1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier

Product Name: Rapid Setting Cement
Mixture: EINECS CAS
Sodium Carbonate: 207-838-8 497-19-8
Anhydrite: 231-900-3 7778-18-9
Calcium Aluminate Cement: 266-45-5 65997-16-2
Portland Cement: 266-043-4 65997-15-1
Trade Name(s): Extra Rapid Cement Rapid Setting Cement

1.2 Relevant identified uses of the mixture and uses advised against

Rapid setting cements are used for building and construction work, such as construction of paths and steps and for repairs. Rapid Setting cements 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). See section 16.2 for more information regarding use descriptors and categories. Any uses not mentioned above, are advised against.

1.3 Details of the supplier of the safety data sheet
Tarmac Cement and Lime Ltd,
Portland House, Bickenhill Lane,
Birmingham B37 7BQ
Technical helpdesk: 0845 812 6323
Email: info-cement@tarmac.com

1.4 Emergency telephone number

Emergency telephone number available during office hours
(O8:30 – 16:00 GMT): Tel +44 (0)845 812 6232
(English language only)
Emergency telephone number available outside office hours: None

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the mixture

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

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

2.2 Label elements

According to Regulation (EC) No 1272/2008 (CLP)
Hazard pictograms

...
**Signal word**
Danger
Contains Portland Cement and Anhydrite

**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 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/fume/gas/mist/vapours/spray. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell
- P501: Dispose of contents/container to: Harden by 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
Concrete does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH (Regulation (EC) No 1907/2006). When cement in concrete 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. Cement is either naturally low in soluble chromium VI or reducing agents have been added to control the levels of sensitising soluble chromium (VI) to below 2 ppm (0.0002%) of the total dry weight of the cement ready for use according to legislation specified under Section 15.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances
Not applicable

#### 3.2. Mixtures
Contains less than 1% crystalline silica

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration range (% by wt in concrete)</th>
<th>EINECS No</th>
<th>CAS No</th>
<th>Classification Regulation (EC) 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland cement clinker</td>
<td>0 - 80%</td>
<td>266-043-4</td>
<td>65997-15-1</td>
<td>Hazard Class Category: Skin Irritation cat 2. Serious eye damage/eye irritation cat 1. Skin sensitisation cat 1B. STOT SE respiratory tract irritation cat 3. Hazard Statement: H315: Causes skin irritation H318: Causes serious eye damage H317: May cause an allergic skin reaction H335: May cause respiratory irritation</td>
</tr>
<tr>
<td>Calcium aluminate cement</td>
<td>0 - 20%</td>
<td>266-45-5</td>
<td>65997-16-2</td>
<td>Hazard Class Category: Skin Irritation cat 2. Serious eye damage/eye irritation cat 1. Hazard Statement: H319: Causes serious eye irritation.</td>
</tr>
</tbody>
</table>
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 concrete containing wet cement.

Following contact with eyes
Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress. 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. Remove contact lenses, if present and easy to do. Continue rinsing. Avoid flushing particles into uninjured eye. If possible, use isotonic water (0.9% NaCl). Contact a specialist of occupational medicine or an eye specialist, preferably an ophthalmologist.

Following skin contact
For dry concrete, remove and rinse with copious amounts of water. For wet concrete, 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 skin irritation (redness, rash, blistering) or burns.

Following inhalation
Move the person to fresh air and keep at rest in a position comfortable for breathing. 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.

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

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

Skin: Cement in concrete 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 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: May cause respiratory irritation. Repeated inhalation of dust from cements over a long period of time increases the risk of developing lung diseases.

Medical conditions aggravated by exposure: Inhaling cement dust from dry concrete may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

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

When contacting a doctor/physician, take this SDS or the product label with you.
IF IN EYES: Contact a specialist of occupational medicine or an eye specialist, preferably an ophthalmologist.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media
Concretes are not flammable. As appropriate for surrounding fire. Direct water jet may spread the fire.

5.2. Special hazards arising from the substance or mixture
Concretes are non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.
5.3. Advice for fire-fighters
Concrete poses no fire-related hazards. General measures for a fire are applicable: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

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.

6.2. Environmental precautions
Avoid release to the environment. Do not wash concrete down sewage and drainage systems or into bodies of water (e.g. streams). Large spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up
Collect the spillage in a dry state if possible.

Dry concrete
Use cleanup 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 slurrying with water (see wet concrete). 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 (including appropriate respiratory protection) and prevent dust from spreading. Avoid inhalation of cement from concrete and contact with skin and eyes. Place spilled materials into a container. Solidify before disposal as described under Section 13.

Wet concrete
Clean up wet concrete 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

Do not handle or store near food and beverages or smoking materials.

7.1. Precautions for safe handling
The “Good practice guides” which contain advice on safe handling practices can be found from: http://www.nepsi.eu/agreement-good-practice-guide/agreement.aspx. These good practices have been 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.

7.1.1 Protective measures
Follow the recommendations as given under Section 8. To clean up dry concrete, see Subsection 6.3.

Measures to prevent fire
Not applicable.

Measures to prevent aerosol and dust generation
Do not sweep. Use dry cleanup methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

Measure to protect the environment
Avoid release to the environment. Do not wash concrete down sewage and drainage systems or into bodies of water (e.g. streams). Large spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
7.1.2 Information on general occupational hygiene
Do not handle or store near food and beverages or smoking materials. Keep out of reach of children. 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 security 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 cement in concretes 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, concrete 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))
\[ \text{WEL 8 hr Time Weighted Average (TWA):} \]
- Total inhalable dust 10 mg/m\(^3\)
- Respirable dust 4 mg/m\(^3\)

8.2. Exposure controls

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

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 concrete to avoid contact with skin or mouth. Before starting to work with concrete, apply a barrier cream and reapply it at regular intervals. Immediately after working with concrete, 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 concrete to prevent contact with eyes.

