

# XYPEX® SURFACE APPLIED MATERIALS SAFETY DATA SHEET

REFERENCE: XLTD -SURF-2021-v2 8 Pages

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1 PRODUCT IDENTIFICATION

Xypex Surface Applied Products:  
Xypex Concentrate  
UFI: T310-W0NN-U00F-NHNW

Xypex Modified  
UFI: 8610-E0C2-400X-AV81

### 1.2 PRODUCT USE

Waterproofing and protection of concrete.

Uses advised against: those not described above.

### 1.3 COMPANY IDENTIFICATION

Xypex (UK) Ltd  
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### 1.4 EMERGENCY TELEPHONE NO:

During normal UK office hours: +44 (0)1684 577756

During normal Western Canadian office hours  
(-8hr GMT): +1 604 273 5265

All other times, and in times of unavailability, contact your local  
emergency services.

## SECTION 2. HAZARD IDENTIFICATION

### 2.1 CLASSIFICATION OF THE MIXTURE

#### 2.1.1 Classification according to Regulation (EC) No 1272/2008

|                   |                                     |
|-------------------|-------------------------------------|
| Skin Irrit 2:H315 | Causes skin irritation              |
| Eye Dam 1:H318    | Causes serious eye damage           |
| Skin Sens 1:H317  | May cause an allergic skin reaction |
| STOT SE 3:H335    | May cause respiratory irritation    |

### 2.2 LABEL ELEMENTS



#### Danger

|                    |   |
|--------------------|---|
| H315               | Causes skin irritation  |
| H318               | Causes serious eye damage   |
| H317               | May cause an allergic skin reaction   |
| H335               | May cause respiratory irritation  |
| P261               | Avoid breathing dust  |
| P280               | Wear protective gloves/protective clothing/eye protection/face protection   |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |
| P310               | Immediately call a POISON CENTRE or doctor/physician  |
| P302 + P352        | IF ON SKIN: Wash with plenty of soap and water  |
| P304 + P340        | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                |

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| NAME  | % (weight) | EC No     | CAS No     | Classification according to Regulation (EC) No 1272/2008 (CLP).              |
|---|------------|-----------|------------|--|
| Portland Cement                                   | < 41       | 266-043-4 | 65997-15-1 | Skin Irrit 2:H315,<br>Skin Sens 1:H317,<br>Eye Dam 1:H318,<br>STOT SE 3:H335 |
| Alkaline Earth Compounds<br>(calcium dihydroxide) | < 20       | 215-137-3 | 1305-62-0  | Skin Irrit 2:H315,<br>Eye Dam 1:H318,<br>STOT SE 3:H335                      |
| Sodium carbonate                                  | < 12       | 207-838-8 | 497-19-8   | Eye Irrit. 2; H319   |
| Flue dust, portland cement                        | < 2        | 270-659-9 | 68475-76-3 | Skin Irrit 2:H315,<br>Skin Sens 1:H317,<br>Eye Dam 1:H318,<br>STOT SE 3:H335 |

For full text of H statements see SECTION 16

## 2.3 OTHER HAZARDS

Alkaline when wet.

EUH 203 Contains Chromium (VI). May produce an allergic reaction

No components are known to meet the criteria for PBT or vPvB, according to Regulation (EC) No 1907/2006, Annex XIII, or are considered as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

## SECTION 4. FIRST AID MEASURES

### 4.1 DESCRIPTION OF FIRST AID MEASURES

When seeking medical advice take this safety data sheet with you.

Remember – when seeking medical advice speed is essential.

#### **INHALATION**

**P304 + P340 IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**P312** Call a POISON CENTRE or doctor/physician if you feel unwell. Dust in throat and nasal passages should clear spontaneously. If not, irrigate nose and throat with clean water for at least 20 minutes. Seek immediate professional medical attention. If irritation persists, or later develops, or if discomfort, coughing or other symptoms do not subside seek professional medical attention again.

#### **EYES CONTACT**

**P305 + P351 + P338 IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P310** Immediately call a POISON CENTRE or doctor/physician. Do not rub eyes as additional cornea damage is possible by mechanical stress.

It is advisable to ensure that eyewash facilities are available when this product is handled.

