Hanson UK, Blencowe Station Yard, Blencowe, Penrith, Cumbria	CA11 0DE
PLYMOUTH CATTEDOWN	Hanson UK, 10 Shapters Way, Cattedown, Plymouth, Devon	PL4 0RU
READING	Hanson UK, Rail Depot, Wigmore Lane, Off Bath Road, Theale, Reading, Berkshire	RG7 5HH
RIPON	Hanson UK, Ure Valley Quarry, North Stainley, Ripon, North Yorkshire	HG4 3HT
ROCHESTER	Hanson UK, Euro Wharf, Royal Eagles Close, Medway City Estate, Frindsbury, Kent	ME2 4NF
ROSSINGTON	Hanson UK, Bankwood Lane, Rossington, Doncaster, South Yorkshire	DN11 0PS
SALFORD	Hanson UK, Daniel Adamson Road, off Eccles New Road, Salford	M5 2DT
SALISBURY	Hanson UK, Stephenson Road, Churchfields Industrial Estate, Salisbury, Wiltshire	SP2 7QL
SCARBOROUGH	Hanson UK, Wykeham Quarry, Wykeham, Scarborough, North Yorkshire	YO13 9QU
SELLAFIELD	Hanson UK, c/o Laing O'Rourke EPS3, Sellafield Limited, Cumbria	CA20 1PG
SEVENOAKS	Hanson UK, Pilgrims Way, Dunton Green, Sevenoaks, Kent	TN13 2TL
SHEFFIELD	Hanson UK, Highbridge Forge, 918 Pennistone Road, Sheffield, South Yorkshire	S6 2DL
SHOREHAM	Hanson UK, Basin Road South, Portslade, Brighton, East Sussex	BN41 1WF
SHREWSBURY	Hanson UK, Mousecroft Lane, Shrewsbury, Shropshire	SY3 9DX
SITTINGBOURNE	Hanson UK, Ridham Dock Road, Kemsley, Sittingbourne, Kent	ME9 8SR
SKIPTON	Hanson UK, Skipton Rock Quarry, Embsay, Skipton, North Yorkshire	BD23 6AB
SOUTHAMPTON	Hanson UK, Burnley Wharf, Marine Parade, Southampton, Hampshire	SO1 1JF
SOUTHEND	Hanson UK, Brickfields Way, Purdeys Industrial Estate, Rochford, Southend, Essex	SS4 1LX
ST. IVES	Hanson UK, Meadow Lane, St. Ives, Huntingdon, Cambridgeshire	PE27 4LG
STRATFORD-UPON-AVON	Smiths Concrete, Atherstone Industrial Estate, Atherstone-on-Stour, Stratford-upon-Avon, Warwickshire	CV23 8NJ
STIRLING	Hanson UK, Whitehouse Road, Springkerse Industrial Estate, Stirling	FK7 7SP
STOCKTON-ON-TEES	Hanson UK, Portrack Lane, Portrack, Stockton-On-Tees, Durham	TS18 2PH
STOKE-ON-TRENT	Hanson UK, Mossfield Road, Mossfield Industrial Estate, Longton, Staffordshire	ST3 5BW
SUTTON COURTENAY	Hanson UK, Sutton Courtenay Quarry, Appleford, Sutton Courtenay, Abingdon, Oxfordshire	OX14 4PW
SWANSEA	Hanson UK, St. Davids Road, Enterprise Park, Morriston, Swansea	SA6 8QL
SWINDON	Hanson UK, Bramble Close, Elgin, Swindon, Wiltshire	SN2 6DW
TAUNTON	Hanson UK, Priorswood Trading Estate, Taunton, Somerset	TA2 8DG
TEESPORT	Hanson UK, C/O Civil & Marine Ltd, Teesport, Middlesborough, Cleveland	TS6 6UF
THEALE	Hanson UK, Wigmore Lane, Theale, Reading, Berkshire	RG7 5HH
TIVERTON	Hanson UK, Howden Industrial Estate, Tiverton, Devon	EX16 5EY

