

**SECTION 1: Identification of the substance or mixture and of the company****1.1 Product identifier****Celitement****EC-Number: 946-103-2****REACH-Registration number: 01-2120754765-43-0000**

Calcium hydrosilicate, reaction product made from natural quartz sand and technical lime by a hydrothermal and tribochemical process (ground).

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

Celitements are used in industrial plants for the production/formulation of hydraulic binders, ready-mixed dry mortars, plasters, tile adhesives etc. or for the production of concretes. Celitement is mixed with other inorganic substances. A list of uses for professional users, indicating the process categories and descriptors according to ECHA Guidance R.12 (ECHA-2010-G-05) are listed in section 16.

Celitements and other hydraulic binders made from them are used in the production of building materials and components by both professional users (construction professionals) and private end users. In this final application, the binder is mixed with water, homogenized and formulated into the desired building material and component.

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

Celitement GmbH, Hermann-von-Helmholtz-Platz 1, 76344 Eggenstein-Leopoldshafen

Further information obtainable from: Management, Phone: 0731 9341 122

E-mail address of person responsible for the SDS: h.moeller@celitement.de

**1.4. Emergency telephone number**

The material is not yet registered with the Giftnotrufzentrale. However, since the risk assessment is very similar to classical cements, information on Portland cement can be obtained under the emergency number and used quite analogous.

Emergency telephone number: +49 6131 19240 of the Giftnotrufzentrale Mainz

Hours of operation: 24 h a day German and Englisch

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****2.1.1 According to Regulation (EC) No 1272/2008**

| Hazard class                  | Hazard category | Classification procedure  |
|-------------------------------|-----------------|---------------------------|
| Causes serious eye irritation | 2, H 319        | On the basis of test data |

**Hazard statements**

**H 318:** Causes serious eye irritation.

**2.1.2 other information**

Full text of the H phrases, hazard statements and EU risk phrases in Section 16

Celitement dust may cause irritation of the respiratory system.

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

**2.2. Label elements****2.2.1 According to Regulation (EC) No 1272/2008**

**H 319** Causes eye irritation.

**P 264** Wash thoroughly after handling Celitement.

**P 280** Wear protective gloves/protective clothing/eye protection/face protection

**P 305 + P 351 + P 338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P 337 + P 313** If eye irritation persists: Get medical advice/attention.

**P 261 + P 304 + P 340 + P 312** 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 POISON CENTER or doctor/physician if you feel unwell.

**P 102** Keep out of reach of children

**P 501** Dispose of contents/container to in accordance with local/regional/national/international regulations (to be specified)

### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Celitement is a UVCB substance (Substances of Unknown or Variable composition.

Complex reaction products or Biological materials) consisting are substantially the Calciumhydrosilicate and silicates, usually together with some unreacted CaO (free lime) and Dicalciumsilicate. It is made by mineralogical transformation of a precisely specified mixture of raw materials based on oxides of calcium, silicon and small quantities of other elements

Celitement may be mixed with standard cement in accordance with DIN EN 197-1 and DIN EN 197-4 or possibly approval decisions of the Deutsches Institut für Bautechnik. Also typical main components of classical cements such as limestone, blast furnace slag, fly ash or pozzolans may be present.

### 3.2. Mixtures

not applicable, Common Celitement is a substance

## 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 Celitement or wet Celitement containing preparations.

#### 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 Celitement remove and rinse abundantly with water. For wet Celitement, 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 Celitement (dry or wet) may cause serious and potentially irreversible injuries.

**Skin:** Celitement 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 Celitement 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 Portland cement clinkers over a long period of time increases the risk of developing lung diseases.

**Environment:** Under normal use, common Celitement is not hazardous to the environment.

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

When contacting a physician, take this SDS with you.

**SECTION 5: Fire-fighting measures****5.1. Extinguishing media**

Common Celitement are not flammable.

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

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

**5.3. Advice for fire-fighters**

Celitement 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.

**6.2. Environmental precautions**

Do not wash Celitement 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 Celitement** 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.

Ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading.

Avoid inhalation of Celitement and contact with skin. Place spilled materials into a container.

**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****7.1.1 Protective measures**

Follow the recommendations as given under Section 8.

To clean up dry Portland Celitement clinker, 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**

No particular measures.