#### **SKIN CONTACT**

**P302 + P352 IF ON SKIN:** Wash with plenty of soap and water.

**P333 + P313** If skin irritation or rash occurs: Get medical advice/attention.

**P362 + P364** Take off contaminated clothing and wash before re-use. When in contact with the product in dry state, gently brush contaminated surfaces to remove all traces of powder and rinse abundantly with clean water. When product is wet, under running water, remove contaminated clothing, shoes, watches etc.... Continuously flush contaminated area with lukewarm, gently flowing water for at least 20 – 60 minutes. Can cause an allergic reaction.

#### **INGESTION**

Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

If conscious, wash out mouth with clean water. Drink 1 cup (240-300ml) of water followed by dilution with milk if available. Ensure plenty of water available to drink.

Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

Seek immediate professional medical assistance and contact a poison centre.

## 4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

**ACUTE:** Irritation to skin and mucous membranes

**DELAYED:** Precautions should be taken to ensure that dust is not inhaled. However, long-term exposure to high levels of dust may result in damage to the lungs.

## 4.3 IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

Move person to fresh air and away from exposure. Wash and clean eyes or skin as described in 4.1. Ensure eyewash facilities are available.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA

All types of extinguishing media are suitable. Prior to using the product liaise with local fire authority for confirmation of best and most current form of extinguishing media for the product.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

No hazardous combustion products

Alkaline earth compounds will cause explosive decomposition of maleic anhydride, nitroalkanes and nitroparaffins, in the presence of water, form salts with inorganic salts and with inorganic bases. The dry salts are explosive.

### 5.3 ADVICE FOR FIREFIGHTERS

No need for specialist protective equipment for firefighters. Prior to using the product liaise with local fire authority for confirmation of best and most current form of firefighting equipment for the product.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PROTECTIVE MEASURES

Always wear full personal protective equipment as referred to under Section 8.2.2 to prevent any contamination of skin, eyes and personal clothing. Ensure have adequate ventilation. Avoid airborne dust generation.

### 6.2 ENVIRONMENT PROTECTION MEASURES

Do not allow product into drains or water courses. Any spillages into watercourses must be alerted to the Environment Agency or other regulatory body.

### 6.3 METHODS FOR CLEANING UP

At all times avoid inhalation of product and contact with skin and eyes.

Contain the spillage. Keep the material dry if possible. Wear full personal protective equipment when cleaning up, whatever method is chosen.

When the product is in a dry state, avoid airborne dust generation when cleaning up. Avoid dry sweeping. Examples of clean-up methods when in dry state are:

- (A) Using a vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique).
- (B) Wipe up the dust by mopping, wet brushing or water sprays or hoses (fine mist to avoid the dust becoming airborne) and remove slurry. Ensure drains are covered.

If the product has become wet, clean up and place in watertight container. Allow material to dry and solidify before disposal. Check current regulations before disposing of spillage, whether in dry state or not.

## SECTION 7. HANDLING AND STORAGE

Do not handle or store product near food, beverages or smoking materials.

### 7.1 HANDLING

Avoid all types of dust generation. (Particularly the creation of respirable dust)

At all times avoid inhalation of product and contact with skin and eyes.

Carrying the product may cause back injuries, strains, sprains or the like. Use correct handling techniques to avoid injury. Use handling equipment and controls if necessary to avoid injury. If in doubt, contact your local health and safety body for further guidance on manual handling.

Always wear sufficient and full protective equipment and suitable clothing when handling the product.

Ensure have adequate ventilation/ventilation equipment available when handling the product.

Do not eat, drink or smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas.

Avoid dropping pails/bags so as to prevent accidental bursting.

### 7.2 STORAGE

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Store this product in a draught free environment, clear of the ground, avoiding humid conditions and extremes of temperature (minimum lower temperature of 7°C). The product should be used within 6 months of the date of production marked on the tin and should not have been exposed to the atmosphere or any risk of oxidization prior to use.

Any product that is stacked should be done so in a stable manner, and to a safe height. The stacking of product should be done in such a manner that it does not create any risk of product falling and accidentally bursting the packaging open.

This product contains Chromium (VI) and may produce an allergic reaction. The cement in this product may contain a reducing agent; the effectiveness of the reducing agent reduces with time. The storage period for the cement ingredient is in accordance with the declared storage period set out by the BCA. Use of this product after the end of the declared storage period may increase the risk of an allergic reaction. Reducing agents do not make cementitious products safe to handle without PPE.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

P261 Avoid Breathing dust

The UK Control of Substances Hazardous to Health Regulations 2002 (as amended) require adherence to good practice principles in the control of exposure to hazardous substances.

