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

# 1.1 Product identifier

Business name: Cement adhesive from the TERAFIX line according to EN 12004: 2012, including the types BASIC, STANDARD, STANDARD PLUS, STANDARD FLEX, COMFORT, COMFORT PLUS, COMFORT FLEX, RAPID, RAPID PLUS, RAPID FLEX, EASY, EASY PLUS, FAST EASY PLUS, FAST EASY FLAX, ULTRAFLEX.

# 1.2. Relevant intended uses of the substance or mixture and non-recommended uses

Intended uses: Cement adhesives from the TERAFIX line are used for preparing adhesives for fixing ceramic tiles and pavers and natural and artificial stones onto the surface of walls and floors in building interiors and exteriors.

Non-recommended uses: defined in the instructions for use of cement adhesives of the TERAFIX line

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

Company name: TopTeramo s.r.o.

Full address: 790 64 Vápenná

Telephone number: +420 588 110070

E-mail address of the competent person responsible for the safety data sheet: [info@topteramo.cz](mailto:info@topteramo.cz)

# 1.4. Phone number for emergencies

European telephone number: 112

Department of Occupational Health, Toxicological Information Centre, Na Bojišti1, 128 08 Praha 2,

224 919 293 non-stop service 224 915 402,

Opening hours: non-stop

# SECTION 2: Hazard identification 1.2 Classification of the substance or mixture

## 2.1.1 In accordance with Regulation (EC) no. 1272/2008

|  |  |  |
| --- | --- | --- |
| **Hazard class** | **Danger category** | **The classification procedure** |
| Skin irritation (Skin Irrit. 2) | 2 | Based on data from tests |
| Serious eye damage / eye irritation (Eye Dam 1) | 1 | Based on data from tests |
| Skin sensitization (Skin Sens. 1B) | 1B | Based on the research literature |
| Specific target organ toxicity - single exposure, irritation of the respiratory tract (STOT SE 3) | 3 | Based on the research literature |

## *Hazard statements*

H315 Causes skin irritation.

H318 Causes serious eye damage

H317 May cause an allergic skin reaction

H335 May cause respiratory irritation

### 2.1.2 According to Directive no. 1999/45/EC

Xi irritant

R36/37/38 Irritating to eyes, respiratory system and skin

R43 May cause sensitisation by skin contact

# 2.2. Labelling elements

## 2.2.1 In accordance with Regulation (EC) no. 1272/2008



## Danger

H318 Causes serious eye damage

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

P102 Keep out of reach of children.

P261 Avoid breathing dust.

P280 Wear protective gloves/protective clothing/eye protection/face protection. (for more information see Safety Data Sheet)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if you are wearing them and if they can be removed easily. Continue rinsing. P310 Immediately call a doctor

P302 + P352 WHEN EXPOSED TO SKIN: Wash off with plenty of soap and water

P333 + P313 IF SKIN IRRITATION OR A RASH OCCURS: Seek medical attention.

P304 + P340 + P312: IF INHALED: Bring the person to fresh air and keep them in a position in which it is comfortable for them to breath. If you do not feel well, call a doctor.

P501 Dispose of the contents / packaging according to regulations on waste and packaging, as amended.

Additional information: when skin is exposed to the cement adhesive mixture with water, it may cause irritation, dermatitis or burns. It may damage products made of aluminium and other base metals.

**2.2.2 *According to Directive no. 1999/45/ES***

Not applicable.

# 2.3. Others dangers

The substances in the cement adhesives from the TERAFIX line do not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH document (Regulation (EC) No. 1907/2006). Cured and matured adhesives do not have hazardous properties.

**SECTION 3: Composition / information on the components**

**3.1. Substances**

Not applicable - mixture

# 3.2. Mixtures

Mixture composition, classification and labelling of the components of the mixture (the main components affecting the classification are listed) \*\*\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Cement (Portland) clinker | | Dust mixture from clinker production | |
| EINECS | 266-043-4 | | 270-659-9 | |
| CAS | 65997-15-1 | | 68475-76-3 | |
| Registration number | Not assigned (see section 15.1) | | 01-2119486767-17-0016 | |
| Concentration range (mass %) | 25-45 | | 1-3 | |
| Classification according to 67/45 / EEC | Xi, irritant R37 / R38, R41, R43 | | Xi, irritant R37 / R38, R41, R43 | |
| Classification according to CLP (1272/2008) | Danger, Cat. 1  (Eye Dam 1, Skin Sens. 1B, Skin Irrit. 2, STOT SE 3)  H315, H317, H318, H335 | | Danger, Cat. 1  (Eye Dam 1, Skin Sens. 1, Skin Irrit. 2, STOT SE 3)  H315, H317, H318, H335 | |
| Name | Limestone | Quartz / silica. Sand \*\* | Fly ash \* | Calcium sulphate / gypsum |
| EINECS | 215-279-6 | 238-874-4 |  |  |
| CAS | 1317-65-3 | 14808-60-7 |  |  |
| Registration number | Excluded, Annex IV, REACH | Excluded, Annex IV, REACH |  | 01-  2119444918-26 |
| Concentration range (mass %) | 15-30 | 16-35 | 0-3 | 0,2-1 |
| Classification according to 67/45 / EEC | - | - | - | - |
| Classification according to CLP (1272/2008) | - | - | - | - |

\* information is currently available that none of the by-products are hazardous

\*\* Content of the respirable fraction of quartz <0.8%

\*\*\* furthermore, it comprises components - additives with a total content of 1-6% without hazardous properties

# SECTION 4: First aid guidelines

# 4.1. First aid description

## *General remarks*

The first aid providers do not require any personal protective equipment. First aid workers should avoid contact with wet cement or cement-containing mixtures.