**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 Celitement 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 Celitement without taking the proper security measures. Celitement can build-up or adhere to the walls of a confined space. The Celitement can release, collapse or fall unexpectedly.

Do not use aluminium containers due to incompatibility of the materials.

VCI storage class 13 (non-flammable solids)

### 7.3. Specific end use(s)

No additional information for the specific end uses (see section 16).

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| CAS-Nr.   | type of assesment value                                | assesment value                                     | Short-term exposure limit<br>(15 min reference period) | source                          | Comment |
|---|--|---|--|---------------------------------|---------|
| <b>general dust limit value (portland cement)</b> |  |   |  |                                 |         |
| 65997-15-1  | Long-term exposure Limit<br>(8 h TWA reference period) | 4 mg/m <sup>3</sup> (A)<br>10 mg/m <sup>3</sup> (E) | Not fixed  | HES EH 40 – 2011 <sup>(2)</sup> |         |

A = respirable fraktion E = Inhalable fraction

### 8.2. Exposure controls

To comply with the occupational exposure limits combinations of technical and personal protective measures are often necessary. If no appropriate exposure data are available, exposure estimation can be done by using MEASE (reference 3). Technical control measures (table in 8.2.1) and individual protection measures (table in 8.2.2) are recommended for all identified uses (section 16).

For each individual PROC, companies can choose from either option A) or B) in the two tables, according to what is best suited to their specific situation. If one option is chosen, then the same option (A and A or B and B) has to be chosen from the other table.

Furthermore, it should be noted that the indication for continuous exposure of 8 hours per day, 5 days a week apply.

The following applies to private consumer that the products should be used only outdoors or in well-ventilated area wearing personal protective equipment (gen. Information in 8.2.2).

#### 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  | Localised controls  | Efficiency   |
|--|---------------------------------|---|---|--------------|
| Industrial manufacture/formulation of hydraulic building and construction materials    | 2, 3                            | Duration is not restricted (up to 480 minutes per shift, 5 shifts a week)               | not required  | -            |
|  | 14, 26                          |   | A) not required or<br>B) generic local exhaust ventilation        | 78 %         |
|  | 5, 8b, 9                        |   | A) general ventilation or<br>B) generic local exhaust ventilation | 17 %<br>78 % |
| Industrial uses of dry hydraulic building and construction materials (indoor, outdoor) | 2                               |   | not required  | -            |
|  | 14, 22, 26                      |   | A) not required or<br>B) generic local exhaust ventilation        | -<br>78 %    |
|  | 5, 8b, 9                        |   | A) general ventilation or<br>B) generic local exhaust ventilation | 17 %<br>78 % |
| Industrial uses of wet suspension of hydraulic building and construction materials     | 2, 5, 8b, 9, 10, 13, 14         |   | not required  | -            |
|  | 7                               |   | A) not required or<br>B) integrated local exhaust ventilation     | -<br>78 %    |
| Professional use of dry hydraulic building and construction material (indoor, outdoor) | 2                               |   | not required  | -            |
|  | 9, 26                           |   | A) not required or<br>B) generic local exhaust ventilation        | -<br>72 %    |
|  | 5, 8a, 8b, 14                   | A) not required or<br>B) generic local exhaust ventilation                              | -<br>87 %   |              |
|  | 19                              | localised controls are not applicable, process only in good ventilated rooms or outdoor | 50 %  |              |
| Professional uses of wet suspensions of hydraulic building and construction materials  | 11                              | A) not required or<br>B) integrated local exhaust ventilation                           | -<br>72 %   |              |
|  | 2, 5, 8a, 8b, 9, 10, 13, 14, 19 | not required  | -   |              |

| Exposure Scenario   | PROC*    | Exposure | Localised controls  | Efficiency   |
|---|----------|----------|---|--------------|
| Industrial manufacture/formulation of hydraulic building and construction materials | 2, 3     |          | not required  | -            |
|   | 14, 26   |          | A) not required or<br>B) generic local exhaust ventilation        | -<br>78 %    |
|   | 5, 8b, 9 |          | A) general ventilation or<br>B) generic local exhaust ventilation | 17 %<br>78 % |

\* PROC's are identified uses and defined in section 16.