**Skin protection**
Use watertight, wear-and alkali-resistant protective 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 (e.g. barrier creams) to protect the skin from prolonged...
when laying concrete, 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. 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.

**Thermal hazards**

Not applicable.

**8.2.3 Environmental exposure controls**

Environmental exposure control for the emission of cement particles (from concrete) into air has to be in accordance with the available technology and regulations for the emission of general dust particles.

**Air:** Environmental exposure control for the emission of cement particles (from concrete) into air has to be in accordance with the available technology and regulations for the emission of general dust particles.

**Water:** Do not wash concrete 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 concrete is a granular inorganic material (typically grey).
  - Main particle size: 5 µm -20 mm

- **(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:** > 1250 °C

- **(f) Initial boiling point and boiling range:** Not applicable as under normal atmospheric conditions, melting point >1250°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):** Non-combustible solid which 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 >1250 °C

- **(l) Vapour density:** Not applicable as melting point >1250 °C

- **(m) Relative density:** 2.75-3.20; Apparent density: 0.9-1.5 g/cm³

- **(n) Solubility(ies) in water (T = 20 °C):** slight (0.1-1.5 g/l)
(o) Partition coefficient: n-octanol/water: Not applicable as product is an 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, concretes will harden into a stable mass that is not reactive in normal environments.

10.2 Chemical stability
Dry concretes 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 concrete is alkaline and incompatible with acids, with ammonium salts, with aluminium or other non-noble metals. Cement in concrete dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement in concrete reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, managanesetrifluoride, and oxygen difluoride.

10.3. Possibility of hazardous reactions
Dry cements do not cause hazardous reactions. Cement in concrete dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement in concrete reacts with water to form silicates and calcium hydroxide.

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

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>Cat</th>
<th>Effect</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - dermal</td>
<td>-</td>
<td>Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight - no lethality. Based on available data, the classification criteria are not met.</td>
<td>(2)</td>
</tr>
<tr>
<td>Acute toxicity - inhalation</td>
<td>-</td>
<td>No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.</td>
<td>(9)</td>
</tr>
<tr>
<td>Acute toxicity - oral</td>
<td>-</td>
<td>No indication of oral toxicity from studies without cement kiln dust. Based on available data, the classification criteria are not met.</td>
<td>Literature survey</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>2</td>
<td>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.</td>
<td>(2) Human experience</td>
</tr>
<tr>
<td>Topic</td>
<td>Summary</td>
<td>References</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>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, fly ash, blast furnace slag, gypsum, natural pozzolans, burnt shale, silica fume 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.</td>
<td>(10), (11)</td>
<td></td>
</tr>
<tr>
<td>Skin sensitisation</td>
<td>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)].</td>
<td>(3), (4), (17)</td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitisation</td>
<td>There is no indication of sensitisation of the respiratory system. Based on available data, the classification criteria are not met.</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No indication. Based on available data, the classification criteria are not met.</td>
<td>(12), (13)</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>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.</td>
<td>(1), (14)</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Based on available data, the classification criteria are not met. No evidence from human experience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>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 present time is insufficient to establish with any confidence the dose-response relationship for these effects.</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>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.</td>
<td>(15)</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not applicable as cements are not used as an aerosol.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 12: ECOLOGICAL INFORMATION
Apart from skin sensitisation, Portland cement clinker and Common cements in concrete have the same toxicological and eco-toxicological properties.

12.1. Toxicity
The product is not hazardous to the environment. Eco-toxicological tests with Portland cement on Daphnia magna [Reference (5)] and Selenastrum colo [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 fresh concrete (containing 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, concrete presents no toxicity risks.

12.3. Bioaccumulative potential
Not relevant. After hardening, concrete presents no toxicity risks.

12.4. Mobility in soil
Not relevant. After hardening, concrete presents no toxicity risks.

12.5. Results of PBT and vPvB assessment
Not relevant. After hardening, concrete 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 – dry concrete 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 – wet concrete
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
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.

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

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

EWC entry: 15 01 02 (Plastic Packaging).

SECTION 14: TRANSPORT INFORMATION
Concrete 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

EU regulatory information
Concrete is a mixture according to REACH and is not subject to registration. Cement clinker (contained in concrete) is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH). The marketing and use of concrete containing 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 and Safety at Work etc Act 1974
Control of Substances Hazardous to Health (Regulations)

15.2. Chemical Safety Assessment
No chemical safety assessment has been carried out for this mixture by the supplier. Concrete is a mixture according to REACH and is not subject to registration. Cement clinker (contained in concrete) is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH).

The supplier has not provided a chemical safety assessment for the other components of the mixture.

SECTION 16: OTHER INFORMATION

16.1 Indication of changes
This safety data sheet (v.2.0) includes the information required to meet the provisions of Regulation (EU) No 453/2010. References to Directive 1999/45/EC have been removed.

16.2 Identified uses and use descriptors and categories
No chemical safety assessment has been carried out for this mixture by the supplier. As Portland cement clinker has not undergone an ECHA Registration a Chemical safety report has not been compiled. The supplier has not provided a chemical safety assessment for the components of the mixture. Therefore, no use descriptors and categories have been identified.

16.3 Abbreviations and acronyms
ACGIH American Conference of 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 face piece 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

MS Member State

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

w/w Weight by weight

WWTP Waste water treatment plant

16.4 Key literature references and sources of data


(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.


(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.


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.

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

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.