## *After contact with the eyes*

Do not rub your eyes, so that you do not damage your cornea with the mechanical stress.

If you use contact lenses, remove them. Tilt your head to the side of the affected eye, open the eyelids wide and immediately and thoroughly rinse out the eye (s) with plenty of water for at least 20 minutes to remove all particles. Avoid getting particles into the unaffected eye. Use isotonic water if possible (0.9% NaCl). Visit a specialist in occupational disease or a specialized ophthalmologist.

## *After contact with skin*

In the case of a dry cement adhesive from the TERAFIX line, remove it and rinse it with lots of water.

In the case of a cement adhesive from the TERAFIX line mixed with water, wash the skin with a large amount of water.

Remove contaminated clothing, footwear, watches, etc., and clean them thoroughly before further use. In case of any irritation or burns, seek medical attention.

## *After inhalation*

Bring the person to fresh air. Dust from cement adhesive from the TERAFIX line should leave the throat and nasal cavities spontaneously. Seek medical attention if irritation persists or later appears or if nausea, a cough or other symptoms persist.

## *After ingestion (swallowing)*

Do not induce vomiting. If the person is conscious, wash out his/her mouth with water and give him/her plenty of water to drink. Immediately seek medical attention or contact the Toxicological Information Centre.

# 4.2. The most important acute and delayed symptoms and effects

***Eyes:*** Eye exposure to cement adhesive from the TERAFIX line (dry or in a mixture with water) can cause serious and potentially irreversible injuries.

***Skin:*** An adhesive prepared by mixing cement adhesives from the TERAFIX line with water may have an irritant effect on moist skin after prolonged exposure (due to sweating or soaking), or may cause contact dermatitis after repeated exposure. Prolonged exposure to the skin can cause serious burns (chemical burn).

***Inhalation*:** Long-term repeated inhalation of cement for general use increases the risk of developing lung diseases.

***Environment:*** In normal use, cement adhesive for general use are not hazardous to the environment.

**4.3. Instructions regarding immediate medical attention and special treatment**

When you visit the doctor, take this SDS with you.

**SECTION 5: Firefighting measures 5.1 Extinguishers**

Cement adhesives from the TERAFIX line are not flammable.

# 5.2. Special hazards arising from the substance or mixture

Cement adhesives from the TERAFIX line are not combustible / flammable or explosive, and they do not permit or support the combustion of other materials.

# 5.3. Instructions for firefighters

Cement adhesives from the TERAFIX line do not cause any danger associated with fire. Firefighters do not need to have any special protective equipment.

# SECTION 6: Measures in case of accidental release

# 6.1. Personal precautions, protective equipment and emergency procedures

## 6.1.1 For workers, except those intervening in case of an emergency

Wear protective equipment, as is described in Section 8, and follow the instructions for safe handling and use, as specified in Section 7.

## 6.1.2 For workers intervening in case of an emergency

Emergency procedures are not required, but it is necessary to protect the respiratory tract in situations where there are high levels of dust. Next, see Section 7.1.2

# 6.2. Precautions for the protection of the environment

Do not flush cement adhesives from the TERAFIX line into sewage and drainage systems or into bodies of water (e.g. watercourses).

# 6.3. Methods and materials for containment and cleaning up

Collect and use spilled material in a dry state, if it is not dirty or damaged.

Dry cement adhesives from the TERAFIX line: Use dry cleaning methods such as vacuuming or extraction (industrial portable units, equipped with air filters with a high efficiency against particles (EPA and HEPA filters, EN 1822-1: 2009) or similar devices), which reduce dust emissions into the air and do not cause dissipation / dusting. Never use compressed air.

Wet cleaning is possible (water spray, fine water mist) - avoid raising dust, wipe off the dust and remove the resulting sludge (see wet cement). When wet cleaning, vacuuming and cleaning with brushes is not possible, ensure that the workers wear appropriate personal protective equipment and prevent the spread of dust. Avoid inhalation of cement and contact with skin. Collect spilled material into a container and use it. Before disposal, let it solidify as described in Section 13

Adhesive sealants prepared by mixing cement from the TERAFIX line with water: Place them in a container when cleaning. Before disposal, allow the material to solidify and mature as described in Section 13.

# 6.4. Reference to other sections

For more details, see sections 8 and 13.

# SECTION 7: Handling and storage

# 7.1. Precautions for safe handling

## 7.1.1 Protective measures Adhere to the recommendations stated in Section 8. For cleaning dry cement, see chapter 6.3.

***Precautions to prevent fire*** Not applicable.

## *Precautions to prevent aerosols and dust*

Do not sweep. Use dry cleaning methods such as vacuuming, cleaning or extraction, which reduce dust emissions into the air.

***Measures for the protection of the environment*** *No specific measures.*

### 7.1.2 Information about general hygiene at work

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

Wear a dust mask in a dusty environment, as well as a respirator and goggles if necessary.