Always refer to latest edition of HSE EH40 for up-to-date MEL'S and OEL'S of Inhalable and Respirable dust, prior to using or coming into contact with the product.

The following information was provided on ingredients at time of producing this document. It is important to check the accuracy of the figures stated below, prior to using the product, as these may change from time to time as legislation and regulations are reviewed.

For the equivalent limits in other countries, please consult a competent occupational hygienist or the relevant local regulatory authority.

#### Alkaline Earth Compound (CAS 1305-62-0)

Occupational exposure Standard – 1mg/m<sup>3</sup> (8hr TWA)

Short-term exposure limit (STEL) 4mg/m<sup>3</sup> (15 minutes)

| DNEL               |                   |              |                  |                    |
|--------------------|-------------------|--------------|------------------|--------------------|
| Area of use        | Route of exposure | Effect       | Exposure time    | Value              |
| Workers            | Inhalation        | Local effect | Long term        | 1mg/m <sup>3</sup> |
| Workers            | Inhalation        | Local effect | Acute/short term | 4mg/m <sup>3</sup> |
| General population | Inhalation        | Local effect | Long term        | 1mg/m <sup>3</sup> |
| General population | Inhalation        | Local effect | Acute/short term | 4mg/m <sup>3</sup> |

PNEC aqua = 490 µg/l

PNEC marine = 320 µg/l

PNEC soil = 1080 µg/l

PNEC sewage treatment microorganisms = 3000 µg/l

#### Sodium Carbonate (CAS 497-19-8)

| DNEL               |                   |              |                  |                     |
|--------------------|-------------------|--------------|------------------|---------------------|
| Area of use        | Route of exposure | Effect       | Exposure time    | Value               |
| Workers            | Inhalation        | Local effect | Long term        | 10mg/m <sup>3</sup> |
| General population | Inhalation        | Local effect | Acute/short term | 10mg/m <sup>3</sup> |

PNEC – not available

#### Flue dust Portland Cement (CAS 68475-76-3)

| DNEL               |                   |              |                  |                       |
|--------------------|-------------------|--------------|------------------|-----------------------|
| Area of use        | Route of exposure | Effect       | Exposure time    | Value                 |
| Workers            | Inhalation        | Local effect | Long term        | 0.84mg/m <sup>3</sup> |
| Workers            | Inhalation        | Local effect | Acute/short term | 4mg/m <sup>3</sup>    |
| General population | Inhalation        | Local effect | Long term        | 0.84mg/m <sup>3</sup> |
| General population | Inhalation        | Local effect | Acute/short term | 4mg/m <sup>3</sup>    |

PNEC aqua = 282 µg/l

PNEC marine = 28 µg/l

PNEC sewage treatment microorganisms = 6000 µg/l

PNEC soil = 5000 µg/l

PNEC sediment aqua = 875 µg/l

PNEC sediment marine = 88 µg/l

Chromium, see section 7.2 regarding the presence of reducing agents.

## 8.2 EXPOSURE CONTROLS

### 8.2.1 Appropriate engineering controls

P271 Use only outdoors or in a well-ventilated area.

Provide adequate and suitable ventilation/ventilation equipment when handling product, to maintain dust below OES. All ventilation systems should be filtered before discharge to atmosphere.

General – During work avoid kneeling in the product. If kneeling is absolutely necessary then appropriate impervious waterproof personal protective equipment must be worn.

Isolate personnel from dusty areas.

Do not eat, drink or smoke when working with the product to avoid contact with skin or mouth. Immediately after working with the product, workers should wash or shower or use skin moisturizers. Remove contaminated clothing, footwear, watches, etc... and clean thoroughly before re-using.

### 8.2.2 Personal protection equipment

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

P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

Always use the full recommended Personal Protective Equipment (PPE) when using this product. The following should be used as a minimum:

**Skin Protection** – Use CE Category III marked impervious, abrasion and alkali resistant gloves (made of low soluble Cr (VI) containing material) internally lined with cotton, enclosed rubber boots that resist dust penetration, closed long-sleeved impervious protective clothing that protects skin from contact. Close all fittings at opening. Additionally use skin care products (including barrier creams).

**Eye Protection** – Wear safety goggles/glasses to EN 166(5) at all times when handling the product. Ensure the goggles/glasses have suitable side protection, are tight fitting, are impact resistant, are anti-mist, have wide vision, and that there is no risk of product particles being able to enter the eye(s). It is advisable to ensure that eyewash facilities are available when this product is handled.