<i>Plant</i>	<i>Address</i>	<i>Postcode</i>
TUNBRIDGE WELLS	Hanson UK, Clifton Road, High Brooms, Tunbridge Wells, Kent	TN2 3AU
WAKEFIELD	Hanson UK, Calder Vale Road, Wakefield, West Yorkshire	WF1 5PE
WALLASEY	Hanson UK, Dock Road, Nr. Old Gorse Lane, Wallasey, Merseyside	L41 1ES
WANDSWORTH	Hanson UK, Pier Terrace, Jews Row, Wandsworth, London	SW18 1TB
WARE	Hanson UK, Marsh Lane, Ware, Hertfordshire	SG12 9QQ
WARRINGTON	Hanson UK, Gatewarth Industrial Estate, Sankey Bridge, Warrington, Cheshire	WA5 1DS
WARWICK	Smiths Concrete, Budbroke Road, Warwick	CV34 5XH
WASHINGTON	Hanson UK, Wilden Road, Pattinson Industrial Estate, District 8, Washington, Tyne & Wear	NE38 8QA
WEEFORD	Weeford Quarry, Moneymore Farm, Canwell, Sutton Coldfield, West Midlands	B75 5SX
WELLINGBOROUGH	Hanson UK, Sanders Road, Finedon Road Industrial Estate, Wellingborough, Northamptonshire	NN8 4NL
WEST DRAYTON	Hanson UK, West Drayton Depot, Stockley Road, West Drayton, Middlesex	UB7 9FN
WEST HOUGHTON	Hanson UK, Pendlebury Fold, Bolton	BL3 4SF
WEYMOUTH	Hanson UK, Chickerell Road, Weymouth, Dorset	DT3 4DQ
WIGAN	Hanson UK, 23 Queen Street, Wigan	WN3 4DZ
WIMBLEDON	Hanson UK, Archway Close, Endeavour Way, Durnsford Road, Wimbledon, London	SW19 8UH
WINSFORD	Hanson UK, Deakins Lane, off Smoke Hall Lane Industrial Estate, Winsford, Cheshire	CW7 3BJ
WOLVERHAMPTON	Hanson UK, Foxes Lane, Wolverhampton, West Midlands	WV1 1PA
WORCESTER	Hanson UK, Sherriff Street, Worcester	WR4 9AB
WREXHAM	Hanson UK, Llan-y-Pwll Quarry, Holt Road, Wrexham, Clwyd	LL13 9SA
YEOVIL	Hanson UK, Buckland Road, Pen Mill Trading Estate, Yeovil, Somerset	BA21 5EA
YORK	Ashbridge Concrete, Pigeoncote Industrial Estate, Malton Road, York, North Yorkshire	YO3 9TD
YORK	Hanson UK, Outgang Lane, Osbaldwick, York, North Yorkshire	YO19 5UP

## CERTIFICATE OF REGISTRATION

This is to certify that:

### **Arnold Laver & Company Ltd**

**Registered Address:** Bramall Lane, Sheffield, South Yorkshire, S2 4RJ, United Kingdom

**Central Office Address:** Olympic Sawmills, Oxclose Park Road North, Mosborough, Sheffield, South Yorkshire, S20 8GN, United Kingdom

has been assessed and certified as meeting the requirements of standard(s): **FSC-STD-40-004\_V3-1 EN Chain of Custody Certification; FSC-STD-40-003 V2.1 EN COC Certification of Multiple Sites; FSC-STD-50-001 V2-1 Certificate Holder Trademark Requirements for FSC® Chain of Custody Certification**

**Scope:** The Purchasing, Storage, Processing, Sales and Distribution of FSC certified timber and timber-based products including outsourcing activities.

**Type of Certification:** Multisite

**Method:** FSC Transfer system; FSC Percentage system

**Certificate Number:** INT-COC-002447, INT-CW-002447

For and on behalf of Interface NRM Ltd



**Dr. Gavin Jordan**

Director, Interface NRM Ltd.