To prevent exposure to skin, wear protective gloves.

# 7.2. Conditions for the safe storage of substances and mixtures, including incompatible substances and mixtures

Packaged products should be stored in tightly closed original bags in a cool, dry place away from pollution in order to prevent loss of quality.

The bags should be stored (stacked) in a stable manner.

Do not use aluminium containers, as the materials are incompatible.

**7.3. Specific end use/ specific end uses**

There is no further information for a special end use (see section 1.2).

# 7.4. Checking the contents of the soluble Cr (VI)

Cement adhesives from the TERAFIX line are treated with the reducing agent Cr (VI) according to the provisions specified in Section 15. The effectiveness of the reducing agent decreases with time. Therefore, the bags contain information on the date of packaging, storage conditions and storage time, during which the activity of the reducing agent is retained, and the content of soluble chromium VI is kept below 0.00006% of the total weight in accordance with Standard EN 196-10. The appropriate storage conditions for maintaining the effectiveness of the reducing agent must be given.

# SECTION 8: Limiting exposure / personal protective equipment

# 8.1. Control parameters

DNEL inhalation (8h): 3 mg/m3

DNEL dermal: Not applicable

DNEL oral: not relevant

DNEL values apply to respirable dust while the exposure estimates for the instrument MEASE reflect the respirable (inhalable) faction. Therefore, the additional safety margin is inherently included in the assessment of risk and derivative risk management measures.

For workers, there is no DNEL for cements for dermal (skin) exposure, not even from the safety studies or from human experience. Because the cements are classified as irritating to the skin and eyes, dermal exposure must be reduced to the technically feasible minimum.

PNEC aquatic environment: Not applicable

PNEC sediment: Not applicable

PNEC soil environment: Not applicable

Assessment of exposure to an aquatic environment is based on any changes in pH. Determining the exposure is done by evaluating the resulting impact of the pH level. The PH of surface water, groundwater and wastewater in ýOV should not exceed a value of 9.

## Hygienic limits in the workplace (Government Regulation no. 361/2007 Coll.): NP)

The permissible exposure limit (PEL) to chemicals or dust is a full-shift time weighted average of gas concentrations, vapour or aerosol in the working atmosphere, to which according to the current state of knowledge, a worker can be exposed in eight-hour, or shorter, shifts in the weekly working hours without any health damage or threat to his working ability and performance, not even in the event of lifetime occupational exposure. The permissible exposure limit is determined for work during which the average lung ventilation of the employee does not exceed 20 litres per minute per eight-hour shift.

The PEL for the total concentration (the inhalable fraction) of dust is marked PELc. The inhalable fraction of dust is a set of airborne dust particles that can be inhaled through the nose or mouth. Dust with mostly non-specific effects - cement – PELc 10 mg/m3

Limits according to Directive 2000/39 / EC and Regulation no. 432/2003 Coll. are not determined. NP)

# 8.2. Limiting exposure

To limit exposure, it is necessary to avoid the formation and spread of dust (dedusting, exhaust ventilation, suitable methods of cleaning). Next, appropriate protective equipment is recommended. Eye protection (e.g. goggles or face shields), face protection (if needed or appropriate), protective clothing and safety shoes must be used.

## 8.2.1 Appropriate technical inspections

Measures to reduce dust formation and prevent the spread of dust in the environment such as dedusting, exhaust ventilation and dry cleaning methods, which do not cause dispersion in the air.

## 8.2.2 Individual protection measures, including personal protective equipment

***In general:*** When working with cement adhesives from the TERAFIX line, do not eat, drink or smoke, so as to avoid contact with the skin or mouth. Apply a protective cream before starting work, and use it repeatedly at regular intervals.

Immediately after work, it is necessary that workers wash or shower or use products for moisturising the skin. Remove contaminated clothing, footwear, watches, etc., and clean them thoroughly before further use.

### Eye and face protection

Avoid contact with eyes and wear approved glasses or safety goggles in accordance with EN 166 when handling cement adhesive from the TERAFIX line. Do do not wear contact lenses.

### Skin protection

To protect the skin from prolonged contact with wet dusts, wear waterproof

gloves resistant to abrasion and alkalis (made from a material with a low content of soluble Cr (VI)) that are internally lined with cotton, boots, clothes with closed sleeves and trouser-legs, as well as means to protect the skin (including protective creams).

### Respiratory protection

If a person is potentially exposed to dust levels higher than the exposure limits, wear respiratory protection. It should be adapted / adjusted to the dust level and comply with the relevant standard EN (e.g. EN 149, EN 140, EN 14387, EN 1827) or national standards.

### Thermal hazards

Not relevant

## 8.2.3 Limiting exposure to the environment

According to available technology. All ventilation systems should be equipped with filtration before emitted into the air. Avoid release into the surrounding environment, waters and sewerage system. Capture leaks resulting from spillage.

# SECTION 9: Physical and chemical properties

# 9.1. Information on basic physical and chemical properties

This information applies to whole mixtures.

Appearance: fine to granular grey or white powder. The particle size is up to 1 mm.

Odour: Odourless

pH: When mixed with water, it is 11-13.5

Melting point / solidification point: Not applicable > 1250 ° C

Boiling point and boiling range: Not applicable

Point of ignition : Not applicable

Evaporation rate : Not applicable

Combustibility : Not applicable – a non-combustible solid

Upper / lower limits of combustibility or explosiveness: Not applicable

Steam pressure: Not applicable, the melting point is > 1250 ° C.