**Respiratory Protection** - Always use respiratory protection. Inhalation of product dust must be avoided at all times. Use an FFP2 mask (to EN 149:2001), or in notable dust generation a half mask (EN 140) with a P2 filter (EN 143). In times of heavy exposure an air-stream helmet. Respiratory protective equipment must be in compliance with relevant national legislation. It is good practice to conduct face-fit testing when selecting respiratory protective equipment. Refer to the latest edition of HSE EH40 for up to date MEL'S and OEL'S of Inhalable and Respirable dust.

Additional safety precautions may include the provision of a shower facility.

### 8.2.3 Environmental exposure controls.

According to available technology.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

|  |   |
|--|---|
| Appearance   | Grey particulate powder   |
| Odour  | None  |
| pH   | pH 9.1 – 9.8 (EPA method – 2 parts water to 1 part powder by volume weight) |
| Melting/freezing point                                 | Not applicable  |
| Initial boiling point and range                        | Not applicable  |
| Flash point  | Not applicable  |
| Evaporation rate                                       | Not applicable  |
| Flammability Upper/lower flammability/explosive limits | Not applicable  |
| Vapour pressure  | Not applicable  |
| Vapour density   | Not applicable  |
| Solubility   | Forms slurries with water, hardens over time                                |
| Partition coefficient: n-otanol/water                  | Not applicable  |
| Auto-ignition temperature                              | Not applicable  |
| Decomposition temperature                              | Alkaline earth compounds: 580°C   |
| Viscosity  | Not applicable  |
| Explosive properties                                   | Not applicable  |
| Oxidizing properties                                   | Not applicable  |
| Specific Gravity                                       | 2.0 to 2.8 (water=1)  |

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 REACTIVITY

Alkaline earth compounds react vigorously with strong acids. They also attack aluminum, lead and brass in the presence of moisture.

In the presence of water, calcium aluminates react chemically and harden to form stable calcium aluminate hydrates. This reaction is exothermal and may last up to 24 hours. The total heat released is < 500kJ/kg

### 10.2 CHEMICAL STABILITY

The product is chemically stable. When mixed with water it will harden, with time, into a stable mass.

Products may liberate Carbon Monoxide or Carbon Dioxide

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Alkaline earth compounds will cause explosive decomposition of maleic anhydride, nitroalkanes and nitroparaffins, in the presence of water, form salts with inorganic salts and with inorganic bases. The dry salts are explosive.

Alkaline earth compound is stable up to 580°C. Alkaline earth compounds decompose with loss of water at approximately 580°C to form Calcium Oxide.

### 10.4 CONDITIONS TO AVOID

Avoid humid and drafty environments during storage. Also avoid storage temperatures below 7°C.

### 10.5 INCOMPATIBLE MATERIALS

Products are incompatible with strong acids.

It should be noted that the uncontrolled use of aluminum powder in wet cement should be avoided as hydrogen is produced.

## 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

None known.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

**Acute dermal toxicity:** None of the individual substances are classified for dermal toxicity

| Name                       | CAS no     | Dermal LD <sub>50</sub><br>(mg/kg) | Species |
|----------------------------|------------|------------------------------------|---------|
| Calcium dihydroxide        | 1305-62-0  | >2500                              | rabbit  |
| Sodium carbonate           | 497-19-8   | >2000                              | rabbit  |
| Flue dust, portland cement | 68475-76-3 | > 2000                             | rat     |

**Acute oral toxicity:** May cause irritation to the gastrointestinal tract.

| Name                       | CAS no     | Dermal LD <sub>50</sub><br>(mg/kg) | Species |
|----------------------------|------------|------------------------------------|---------|
| Calcium dihydroxide        | 1305-62-0  | >2000                              | rat     |
| Sodium carbonate           | 497-19-8   | 2800                               | rat     |
| Flue dust, portland cement | 68475-76-3 | > 1848                             | rat     |

**Acute inhalation toxicity:** The product may irritate the throat and respiratory tract. Inhalation may lead to irritation, inflammation or burns. Coughing, sneezing and shortness of breath may occur following exposures in excess of occupational exposure limits.

| Name                       | CAS no     | Dermal LC <sub>50</sub><br>(mg/l) | Species |
|----------------------------|------------|-----------------------------------|---------|
| Calcium dihydroxide        | 1305-62-0  | >6.04                             | rat     |
| Sodium carbonate           | 497-19-8   | >2300                             | rat     |
| Flue dust, portland cement | 68475-76-3 | >6.04                             | rat     |

**Skin corrosion/irritation:** When skin is exposed to the product in its dry or wet state, thickening, cracking or fissuring of the skin may occur. Prolonged contact in combination with abrasion can cause severe burns.