The mark of  
responsible forestry

First Issue Date: 09/01/2023  
Latest Issue Date: 16/01/2023  
Certificate Expiry Date: 08/01/2028  
Issue No: 2

- The validity of this certificate and the list of products covered by this certificate should be verified at [www.info.fsc.org](http://www.info.fsc.org), Forest Stewardship Council®
- The certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC certified (or FSC Controlled Wood).
- Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC claim is clearly stated on sales and/or delivery documents.
- The certificate including all copies or reproductions is the property of Interface NRM Ltd and shall be returned or destroyed upon request.

Sites covered by this Certification:

Name	Address	Sub Code
Arnold Laver & Company Ltd	Olympic Sawmills, Oxclose Park Road North, Mosborough, Sheffield, South Yorkshire, S20 8GN, United Kingdom – Central Office	001
Arnold Laver & Co Ltd	124 New Road, Rainham, Essex, RM13 8RS, United Kingdom	002
Arnold Laver & Co Ltd	Firs Trading Estate, Oldington Lane, Kidderminster, Worcestershire, DY11 7QN, United Kingdom	004
Arnold Laver & Co. Ltd	Pontefract Road, Stourton, Leeds, West Yorkshire, LS10 1SW, United Kingdom	005
Arnold Laver & Co. Ltd	Timber Terminal Liverpool Road, Cadishead, Manchester, Greater Manchester, M44 5BZ, United Kingdom	006
Arnold Laver & Co. Ltd	Manningham Sawmills, Canal Road, Bradford, West Yorkshire, BD2 1AR, United Kingdom	007
Arnold Laver & Co. Ltd	Dudley Road, Oldbury, West Midlands, B69 3DA, United Kingdom	008
Arnold Laver & Co Ltd	Riverside Sawmills, Wagonway Road, Hebburn, Tyne & Wear, NE31 1SP, United Kingdom	009
Arnold Laver Timber World	Unit C1 Grovelands Industrial Estate, Longford, Coventry, Warwickshire, CV7 9ND, United Kingdom	010
Arnold Laver Timber World	Unit 12 Kingston Park, Flaxley Road, Cardea. Peterborough, PE2 9FT, United Kingdom	011
Arnold Laver & Co. Ltd	Robson Avenue, Teesside Industrial Estate, Thornaby, Thornaby, Stockton On Tees, TS17 9LS, United Kingdom	013
Arnold Laver & Co Ltd	Unit A, Access18 , Third Way, Avonmouth, Bristol, BS11 9YH, United Kingdom	014
Arnold Laver & Co Ltd – Borehamwood	Hertsmere Industrial Park, Chester Road, Borehamwood, Hertfordshire, WD6 1WS, United Kingdom	015
Arnold Laver Timber World	Unit 2 Roebuck Way, Knowlhill, Milton Keynes, Bucks, MK5 8HL, United Kingdom	016
National Timber Systems	Unit B, Cabot Park, Avonmouth, Bristol, BS11 9YH, United Kingdom	017

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Hymor Timber	Scotia Business Park, Scotia Road, Tunstall, Stoke-on-Trent, Staffordshire, ST6 4HG, United Kingdom	018
Arnold Laver & Co. Ltd	Broadgate, Chadderton, Oldham, OL9 9XA, United Kingdom	019
Arnold Laver & Co. Ltd	478 Basingstoke Road, Reading, Berkshire RG2 0QN, United Kingdom	020
Arnold Laver & Co. Ltd T/A Mosborough Call Collect	Olympic Sawmills, Oxclose Park Road North, Mosborough, Sheffield, South Yorkshire, S20 8GN, United Kingdom	021
Arnold Laver & Co. Ltd.	Crowle Street, Hull, East Yorkshire, HU9 1RH, United Kingdom	022
National Timber Systems Catterick	Brompton on Swale, DL10 7HS, United Kingdom	023
NY Timber - Northallerton	Standard House, Northallerton Business Park, Thurston Road, Northallerton, North Yorkshire, DL6 2NA, United Kingdom	024
NY Timber - Sunderland	Moor Terrace, Sunderland, SR1 2PA, United Kingdom	025
NY Timber - North Shields	103 Tynemouth Road, North Shields, Tyne & Wear, NE30 1ED, United Kingdom	026