The steam density: Not applicable, the melting point is > 1250 ° C.

Relative density: 2.75 to 3.20; Apparent density: 0.9 to 1.5 g / cm³

Solubility in water: Low 0.1 to 1.5 g / l

Partition coefficient: n-octanol / water: Not applicable.

Spontaneous combustion temperature: Not applicable

Decomposition temperature: Not applicable

Viscosity: Not applicable

Explosive properties: Not applicable - it is not an explosive or pyrotechnic material

Oxidation properties: Not applicable - it does not cause combustion of other materials.

# 9.2. Further information

Not applicable.

**SECTION 10: Stability and reactivity 10.1 Reactivity**

When mixed with water, it hardens into a stable mass that is not reactive in a normal environment.

# 10.2. Chemical stability

If they are properly stored (see section 7), cement adhesives from the TERAFIX line are stable and compatible with most other building materials. It is necessary to keep them dry. Contact with incompatible materials must be avoided. When mixed with water, cement adhesives from the TERAFIX line are alkaline and incompatible with acids, ammonium salts, aluminium or other non-precious metals.

**10.3. Dangerous reactions**

Cement adhesives from the TERAFIX line do not cause any dangerous reactions.

**10.4. Conditions to be avoided**

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. It is necessary to avoid the uncontrolled use of aluminium powder, as it develops/forms hydrogen.

# 10.6. Hazardous decomposition products

Cement adhesives from the TERAFIX line do not decompose into any hazardous products.

# SECTION 11: Toxicological information

# 11.1. Information on toxicological effects

The information is based on the data provided by the safety data sheets of the raw materials used.

|  |  |  |  |
| --- | --- | --- | --- |
| **Hazard class** | **Cat.** | **Effect** | **Reference** |
| Acute toxicity - dermal | - | Limit test, rabbit, contact for 24 hours, 2,000 mg / kg body weight non-lethal. Based on available data, the classification criteria are not met. | cement |
| Acute toxicity - inhalation | - | No acute effects were observed during inhalation.  Based on available data, the classification criteria are not met. | cement |
| Acute toxicity - oral | - | There is no toxicity data from studies with dusts from the production of the Portland clinker. Based on available data, the classification criteria are not met. | cement |
| Skin corrosion / irritation | 2 | When in contact with wet skin, it can cause swelling and bursting or cracking of the skin. Prolonged contact with friction can cause severe burns. | cement |
| Serious eye damage / irritation  Eyes | 1 | The Portland cement clinker has a wide range of effects on the cornea, and the calculated irritation index was approx. 128. Cement adhesives from the TERAFIX line contain cement, silica sand, limestone, and a small amount of fly ash, blast furnace slag and modifiers. Direct contact with the mixture may cause corneal damage by mechanical stress and immediate or delayed irritation or inflammation. Direct contact with larger amounts of dry powder or a splash with the adhesive cement may cause effects from mild eye irritation (e.g. conjunctivitis or inflammation of the eyelid) to chemical burns and blindness. | cement |
| Skin sensitization | 1B | Upon exposure, some individuals may suffer from eczema caused by a high pH, which causes contact dermatitis from the irritation after prolonged contact or a immunological reaction to soluble Cr (VI), which induces allergic contact dermatitis. The reaction can occur in various forms from a mild rash to severe dermatitis, and it is a combination of the two mechanisms mentioned above. The content of the reducing agent for the reduction of the content of soluble Cr (VI) does not cause a sensitizing effect.  Based on the knowledge, the mixture does requires classification as skin sensitizing  [R43, may cause sensitization by skin contact; Skin Sens. 1B (H317 - may  cause an allergic skin reaction)]. | cement |
| Respiratory sensitization | - | There are no signs of airway hyperresponsiveness.  Based on available data, the classification criteria are not met. | cement |
| Germ cell mutagenicity | - | No indication.  Based on available data, the classification criteria are not met. | cement |
| Carcinogenicity | - | No causal link between exposure to Portland cement and cancer has been confirmed.  The epidemiological literature does not support the designation of Portland cement as a possible human carcinogen.  Portland cement is not classified as a human carcinogen (according to ACGIH A4: agents that raise fears that they could be carcinogenic for humans, but which cannot be definitively assessed due to a lack of data. The vitro or animal studies provide no indications of carcinogenicity that are sufficient for classifying the agent by one of the other designations).  Portland cement contains up to 5% dust.  Based on available data, the classification criteria are not met. | cement |
| Reproductive toxicity | - | Based on available data, the classification criteria are not met. | cement |
| STOT - single exposure | 3 | Portland cement dust may irritate the throat and respiratory tract. After exposing a person to concentrations higher than the exposure limits in the workplace, the person may exhibit coughing, sneezing and wheezing / shortness of breath. The overall structure of the evidence clearly indicates that occupational exposure to cement dust causes insufficient respiratory function. However, the available evidence is currently insufficient to establish some certainty in relation to dose size and these effects. | cement |
| STOT - repeated exposure | - | There are indications of COPD. The effects of high exposure are acute. There were no adverse chronic effects or effects at lower concentrations.  Based on available data, the classification criteria are not met. | cement |
| Aspiration hazard | - | It does not apply, because there is no known data that would indicate an aspiration hazard. The classification criteria are not met. | cement |

## *Health condition worsened by exposure*

Inhalation of dust from cement adhesives from the TERAFIX line may aggravate existing respiratory diseases or medical conditions such as emphysema (emphysema), asthma or an existing skin or eye condition.