Calcium dihydroxide (40% aqueous) classified as an irritant in the rabbit according to OECD 404.

Sodium carbonate was not irritant in a rabbit OECD 404 study.

Flue dust, portland cement was classified as a skin irritant in an in-vitro OECD 439 test.

Portland cement and alkaline earth compound are an irritant to skin. Ingredients are dermal irritants and dermatitis may develop following exposure.

Cement may have an irritating effect on moist skin (due to transpiration of humidity) after prolonged contact. Prolonged skin contact with wet cement or fresh concrete may cause serious burns because they develop without pain being felt. Repeated skin contact with wet cement may cause dermatitis.

This mixture contains <2ppm Chromium (VI), which is a skin irritant.

**Serious eye damage/irritation:** Direct contact with product may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact either in dry or wet form may cause effects ranging from moderate eye irritation (eg. conjunctivitis or blepharitis) to chemical burns or blindness.

Calcium dihydroxide was classified as seriously damaging to the eyes according to an OECD 405 test in the rabbit.

Sodium carbonate was classified an eye irritant according to an OECD 405 test in the rabbit.

Flue dust, portland cement was classified as seriously damaging to the eyes in an in-vitro OECD 438 test.

**Skin sensitization:** This product contains Portland cement which is classified as a skin sensitizer. Contact dermatitis/Sensitising effects –Prolonged and repeated skin contact with Alkaline earth products may cause dermatitis.

Some individuals may exhibit eczema upon exposure to wet cementitious products, caused either by the high pH which induces irritant contact dermatitis, 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 those two mechanisms. An exact diagnosis is often difficult to assess.

Calcium dihydroxide was not sensitizing in an OECD 429 test.

**Germ cell mutagenicity:** With the exception of Chromium (VI) (<2 ppm) none of the individual substances in this mixture are classified as mutagenic.

Calcium dihydroxide was negative in an OECD 471, 473 and 476.

Sodium carbonate was negative in an OECD 471.

Flue dust, portland cement was negative in an in-vitro micronucleus test.

**Carcinogenicity** None of the individual substances in this mixture are classified as carcinogenic. This mixture contains Chromium (VI) (<2ppm) which can cause cancer in humans under some circumstances.

**Reproductive toxicity:** None of the individual substances in this mixture are classified as reproductive toxicants.

The NOAEL for Flue dust, portland cement in an OECD 422 screening study was 1010mg/kg/day.

**CMR properties:** This mixture is not considered to have CMR properties.

**Specific target organ toxicity – single exposure:** Inhalation of dust can result in irritation and damage to the respiratory tract. The mixture is classified in category 3 due to the respiratory irritant properties of the Portland cement, cement flue dust, and calcium dihydroxide.

**Specific target organ toxicity – repeated exposure:** None of the individual substances are classified for repeat organs toxicity. However, due to the potential to generate dust in the work environment, prolonged or repeated inhalation exposure may cause damage to the lungs, including chronic obstructive pulmonary disease (COPD).

Prolonged or frequent or excessive exposure to respirable crystalline silica dust, cement dust and alkaline earth products may cause respiratory disease, lung disease, lung and respiratory tract damage, ulceration and perforation of the nasal septum, pneumonitis and other serious bad health effects.

In a 28 day rat inhalation study with calcium dihydroxide (OECD 412) the NOAEC was 0.107mg/l

The NOAEL for sodium carbonate in humans is > 10mg/m<sup>3</sup>

In a 90-day study in the rat (OECD 413) with Flue dust, portland cement the NOEC for systemic toxicity was > 61mg/m<sup>3</sup>. The LOAEC for local irritation and response due to high particle load was 5.09mg/m<sup>3</sup>.

### 11.2 ASPIRATION HAZARD

No data available– substance is a powder so endpoint not relevant.