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Approved Body No 0836  
**British Board of Agrément**  
Bucknalls Lane  
Watford  
Hertfordshire WD25 9BA  
Telephone: 01923 665300  
e-mail: [clientservices@bbacerts.co.uk](mailto:clientservices@bbacerts.co.uk)  
website: [www.bbacerts.co.uk](http://www.bbacerts.co.uk)

## UK Certificate of Conformity of the Factory Production Control

### UK 0836–CPR–13/F030

In compliance with the Construction Products Regulation and The Construction Products (Amendment etc.) (EU Exit) Regulations 2020, this Certificate applies to the construction product:

#### **TOUGHSHEET 250, 300, 400 and TOUGHSHEET 500 MAX**

**Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet**

**Produced by:**

**Frank Mercer & Sons Limited**

Chequer Bent Works  
Manchester Road  
West Houghton  
Bolton, BL5 3JF

**and produced in the manufacturing plant:**

**Frank Mercer & Sons Limited**

Chequer Bent Works  
Manchester Road  
West Houghton  
Bolton, BL5 3JF

This Certificate attests that all provisions concerning the assessment and verification of constancy of performance described in the EN:

#### **EN 13967 : 2012**

Under system 2+ for the performances set out in this certificate are applied and that the factory production control fulfils all the prescribed requirements for these performances.

This Certificate was first issued on 15 June 2013 and remains valid for as long as the test methods and/or factory production control requirements included in the UK Designated Standard, used to assess the performance of the declared characteristics, do not change, and the product, and the manufacturing conditions in the plant are not modified significantly, unless suspended or withdrawn by the factory production control Certification Body.

Signed on behalf of the British Board of Agrément:

Hardy Giesler  
Chief Executive Officer

Date of Third issue: 13 April 2022



Frank Mercer & Sons Ltd  
Chequerbent Works  
Manchester Road  
Chequerbent, Westhoughton  
Bolton, Lancashire BL5 2JF

## Declaration Of Performance Issue 2

### 1. Unique identification code of the product type

T2/51665 99/3603

### 2. Identification and Use

Toughsheet thickness are 250, 300 and 400 microns flexible sheets for waterproofing. Identification is printed on each pack of sheet in production date with label of certification attached to package

### 3. Intended use of the products

For use in rigid concrete floors that are not subject to hydraulic pressure to protect buildings against water from the ground

### 4. Name and contact address of manufacturer

Frank Mercer & Sons Ltd, Chequerbent Works, Manchester Road, Chequerbent, Westhoughton, Bolton; Lancashire, BL5 2JF

### 5. System of assessment and verification of constancy of performance

System 2+

### 6. The notification body is BBA, British Board of Agreement

The BBA performed inspection of manufacturing plant and factory control and carried out continuous surveillance, assessment and evaluation of factory production control under system 2+ as described in harmonized standard EN 13967

### 7. Technical Specifications

#### 7.1 Description

Toughsheet Damp-proof membranes are a blown film of extruded polythene

Nominal spec.						Tolerance%
Thickness- micron	250	300	400	500	+/- 10%	(-0% 400mic)
Roll length mts	25	25	20	12.5	-0/ + 5%	
Roll width mts	4	4	4	4	-0/5%	

Colours- blue/ black/ yellow/clear.