## 11.1.2 Mixtures

Cement adhesives from the TERAFIX line are classified as irritating to the skin and respiratory tract and carry the danger of serious eye damage (Chapter 2.1). The limit of occupational exposure in order to prevent local sensory irritation and a decrease in airway function - see Chapter 8.1.

# SECTION 12: Environmental information

# 12.1. Toxicity

The product is not dangerous for the environment. Ecotoxicological tests on Daphnia magna and Selenastrum coli showed a low toxic effect. Therefore LC50 and EC50 values could not be determined. There was no indication of toxicity in the sediment. The presence of large amounts of water may cause an increase in pH, and may therefore in certain circumstances be toxic to aquatic life (aquatic environment, aquatic organisms).

# 12.2. Persistence and degradability

It is does not apply, because cement adhesives from the TERAFIX line are inorganic materials. When hardened, they do not pose a risk of toxicity.

# 12.3. Bioaccumulation potential

Irrelevant - inorganic material. When hardened, they do not pose a risk of toxicity.

# 12.4. Mobility in soil

Irrelevant - inorganic material. When hardened, they do not pose a risk of toxicity

# 12.5. Results of the PBT and vPvB assessments

Irrelevant

# 12.6. Other adverse effects

Irrelevant.

Note: The material is ecotoxic if the LC, EC or IC is below 10 ml / l, when the TU is higher than 10. This means the mixture does most likely not have an ecotoxic property due to its most harmful component.

# SECTION 13: Disposal instructions

# 13.1. Waste management methods

The mixtures must be disposed of in accordance with local and domestic (national) legislation. Processing, use or contamination of this product may change the waste management possibilities.

Mixtures can be reused if they are not contaminated or otherwise degraded. Waste management methods are not used here. Do not dispose of in a sewerage system or surface water.

A product containing cement that has exceeded its shelf life (and when it is shown to contain more than 0.0002% of soluble Cr (VI)): it must not be used / sold other than for use in controlled closed and fully automated processes, or it should be recycled or disposed of in accordance with applicable laws and regulations, or a reducing agent should be used again.

Product - unused residue or spilled dry material

Gather dry unused residue or spilled dry material as it is. Mark the containers. The material can be reused when considering the shelf life and the requirement to prevent dusting. In case of disposal, harden with water and dispose of according to the section below "Product - after mixing with water / after adding water, hardened".

Product - sludges

Let sludges solidify, avoid permeation or spillage into sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under "Product - after mixing with water / after adding water, hardened".

Product - after mixing with water / after adding water, hardened

Dispose of in accordance with local legislation. Prevent ingress to waste water systems. Dispose of the hardened product as sorted waste. Since the hardening makes the material relatively inert, concrete waste is not a hazardous waste.

Waste code:

10 13 14 Concrete waste and concrete sludge (10 Wastes from thermal processes 10 13 Wastes from the production of cement, lime and plaster and products thereof)

17 01 01 Concrete (17 Construction and demolition wastes (including excavated soil from contaminated sites) 17 01 Concrete, bricks, tiles and ceramics)

Completely empty the package and dispose of in accordance with the law

15 01 01 Paper and cardboard packaging (15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified, 15 01 Packaging (including separately collected municipal packaging waste)

# SECTION 14: Transport information

Cement adhesives from the TERAFIX line are not classified as hazardous for ADR (road), RID (rail) or IMDG / GGVSea (maritime transport).

**14.1. UN number**

Irrelevant

**14.2. Relevant UN shipping name**

Irrelevant

**14.3. Transport hazard class/classes**

Irrelevant

**14.4. Packaging group**

Irrelevant

**14.5. Environmental hazards**

Irrelevant

**14.6. Special safety precautions for users**

Irrelevant

# 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Irrelevant

# SECTION 15: Regulatory information

# 15.1. Regulations related to safety, health and the environment/ legislation specific for a substance or mixture

Cement is a mixture according to the REACH Regulation (EC) 1907/2006 and is exempt from registration. The cement (Portland) clinker is exempt from registration (Art. 2. Sec. 7 point. B and Annex V, Section 7 of the REACH regulation).

Marketing and use is limited with regard to the content of soluble chromium (VI) - Annex XVII section 47 of the REACH regulation

1. Cement and cement-containing preparations shall not be used or placed on the market if they contain more than 0.0002% soluble chromium VI relative to the total dry weight of the cement after mixed with water.
2. If reducing agents are used, the packaging of the cement or cement-containing preparations must be legibly and indelibly marked with information on the packaging date, as well as information about the conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1, without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations.
3. Notwithstanding paragraphs 1 and 2 shall not apply to the marketing and use in controlled closed and totally automated processes in which cement and cement-containing preparations are handled solely by machines and in which there is no possibility of contact with the skin.

Other EU regulations: Contains no substances from the Seveso category (Directive 96/82 / EC), ozone-depleting substances or persistent organic pollutants.