### 11.3 LIKELY ROUTES OF EXPOSURE

Inhalation: YES  
Skin – eyes: YES  
Ingestion : NO – except in accidental cases

### 11.4 POTENTIAL HEALTH EFFECTS

The product may irritate and burn the throat and respiratory tract. Coughing, sneezing and shortness of breath may occur following exposures in excess of occupational exposure limits. Causes skin irritation and is a severe eye irritant.

Chronic exposure to respirable dust in excess of occupational exposure limits may cause coughing, shortness of breath and may cause chronic obstructive lung disease (COPD).

### 11.5 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Inhaling 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 ECOTOXICITY

Do not allow the material to enter water course. If water is contaminated inform the relevant authorities immediately. The addition of a significant amount of cementitious products to water may cause a rise in the pH value and therefore may be toxic to aquatic life under certain circumstances.

Alkaline conditions may also have effects on vegetation.

The following toxicity values are available for calcium dihydroxide (CAS 1305-62-0):

LC<sub>50</sub> (96h) for freshwater/marine fish: 50.6mg/l and 457mg/l  
EC<sub>50</sub> (48h) for freshwater invertebrates (daphnia) : 49.1mg/l  
LD<sub>50</sub> (96h) for marine water invertebrates: 158mg/l  
EC<sub>50</sub> (72h) for freshwater algae: 184.57mg/l and the NOEC is 48mg/l  
NOEC (14d) for marine water invertebrates: 32mg/l  
EC<sub>10</sub>/LC<sub>10</sub> or NOEC for soil macro-organisms: 2000mg/kg soil dw and for micro-organisms is 12000mg/kg/ soil dw  
NOEC (21d) for terrestrial plants: 1080mg/kg

The following toxicity values are available for sodium carbonate (CAS 497-19-8):

LC<sub>50</sub> (96h) for freshwater fish: 300mg/l  
EC<sub>50</sub> (48h) for freshwater invertebrates: 200 - 227mg/l  
EC<sub>50</sub> (72h) for freshwater algae: 10 - 100mg/l  
and the NOEC is 1 - 10mg/l (based on pH)

The following toxicity values are available for Flue dust Portland Cement (CAS 68475-76-3):

NOEC (96h) for freshwater fish: 11.1mg/l  
NOEC (48 h) freshwater invertebrate: 100mg/l  
EL<sub>50</sub> (21 d) for freshwater invertebrates: 68mg/l (reproduction)  
EC<sub>50</sub> (72h) for freshwater algae: 22.4mg/l

### 12.2 PERSISTENCE AND DEGRADABILITY

Alkaline earth material is non-bio-degradable – reacts with atmosphere and dissolved carbon dioxide to form calcium carbonate (chalk). Inorganic substance.

### 12.3 BIO ACCUMULATIVE POTENTIAL

None of the substances in this mixture are known to bioaccumulate, all are inorganic substances.

### 12.4 MOBILITY IN SOIL

Not known, all inorganic substances.

### 12.5 RESULTS OF PBT AND VPVB ASSESSMENT

Product does not contain any substances meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation REACH as amended. The mixture and its components are not mentioned on the Candidate list for possible inclusion in Annex XIV of REACH at the date of the revision of the safety data sheet.

## SECTION 13. DISPOSAL CONSIDERATIONS

### 13.1 WASTE TREATMENT METHODS

Avoid creation of airborne and respirable dust when disposing of product.

### PRODUCT – UNUSED RESIDUE OR DRY SPILLAGE

Pick up dry and put in containers. Mark container clearly. In case of disposal, harden with water to avoid dust creation. Dispose of at a licensed waste facility accepting cementitious and alkaline earth based waste. Dispose of all materials in accordance with current regulations/legislation.

### PRODUCT - SLURRIES

Allow to harden. Avoid entry into sewage and drainage systems or into bodies of water and dispose of as indicated for hardened product.

### PRODUCT – AFTER ADDITION OF WATER, HARDENED

Dispose of at a licensed waste facility accepting cementitious and alkaline earth based waste. Dispose of all materials in accordance with current regulations/legislation. Avoid entry into sewage and drainage systems or into bodies of water.

### 13.2 PACKAGING

Completely empty packaging and process it according to current regulations/legislation.

### 13.3 PRODUCT THAT HAS EXCEEDED ITS SHELF LIFE

When demonstrated that the product contains more than 0.0002% soluble Cr (VI): shall not be used 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 (Note: Technical consultation should be made prior to treating the product with a reducing agent, to ensure that the addition of the reducing agent has no detrimental effect on the safety and/or performance of the product).