**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 creme 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 impervious, abrasion and alkali resistant gloves (made of low soluble Cr (VI) containing material) 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.



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.

| Exposure Scenario  | 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 is not restricted (up to 480 minutes per shift, 5 shifts a week) | not required  | -   |
|  | 14, 26                  |   | A) P1 mask (FF, FM) or<br>B) not required               | APF = 4<br>-                                      |
|  | 5, 8b, 9                |   | A) P2 mask (FF, FM) or<br>B) P1 mask (FF, FM)           | APF = 10<br>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<br>B) not required               | APF = 4<br>-                                      |
|  | 5, 8b, 9                |   | A) P2 mask (FF, FM) or<br>B) P1 mask (FF, FM)           | APF = 10<br>APF = 4                               |
| Industrial uses of wet suspension of hydraulic building and construction materials     | 7                       |   | A) P1 mask (FF, FM) or<br>B) not required               | APF = 10<br>-                                     |
|  | 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<br>B) P1 mask (FF, FM)                             | APF = 10<br>APF = 4                                     |   |

| Exposure Scenario   | PROC*                              | Exposure | Specification of respiratory protective equipment (RPE) | RPE efficiency -assigned protection factor (APF) |
|---|------------------------------------|----------|---|--|
| Professional uses of wet suspensions of hydraulic building and construction materials | 5, 8a, 8b, 14                      |          | A) P3 mask (FF, FM) or<br>B) P1 mask (FF, FM)           | APF = 20<br>APF = 4                              |
|   | 19                                 |          | P2 mask (FF, FM)  | APF = 10   |
|   | 11                                 |          | A) P2 mask (FF, FM) or<br>B) P1 mask (FF, FM)           | APF = 10<br>-                                    |
|   | 2, 5, 8a, 8b, 9,<br>10, 13, 14, 19 |          | not required  | -  |
| Industrial manufacture/formulation of hydraulic building and construction materials   | 2, 3                               |          | not required  | -  |
|   | 14, 26                             |          | A) P1 mask (FF, FM) or<br>B) not required               | APF = 4<br>-                                     |
|   | 5, 8b, 9                           |          | A) P2 mask (FF, FM) or<br>B) P1 mask (FF, FM)           | APF = 10<br>APF = 4                              |

\* Definition in Abschnitt 16

### 8.2.3 Environmental exposure controls

**Air:** Compliance with the dust emission limits according to the Technical Instructions for Air.

**Water:** Do not allow Celitement or Celitement dust unintended in larger quantities to enter the groundwater or sewage system. Exposure may increase the pH value. Ecotoxicological effects may occur if the pH value exceeds 9. The water flowing into the sewage system or surface water must therefore not lead to an appropriate pH value. Wastewater and groundwater regulations must be observed.

**Soil:** Compliance with the Federal Soil Protection Ordinance. No special control measures required.

## 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): 10 - 11
- (e) Melting point: > 1,600 °C
- (f) Initial boiling point and boiling range: Not applicable as under normal atmospheric conditions, melting point >1,600 °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 > 1,600 °C
- (l) Vapour density: Not applicable as melting point > 1,600 °C
- (m) Relative density: 2.5-2.7; 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: 0, Not applicable as is inorganic mixture. insoluble in n-octanol
- (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, Celitement will harden into a stable mass that is not reactive in normal environments.

**10.2. Chemical stability**

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

**10.3. Possibility of hazardous reactions**

Celitement 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 Celitement should be avoided as hydrogen is produced.