EU regulations:

Regulation of the European Parliament and Council (EC) no. 1907/2006, on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation of the European Parliament and Council (EC) no. 453/2010, amending the Regulation of the European Parliament and Council Regulation (EC) no. 1907/2006, on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation of the European Parliament and Council (EC) no. 1907/2006, 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP)

National regulations:

Act no. 350/2011 Coll., on chemical substances and mixtures, and on amendments to some laws

(Chemical Act), as amended

Act no. 258/2000 Coll., on public health protection and on amendments to some related laws, as amended

Act no. 262/2006 Coll., The Labour Code, as amended

Act no. 201/2012 Coll., on air protection, as amended, as amended

Act no. 254/2001 Coll., on waters and the amendment of some laws (the Water Act), as amended

Act no. 185/2001 Coll., on waste and the amendment of some laws (Waste Act), as amended

Act no. 477/2001 Coll., on packaging and the amendment of some laws (Packaging Act), as amended

Decree no. 381/2001 Coll., laying down the Waste Catalogue, List of Hazardous Wastes and

lists of wastes and countries for the purpose of export, import and transit and the procedure for granting consent to export, import and transit of wastes (Catalogue of Wastes), as amended

Decree no. 383/2001 Coll., on the details of waste management, as amended

Government regulation no. 361/2007 Coll., laying down the conditions for health care workers at

work, as amended

Decree no. 432/2003 Coll.,

laying down the conditions for job categories, limit values of biological exposure tests, sampling conditions of biological materials for

biological exposure tests and requisites for reporting work with asbestos and biological agents

Act no. 111/1994 Coll., on road transport, as amended

Decree no. 8/1985 Coll., on the Convention concerning International Carriage by Rail (COTIF), as amended

Decree no. 64/1987 Coll., on the European Agreement concerning the International Carriage of Dangerous Goods (ADR), as amended

Act no. 120/2002 Coll., on conditions for the placing of biocidal products and active substances on the market and amending some related laws, as amended

Government regulation no. 21/2003 Coll., laying down technical requirements for personal protective

equipment, as amended

Government regulation no. 495/2001 Coll., laying down the extent and more detailed conditions of providing personal

protective equipment, detergents, cleaners and disinfectants, as amended

Act no. 372/2011 Coll., on health services and conditions of their provision (Health

Services Act), as amended

Decree no. 376/2001 Coll., on the evaluation of the dangerous properties of waste, as amended

# 15.2. Chemical safety assessment

A chemical safety assessment of the mixture was not carried out. The chemical safety assessment was performed for input substances with hazardous properties, which are contained in the mixture. The assessment is then based on this information, which is prioritized for the classification of mixtures. The exposure scenarios of these substances are attached to the SDS.

# SECTION 16: Other information

The data is based on our past knowledge, but it does not guarantee any specific product properties nor does it establish a legally valid contractual relationship.

# 16.1 Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

# 16.2 Precautionary statements

P102 Keep out of reach of children.

P261 Avoid breathing dust.

P280 Wear protective gloves, protective clothing and goggles (for more information see Safety Data Sheet)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if you are wearing them and if they can be removed easily. Continue rinsing.

P310 Immediately call a doctor

P302 + P352 WHEN EXPOSED TO SKIN: Wash off with plenty of soap and water

P333 + P313 IF SKIN IRRITATION OR A RASH OCCURS: Get medical attention.

P304 + P340 + P312: IF INHALED: Bring the person to fresh air and keep them in a position in which it is comfortable to breath. If you do not feel well, call a doctor.

# P501 Dispose of the contents / packaging according to regulations on waste and packaging, as amended.

# 16.3 The standard risk phrases

R36/37/38 Irritating to eyes, the respiratory system and skin

R41 Risk of serious damage to eyes

R43 May cause sensitisation by skin contact

# 16.4 Precautionary statements

Not applicable.

# 16.5 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 SDS Safety Data sheet

The CAS Chemical Abstracts Service leads the most comprehensive list of chemical substances. Each substance registered in the CAS Registry is assigned a CAS Registry Number. The CAS Registry Number (commonly referred to as the CAS number) is widely used as a specific numerical identifier of chemical substances.

CLP Classification, labelling and packaging - (Regulation (EC) no. 1207/2008)

COPD Chronic Obstructive Pulmonary Disease

DNEL Derived no-effect level (the level at which there are no adverse effects on human health)

Eye Dam 1 Serious eye damage

EC50 Half maximal effective concentration (a concentration that causes death to or immobilizes 50% of test organisms such as Daphnia magna))

ECHA European Chemicals Agency

EINECS European Inventory of Existing Commercial chemical Substances

EPA Type of high efficiency air filter

EpiDerm TM Reconstructed human epidermis for testing purposes

ES / SE Exposure scenario

GefStoffV Gefahrstoffverordnung (hazardous substances)

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 concentration (a concentration that causes the death of 50% of tested fish in a chosen period))

LD50 Median lethal dose

LOEL Lowest observed effect level (the lowest observed effect level is the lowest tested dose or exposure level at which a statistically significant effect in the exposed population compared with an appropriate control group is observed in a certain study)

MEASE Metals estimation and assessment of substance exposure, a tool for assessing exposure to a substance, EBRC Consulting GmbH for Eurometaux,