## SECTION 14. TRANSPORT INFORMATION

The product is not currently classified as hazardous for transport purposes.

## SECTION 15. REGULATORY INFORMATION

### 15.1 THE MARKETING AND USE OF CEMENT BASED PRODUCTS IS SUBJECT TO A RESTRICTION ON THE CONTENT OF CHROMIUM (VI)

From 17<sup>th</sup> January 2005, those cement-based products that contain more than 2 ppm of soluble hexavalent chromium (Chromium VI) by dry weight of cement will either be withdrawn from the market place, or treated with a chemical reducing agent. The effectiveness of the reducing agent reduces with time, therefore packaging and/or delivery documents will contain information on the period of time (Shelf life) for which it has been established that the reducing agent will continue to limit the level of hexavalent chromium to less than 2ppm by dry weight of cement. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the product.

## 15.2 NATIONAL LEGISLATION/REQUIREMENTS

The UK left the EU on 1<sup>st</sup> January 2021, major chemical legislation, in force on 1<sup>st</sup> January 2021, is part of new UK law.

UK Statutory Instruments 2020 No. 1577  
REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019 UK Statutory Instruments 2019 No. 720  
SCHEDULE 2 which gives the amendments for Regulation (EC) No 1272/2008.

CONIAC Health Hazard Information Sheet No 26 (Cement)  
Health and Safety at Work etc... Act 1974.  
Control of Substances Hazardous to Health (Regulations).

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

HSE Guidance Notes EH26 (Occupational Skin Diseases – Health and safety precautions).

HSE Guidance Note EH40/2005 – (Workplace Exposure Limits)  
First Aid Manual authorised by St John's/St Andrew's/Red Cross

Manual Handling Operation Regulations.

Environmental Protection Act.

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.  
Statutory Instrument 2002 No.1689  
HSE Chemical Hazard Alert Notice 35

COSHH Essentials: Easy steps to control chemicals  
COSHH Regulations HSE 193.

General Note: National Legislation - Sand Blasting – According to the Control of Substances Hazardous to Health Regulations 2002, sand and other substances containing free crystalline silica cannot be used as an abrasive for blasting articles in any blasting apparatus.

European Legislation: Dry Blasting – According to National regulations in EU member states, sand containing more than a certain amount of free crystalline silica cannot be used for dry blasting. This amount varies between 1% and 5% according to the Country.

The following additional information is provided:

| NAME   | EC No     | REACH Registration number |
|--|-----------|---------------------------|
| Portland Cement                                | 266-043-4 | Exempt, Annex V, pt 10    |
| Alkaline Earth Compounds (calcium dihydroxide) | 215-137-3 | 01-2119475151-45-XXXX     |
| Sodium carbonate                               | 207-838-8 | 01-2119485498-19-XXXX     |
| Flue dust, portland cement                     | 270-659-9 | 01-2119486767-17-XXXX     |

## SECTION 16. OTHER INFORMATION

### Abbreviations

OEL: Occupational Exposure Limit  
TWA: Time Weighted Averages  
MEL: Maximum Exposure Limit  
UEL: Upper Explosion Limit  
LEL: Lower Explosion Limit  
PPE: Personal Protective Equipment  
EC<sub>50</sub>: median effective concentration  
LC<sub>50</sub>: median lethal concentration  
LD<sub>50</sub>: median lethal dose  
NOEC: no observable effect concentration  
PNEC: Predicted No Effect Concentration  
NOEL: No Observed Effect Level

### References

Calcium dihydroxide Product Safety Data Sheet and REACH registration

Safety Data Sheets of all individual substances in the product.

Portland Cement Dust – Hazard assessment document  
EH75/7, UK Health and Safety Executive, 2006.

Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (199.9)

European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission 2002).

Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Chromium VI in cement, NIOH, Page 11, 2003.

Health and Safety Executive. Construction Information sheet No 35 (revision 2) <http://www.hse.gov.uk/pubns/cis36.pdf>

EUROSIL – The European Association of Industrial Silica Sand Producers

IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.

It should be noted that the neither the Silica sand nor other minerals in this product are classified as carcinogenic. However, it is recognized that in the work environment conditions of use may potentially create respirable crystalline silica dust from this or other products; prolonged exposure to these respirable particles may cause lung fibrosis. The following text about silica sand is provided as information and may be applicable to the workplace. It is emphasized that, as provided, this product does not contain respirable particles that would lead to its classification and generation of dust from this or other products should be avoided, and in all cases the appropriate PPE should be worn.