**10.6. Hazardous decomposition products**

Celitement 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.<br>The study relied on Zement containing more than 90% Portland Cement clinker. Based on available data, the classification criteria are not met.   | (4)                     |
| Acute toxicity-<br>inhalation    | -    | No acute toxicity by inhalation observed. The study relied on Portland cement clinker.<br>Based on available data, the classification criteria are not met.   | (10)                    |
| Acute toxicity – oral            | -    | No indication of oral toxicity from studies with cement kiln dust. Cement kiln dust is comparable to Celitement.<br>Based on available data, the classification criteria are not met.   | Literature survey       |
| Skin corrosion/<br>irritation    | 2    | Celitement in contact with wet skin may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion may cause severe burns.   | (4)<br>Human experience |
| Serious eye<br>damage/irritation | 1    | Cement caused a mixed picture of corneal effects and the calculated irritation index was 128.<br>Common Cement (Celitement) contain varying quantities of Portland cement clinker, fly ash, blast furnace slag, gypsum, natural pozzolans, burnt shale, silica fume and limestone.<br>Direct contact with dry Cement (Celitement) may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry Cement (Celitement) or splashes of wet Cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.  | (11), (12)              |
| Skin sensitisation               | 1B   | Some individuals may develop eczema upon exposure to wet Celitement dust, like wet cement paste caused either by the high pH which induces irritant contact dermatitis after prolonged contact, or by an immunological reaction which elicits allergic contact dermatitis.  | (5), (13)               |
| Respiratory<br>sensitisation     | -    | There is no indication of sensitisation of the respiratory system.<br>Based on available data, the classification criteria are not met.   | (1)                     |
| Germ cell mutagenicity           | -    | No indication.<br>Based on available data, the classification criteria are not met.   | (14), (15)              |
| Carcinogenicity                  | -    | No causal association has been established between Portland Cement (Celitement) exposure and cancer.<br>The epidemiological literature does not support the designation of Cement (Celitement) as a suspected human carcinogen. Portlandcement 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.).<br>Based on available data, the classification criteria are not met also for Celitement. | (1)<br><br>(16)         |

| Hazard class           | Cat. | Effect   | Reference                         |
|------------------------|------|--|-----------------------------------|
| Reproductive toxicity  | -    | Based on available data, the classification criteria are not met.  | No evidence from human experience |
| STOT-single exposure   | 3    | Celitement 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 Celitement 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. | (1)                               |
| 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.  | (17)                              |

Celitement and common Portland cement clinker have due to the high material similarity will almost certainly the same toxicological and eco-toxicological properties.

#### Medical conditions aggravated by exposure

Inhaling Celitement 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 Portlandcement on *Daphnia magna* (U.S. EPA, 1994a) [Reference (6)] and *Selenastrum coli* (U.S. EPA, 1993) [Reference (7)] have shown little toxicological impact. Therefore LC 50 and EC 50 values could not be determined [Reference (8)]. There is no indication of sediment phase toxicity [Reference (9)]. The addition of large amounts of Celitement 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 as Celitement is an inorganic material. After hardening, Celitement presents no toxicity risks.

#### 12.3. Bioaccumulative potential

Not relevant as Celitement is an inorganic material. After hardening, Celitement presents no toxicity risks.

#### 12.4. Mobility in soil

Not relevant as Celitement is an inorganic material. After hardening, Celitement presents no toxicity risks.

#### 12.5. Results of PBT and vPvB assessment

Not relevant as Celitement is an inorganic material. After hardening, Celitement 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 - unused residue or dry spillage

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

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

### SECTION 14: Transport information

Celitement 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 MARPOL 73/78 and the IBC Code**

Not relevant

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Celitement is a new substance and covered by the registration requirements of the EC Regulation 1907/2006 (REACH). The material is currently produced only experimentally in a pilot plant and the establishment of a safety dossier for REACH registration is tackled.

Manufacturer of Celitement undertake under Convention of The so-called "Good practice guides" which contain advice on safe handling practices can be found from: <http://www.nepsi.eu/good-practice-guide.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.

national **legislation**/requirements

Water hazard class: WHC/WGK 1 (slightly hazardous to water) (self-classification according to AwSV of 18.4.2017).

GISCODE: ZP 1 (cement containing products, low in chromate)

Gefahrstoffverordnung (GefStoffV), Chemicals Prohibition order (ChemVerbotsV)

Storage class according to TRGS 510: Storage class 13 (non-flammable solids)

Technical regulation for hazardous substances TRGS 900: Workplace limits

Technical regulation for hazardous substances TRGS 402: Determination and assessment of hazards during activities involving hazardous substances

**15.2. Chemical Safety Assessment**

No chemical safety assessment has been carried out.