MS Member State

NOEC No observable effect concentration (the highest tested concentration of a toxic substance at which a statistically significant adverse effect does not occur on the organisms in comparison with control (about 5% mortality rate), a concentration not causing a visible effect)

NOEL No observed effect level (a dose with no observed adverse effect - the value of a dose with no observed effect is the highest tested dose value or exposure level at which no statistically significant effects in the exposed group compared with an appropriate control group are found in a certain study)

OECD Organisation for Economic Co-operation and Development

OECD TG OECD Technical Guidance

OELV Occupational exposure limit value (exposure limit value in the working environment)

PBT Persistent, bioaccumulative and toxic PELc permissible exposure limit

PNEC Predicted no-effect concentration (the predicted concentration that does not cause any adverse effects on the environment)

PROC Process category

REACH Registration, Evaluation and Authorisation of Chemicals - (Regulation (EC) No. 1907/2006)

SCOEL Scientific Committee on Occupational Exposure Limit Values

Skin Irrit. Skin irritation

Skin Sens. Skin sensitisation

STOT Specific Target Organ Toxicity, SE - single, RE - repeated exposure

STP = Sewage treatment plant

TLV-TWA Threshold Limit Value-Time-Weighted Average (the threshold limit, time-weighted average concentration of the chemical in the air (mg.m-3) to which a worker may be exposed during working hours, typically 8 hours)

TRGS Technische Regeln für Gefahrstoffe (technical guidelines for hazardous substances)

UVC Substance of Unknown or Variable composition, Complex reaction products

UVCB Substance of Unknown or Variable composition, Complex reaction products or Biological materials

VLE-MP Exposure limit value - weighted average in mg by cubic meter of air

vPvB Very persistent, very bioaccumulative

Xi irritant

# 16.6 Main literature references and data sources

(1)The MSDSs of the manufacturer for mixture components

(2) original MSDS

(3) technical data sheets and specifications

(4) Database DANCE http://www.mpo.cz/cz/prumysl-a-stavebnictvi/dance/seznamklasifikovanych-latek.html

(5) Database ESIS http://esis.jrc.ec.europa.eu/

# 16.7 Revision

Version draft 1 - the first edition of the safety data sheet - November 1, 2015

Version draft 2.2 - MSDS revised in its entirety in accordance with applicable legislation, including incorporating amendments to the precautionary statements as required by EU regulation no. 487 / 2013, which amends Regulation EC / no. 1272/2008

# 16.8 Guidelines for training

In addition to training programs on health protection, safety at work and environmental protection for its workers, companies must ensure that workers read the safety data sheet (SDS), understand it and apply its requirements.

# 16.9 Scope of liability

This safety data sheet is prepared in accordance with the legal provisions of the REACH Regulation

(EC 1907/2006, Article 31 and Annex II), as amended. Its content describes the conditions for

the necessary precautionary measures when handling the material. The responsibility of the recipient (customers,

users, distributors etc.) of the SDS is to ensure that the information contained therein is correctly understood by all people who may use, handle, dispose of or in any way come into contact with the product. The information in this safety 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 intended use, which is specified on the packaging and in the technical manuals and data sheets.

**The user is responsible for any other use of the cement adhesives from the TERAFIX line, including the use of these products in combination with any other product or in any other process. This implies that the user is responsible for determining appropriate safety measures and for applying the legislation covering his own activities.**

This version of the SDS supersedes all previous versions.

# Attachment

Applicable exposure scenarios of Portland cement are attached to this SDS.

# Attachment: Additional table with technical controls and individual protective measures for chap. 8.2

## 1. Inhalation DNEL 1 mg/m3

## 8.2.1 Appropriate technical inspections

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exposure scenario | PROC\* | Exposure | Local control / local measures | Effectiveness |
| Industrial production of hydraulic building and construction materials | 2, 3 | The length is not limited (up to 480 minutes per shift, 5 shifts per week): (#) <240 min | not required | - |
| 14, 26 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 5, 8b, 9 | Regular local exhaust ventilation | 78 % |
| Industrial use of dry hydraulic building and construction materials  (inside, outside) | 2 | not required | - |
| 14, 22,  26 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 5, 8b, 9 | regular local exhaust ventilation | 78 % |
| Industrial use of wet suspensions of hydraulic building and construction materials | 7 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 2, 5, 8b,  9, 10,  13, 14 | not required | - |
| Professional use of dry hydraulic building  and construction materials  (inside, outside) | 2 | 1. not required or 2. regular local exhaust ventilation | -  72 % |
| 9, 26 | 1. not required or 2. regular local exhaust ventilation | -  72 % |
| 5, 8a,  8b, 14 | regular local exhaust ventilation | 72 % |
| 19 (#) | Local measures are not applicable, only in well-ventilated rooms or outdoors | 50 % |
| Professional use of wet suspensions of hydraulic building and construction materials | 11 | 1. not required or 2. regular local exhaust ventilation | -  72 % |
| 2, 5, 8a,  8b, 9,  10, 13,  14, 19 | not required | - |

\* PROC are the intended uses and are defined in section 1.2.