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated

IARC (1997) has concluded that there is 'sufficient evidence for the carcinogenicity of inhaled crystalline silica in the form of quartz and cristobalite in certain industrial circumstances, but that the carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of polymorphs'. Principle symptoms of lung fibrosis (commonly referred to as silicosis) are cough and breathlessness. Occupational exposure to respirable dust and respirable crystalline silica dust should be monitored and controlled.

#### Social dialogue on Respirable Crystalline Silica

A multi-sectoral social dialogue agreement on *Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it* was signed on 25<sup>th</sup> April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the agreement and its annexes, including the Good Practices Guide, are available from <http://www.nepsi.eu> and provide useful information and guidance for the handling of products containing respirable crystalline silica.

#### UK Health and Safety Executive – silica (quartz)

Extract taken from <http://www.hse.gov.uk/quarries/silica.htm>

"Quartz is found in almost all kinds of rock, sands, clays, shale and gravel. Workers exposed to fine dust containing quartz are at risk of developing chronic and possibly severely disabling lung disease known as 'silicosis'. It usually takes a number of years of regular daily exposure before there is a risk of developing silicosis. Silicosis is a disease that has only been seen in workers from industries where there is a significant exposure to silica dust, such as in quarries, foundries, the potteries etc... No cases of silicosis have been documented among members of the general public in Great Britain, indicating that environmental exposures to silica dust are not sufficiently high to cause this occupational disease.

In addition to silicosis, there is now evidence that heavy and prolonged workplace exposure to dust containing crystalline silica can lead to an increased risk of lung cancer. The evidence suggests that an increased risk of lung cancer is likely to occur only to those workers who have developed silicosis.

It should be noted that excessive long-term exposures to almost any dust, are likely to lead to respiratory (breathing) problems.

Detailed reviews of the scientific evidence on the health effects of crystalline silica have been published by HSE in the following Hazard Assessment Documents EH 75/4 and EH 75/5. These documents are available from HSE Books."

The information contained in this Safety Data Sheet does not constitute the user's own assessment of the workplace risk as required by Health and Safety Legislation. It is the sole responsibility of the user to take all precautions required in handling the product.

The information in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information given is based on technical data we believe to be reliable at time of issue. Because of conditions outside our control, it is the responsibility of the user to verify safety data for combinations with other materials, or for use in specific purposes, and to verify waste disposal requirements.

Such information contained within this Safety Data Sheet is to the best of Xypex (UK) Ltd knowledge and belief accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself/herself as to the suitability and completeness of such information for his/her own particular use.

#### **H AND P PHRASES**

##### **Hazard statements:**

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

##### **Precautionary phrases (label elements in red)**

- P261 Avoid breathing dust**
- P280 Wear protective gloves/protective clothing/eye protection/face protection.**
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**
- P310 Immediately call a POISON CENTRE or doctor/physician.**
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.**
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**
- P332 + P313 If skin irritation occurs: Get medical advice/attention.**
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.**
- P362 + P364 Take off contaminated clothing and wash before reuse.**
- P264 Wash hands thoroughly after handling.**
- P312 Call a POISON CENTRE/ doctor/... if you feel unwell.**
- P321 Specific treatment (see ... on this label).**
- P271 Use only outdoors or in a well-ventilated area.**
- P272 Contaminated work clothing should not be allowed out of the workplace.**
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed**
- P405 Store locked up.**
- P501 Dispose of contents/container to ...**

#### **Rational for mixture classification**

| Classification according to Regulation (EC) Nr. 1272/2008 | Classification procedure |
|---|--------------------------|
| Skin Irrit 2: H315  | >10 %, table 3.2.3       |
| Eye Dam 1: H318   | >3 % table 3.3.3         |
| Skin Sens 1: H317   | >1.0 % table 3.4.3       |
| STOT SE 3: H335   | >20 % point 3.8.3.4.5    |

Mixture classified in accordance with CLP (EC no 1272/2008) and any amendments in force on 31<sup>st</sup> December 2020.

#### **Version Number 2**

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#### **Changes made to sections**

Section 3 UK Reach numbers removed.

Section 15 Additional Information regarding Reach Registration numbers has been removed