**SECTION 16: Other information****16.1 Indication of changes**

In Section 1 the new REACH Registration number and the EC Number was inserted as well as experiences and findings from the REACH registration dossier were integrated and implemented in a new layout

**16.2 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  |
| AwSV    | Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen       |
| CAS     | Chemical Abstracts Service  |
| CLP     | Classification, Labelling and Packaging (Regulation (EC) No 1272/2008)  |
| COPD    | Chronic Obstructive Pulmonary Disease                                   |
| DNEL    | Derived No-Effect Level   |
| EC 50   | Half maximal Effective Concentration                                    |
| ECHA    | European Chemicals Agency   |
| EINECS  | European INventory of Existing Commercial chemical Substances           |
| EPA     | Type of high Efficiency Particulate 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 Particulate Air filter   |
| H&S       | Health and Safety  |
| IATA      | International Air Transport Association  |
| IMDG      | International agreement on the Maritime transport of Dangerous Goods   |
| LC 50     | Median Lethal Dose   |
| MEASE     | Metals Estimation and Assessment of Substance Exposure, EBRC Consulting GmbH for Eurometaux, <a href="http://www.ebrc.de/ebrc/ebrc-mease.php">http://www.ebrc.de/ebrc/ebrc-mease.php</a> |
| 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   |
| vPvB      | Very Persistent, very Bio-accumulative   |
| WEL       | Workplace Exposure Limits  |
| WHC/WGK   | Water Hazard Class   |

### 16.3 Process category and descriptors

For the professional user, the process categories and descriptors according to ECHA guidance R.12 (ECHA-2010-G-05) can be assigned to (s. Table)

| PROC | Identified Uses - Use Description   | Manufacture/<br>Formulation of<br>building and construction materials | Gewerbliche/ Industrielle<br>Verwendung von |
|------|---|---|---|
| 2    | Use in closed, continuous process with occasional controlled exposure                             | X   | X   |
| 3    | Use in closed batch process   | X   | X   |
| 5    | Mixing or blending in batch process for formulation of preparations and articles                  | X   | X   |
| 7    | Industrial spraying   |   | X   |
| 8a   | Transfer of substance or preparation from/to vessels/large containers at non-dedicated facilities |   | X   |
| 8b   | Transfer of substance or preparation from/to vessels/large containers a dedicated facilities      | X   | X   |
| 9    | Transfer of substance or preparation into small containers  | X   | X   |
| 10   | Roller application or brushing  |   | X   |
| 11   | Non-Industrial spraying   |   | X   |
| 13   | Treatment of articles by dipping and pouring  |   | X   |
| 14   | Production of preparations or articles by tableting, compression extrusion, pelletisation         | X   | X   |

| PROC | Identified Uses - Use Description  | Manufacture/<br>Formulation of<br>building and construction materials | Gewerbliche/ Industrielle<br>Verwendung von |
|------|--|---|---|
| 19   | Hand-mixing with intimate contact and only PPE available   |   | X   |
| 22   | Potentially closed processing operations with minerals/metals at elevated temperature Industrial setting |   | X   |
| 26   | Handling of solid inorganic substances at ambient temperature  | X   | X   |

**16.4 Relevant H-statements (number and full text):**

H 319 Verursacht schwere Augenreizungen.

**16.5 Literaturangaben und Datenquellen**

- (1) Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006:  
<http://www.hse.gov.uk/pubns/web/portlandcement.pdf>.
- (2) Technische Regel für Gefahrstoffe „Arbeitsplatzgrenzwerte“, Ausgabe: Januar 2006 BArBI Heft 1/2006 S. 41-55 zuletzt geändert und ergänzt: GMBL 2014 S. 271-274 v. 2.4.2014 [Nr. 12].
- (3) MEASE 1.02.01 Exposure assessment tool for metals and inorganic substances, EBRC Consulting GmbH für Eurometaux, 2010: <http://www.ebrc.de/ebrc/ebrc-mease.php>.
- (4) REACH-Registrierungsdossier; Calcium hydrosilicate, reaction product of natural quartz sand and technical lime by a hydrothermal and tribochemical process 13.12.2017.
- (5) Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) vom 18. April 2017 (BGBl. I Nr. 22 vom 21.04.2017 S. 905)

**16.6 Methods in accordance with Article 9 of Regulation (EC) 1272/2008 (CLP) to evaluate the information for classification purposes**

The review was conducted in accordance with Article 6, paragraph 5 and Annex I to Regulation (EC) No. 1272/2008.

**16.7 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.

**16.8 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.