**TEST. EN13967.**

	250MU	300MU	400MU	500MU
TENSILE-EN 12311:2	100MLV	125MLV	180MLV	240MLV
THICKNESS -EN1849-2	+/-...10%	+h10%	±0/f10%	+/-10%
DROP DART-EN12691	30M.LV	30MLV	30MLV	30MLV
WIDTH - EN1848..2	4MT	4MT	4MT	4MT
NAIL TARE-EN12310	120MLV	130MLV	180MLV	200MLV

**BBATESTING.**

STATIC LOAD-EN 12730 ALLPJ.SS@ 20KGS METHOD B.  
 WATERPERMEABILITY-EN1931 PASS  
 WATERTIGHTNESS--EN1928 ' CONTROL- PASS  
 !CHEMICAL.. PASS  
 \*HEATAGED- PASS

Sign ijf9f nd op l, half of  
 marmfacturer

Douglas Mercer, Managing Director  
 Frank Meteer & Sofls Ltd

heet Building Pi uct

SIGNED: Douglas Mercer

DATE: 4-08-20



## 6. Operation

N/A





## 7. Maintenance Procedures and Planned Maintenance





## Cleaning and Maintenance Regimes

This maintenance schedule for **Panattoni, Poyle** to be followed from PC date **16.09.2024** year on year to ensure Concrete external Yard Slab is maintained in good condition and keep within warranty.

Please keep a log of these inspections so that records can be checked should an issue arise.

**Code; ✓ Blue – Recommended ✓ Red – To Maintain Warranty**

Item	Daily	Weekly	Monthly	3 Months	6 Months	9 Months	Annually	5 Yearly	Certificates	Regime
Cleaning	✓									Regular Cleaning is essential to stop dust and dirt building up, as increased surface wear or susceptibility to slips can results if a floor is not clean and dry. Frequency of cleaning will largely depend on the type of contamination. For maximum effectiveness the floor should be cleaned with a mechanical vacuum scrubber drier at least once per week. Care should be taken when using cleaning material especially if used in the wrong concentration, giving rise to etching or wear.
Spillage	✓									These should be wiped up or absorbed and removed as quickly as possible. Once removed the floor should be cleaned thoroughly.
Joint Inspection	✓									Joints should be regularly inspected for sign of wear and damage. Any arris damage that has occurred should be quickly repaired as deterioration will be accelerate once it has started. Any defective joint sealant in trafficked areas should be replaced.
Inspection and Action	✓									Cleaning regime to remove dust, dirt and debris
	✓									Use floor scrubber or vacuum scrubber dryer
				✓						General and visual inspection of trafficked areas.
				✓						Repairs any spalling or raveling of joints edges and replace joints sealant (as required)

Item	Daily	Weekly	Monthly	3 Months	6 Months	9 Months	Annually	5 Yearly	Certificates	Regime
							✓			Full inspection of floors condition
							✓			Replace sealant in floor joints if de-bonded or split due to movement.
								✓		Thoroughly clean the slab floor



## 8. Spares Information

N/A





## 9. Guarantees and Warranties

N/A







## 10. Replacement Strategy

N/A





## 11. Demolition Decommissioning or Disposal



## **Disposal Requirements**

### ***Waste treatment methods***

Do not dispose of into sewage systems or surface waters.

### ***Product - cement that has exceeded its shelf life***

EWC entry: 10 13 99 (Wastes not otherwise specified)

(and when demonstrated that it contains more than 0.0002% soluble Cr (VI)): shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

### ***Product - unused residue or dry spillage***

EWC entry: 10 13 06 (other particulates and dust)

Pick up dry unused residue or dry spillage as is. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to "Product – after addition of water, hardened"

### ***Product – slurries***

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under "Product - after addition of water, hardened".

### ***Product - after addition of water, hardened***

EWC entries: 10 13 14 (waste from manufacturing of cement – waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes - concrete).

Dispose of according to the local legislation. Avoid entry into the sewage water system.

Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

### ***Packaging***

EWC entries: 15 01 01 (wastepaper and cardboard packaging). 15 01 02 (Plastic packaging)

Completely empty the packaging and process it according to local legislation.

### ***Safe Handling of Residues / Waste Product:***

Natural aggregates are classed as 'inert' but should be disposed of in accordance with local and national legal requirements. Natural aggregates can be readily reused or recycled.