### 8.2.2 Individual protection measures including personal protective equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exposure scenario | PROC\* | Exposure | Specification of respiratory protective equipment (RPE) | RPE effectiveness - assigned protection factor (APF) |
| Industrial production of hydraulic building  and construction materials | 2, 3 | The length is not limited (up to 480 minutes per shift, 5 shifts per week): (#) <240 min | not required | - |
| 14, 26 | 1. P2 mask (FF, FM) or 2. P1 mask (FF, FM) or | APF = 10  APF = 4 |
| 5, 8b, 9 | P2 mask (FF, FM) | APF = 10 |
| The industrial use of dry hydraulic building and construction materials (inside, outside) | 2 | not required | - |
| 14, 22,  26 | 1. P2 mask (FF, FM) or 2. P1 mask (FF, FM) or | APF = 10  APF = 4 |
| 5, 8b, 9 | P2 mask (FF, FM) | APF = 10 |
| Industrial use of wet suspensions of hydraulic building and construction materials | 7 | 1. P3 mask (FF, FM) or 2. P1 mask (FF, FM) or | APF = 20  APF = 4 |
| 2, 5, 8b,  9, 10,  13, 14 | not required | - |
| Professional use of dry hydraulic building and construction materials (inside and outside) | 2 | 1. P2 mask (FF, FM) or 2. P1 mask (FF, FM) or | APF = 10  APF = 4 |
| 9, 26 | 1. P3 mask (FF, FM) or 2. P2 mask (FF, FM) | APF = 20  APF = 10 |
| 5, 8a,  8b, 14 | P3 mask (FF, FM) | APF = 20 |
| 19 (#) | P3 mask (FF, FM) | APF = 20 |
| Professional use of wet suspensions of hydraulic building and construction materials | 11 | 1. P3 mask (FF, FM) or 2. P2 mask (FF, FM) | APF = 20  APF = 10 |
| 2, 5, 8a,  8b, 9,  10, 13,  14, 19 | not required | - |

\* PROC are the intended uses and are defined in section 1.2.

## 2. Inhalation DNEL 5 mg/m3 8.2.1 Appropriate technical inspections

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exposure scenario | PROC\* | Exposure | Local control / local measures | Effectiveness |
| Industrial production of hydraulic building and construction materials | 2, 3 | The length is not limited (up to 480 minutes per shift, 5 shifts per week) | not required | - |
| 14, 26 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 5, 8b, 9 | 1. not required or 2. regular local exhaust ventilation | -  82 % |
| Industrial use of dry hydraulic building and construction materials  (inside, outside) | 2 | not required | - |
| 14, 22,  26 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 5, 8b, 9 | 1. Full / general ventilation or 2. regular local exhaust ventilation | -  82 % |
| Industrial use of wet suspensions of hydraulic building and construction materials | 7 | 1. not required or 2. regular local exhaust ventilation | -  78 % |
| 2, 5, 8b,  9, 10,  13, 14 | not required | - |
| Professional use of dry hydraulic building and construction materials  (inside, outside) | 2 | 1. not required   or   1. full / general ventilation | -  29 % |
| 9, 26 | 1. not required or 2. regular local exhaust ventilation | -  77 % |
| 5, 8a,  8b, 14 | 1. not required or 2. regular local exhaust ventilation | -  72 % |
| 19 | Local measures are not applicable, only in well-ventilated rooms or outdoors | 50 % |
| Professional use of wet suspensions of hydraulic building and construction materials | 11 | 1. not required or 2. regular local exhaust ventilation | -  77 % |
| 2, 5, 8a,  8b, 9,  10, 13,  14, 19 | not required | - |

\* PROC are the intended uses and are defined in section 1.2.

### 8.2.2 Individual protection measures including personal protective equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Exposure scenario | PROC\* | Exposure | Specification of respiratory protective equipment (RPE) | RPE effectiveness - assigned protection factor (APF) |
| Industrial production of hydraulic building  and construction materials | 2, 3 | The length is not limited (up to 480 minutes per shift, 5 shifts per week) | not required | - |
| 14, 26 | 1. P1 maska (FF, FM)nebo 2. not required | APF = 4  - |
| 5, 8b, 9 | 1. P2 mask (FF, FM) or 2. not required | APF = 10  - |
| The industrial use of dry hydraulic building and construction materials (inside, outside) | 2 | not required | - |
| 14, 22,  26 | 1. P1 maska (FF, FM)nebo 2. not required | APF = 4  - |
| 5, 8b, 9 | 1. P2 mask (FF, FM) or 2. not required | APF = 10  - |
| Industrial use of wet suspensions of hydraulic building and construction materials | 7 | 1. P2 mask (FF, FM) or 2. not required | APF = 10  - |
| 2, 5, 8b,  9, 10,  13, 14 | not required | - |
| Professional use of dry hydraulic building and construction materials (inside and outside) | 2 | 1. P1 maska (FF, FM)nebo 2. not required | APF = 4  - |
| 9, 26 | 1. P2 mask (FF, FM) or 2. not required | APF = 10  - |
| 5, 8a,  8b, 14 | 1. P3 mask (FF, FM) or 2. P1 mask (FF, FM) or | APF = 20  APF = 4 |
| 19 | P2 mask (FF, FM) | APF = 10 |
| Professional use of wet suspensions of hydraulic building and construction materials | 11 | 1. P2 mask (FF, FM) or 2. not required | APF = 10  - |
| 2, 5, 8a,  8b, 9,  10, 13,  14, 19 | not required | - |

\* PROC are the intended uses and are defined in section 1.2.