

## 1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY/ UNDERTAKING

### 1.1 Identification of the substance/preparation

- Ultrafine hydraulic binder with a high blast furnace slag content, SPINOR®.

### 1.2 Use of the substance/preparation

Ultrafine hydraulic binders are used for the production of grouts.

### 1.3 Company Identification

Company Name : Holcim France  
Address : 8e floor - 192, Avenue Charles de  
Gaulle  
F – 92200 Neuilly sur Seine  
Téléphone number : + 33 (0)1 49 91 80 00  
Fax number : + 33 (0)1 49 91 80 01  
E-mail of responsible person for SDS : reach-  
frbe@holcim.com

### 1.4 Emergency telephone

ORFILA (France) : + 33 (0)1 45 42 59 59  
If needed, search for a local emergency  
telephone number of an official advisory body  
(e.g. body responsible for receiving health and  
safety information referred to in Art 17 of  
1999/45/EC).

## 2. HAZARD IDENTIFICATION

When cement reacts with water, for instance when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced.

### 2.1 Hazard characterisation

Xi Irritant  
R37/38 Irritating to respiratory system and skin  
R41 Risk of serious damage to eyes  
R43 May cause sensitisation by skin contact

### 2.2 Primary route(s) of entry

**Inhalation** : Yes  
**Skin-Eyes** : Yes  
**Ingestion** : No, except in accidental cases

### 2.3 Human health

**Inhalation** : Frequent inhalation of large quantities of cement dust over a long period of time increases the risk of developing lung diseases.

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

**Skin** : Cement may have an irritating effect on moist skin (due to transpiration or humidity) after prolonged contact.

Prolonged skin contact with wet cement or wet concrete may cause serious burns because they develop without pain being felt (for example when kneeling in wet concrete even when wearing trousers).  
Repeated skin contact with wet cement may cause contact dermatitis.

For more details see Reference (1).

### 2.4 Environment

Under normal use, the product is not expected to be hazardous to the environment.

### 2.5 Further information

Cement is poor in chromate by itself or by reducing the content of sensitising soluble chromium (VI) to below 0.0002% in the cement ready for use according to legislation specified under heading 15.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Chemical Composition

**SPINOR® : Ultrafine hydraulic binder with a high blast furnace slag content** : see annex1.

## 3.2 Components presenting a health hazard:

Substance	Concentration range (by weight in binder)	EINECS (European Inventory of Existing Commercial Chemical Substances)	CAS number	Symbole [C&L]	R
Portland Cement Clinker	5-100%	266-043-4	65997-15-1	Xi	R37 R38 R41 R43
Flue dust from production of cement clinker	0-5%	270-659-9	68475-76-3	Xi	R37 R38 R41 R43
Granulated Blast furnace slag	6-95%	266-002-0	65996-69-2	-	-
Pure Iron sulfate	0-1%	231-753-5	7720-78-7	Xn	R22
Iron sulfate with gypsum	0-1%	231-753-5	7720-78-7	Xn	R22
Tin sulfate	0-0.1%	231-302-2	7488-55-3	Xi	R36 R37 R38
Tin chloride	0-0.1%	231-868-0	7772-99-8	Xi	R34 R52 R53
Additives (base Triéthanola mine)	0-0.5%	203-049-8	102-71-6	Xi  Xn	R37 R38 R41 R22 R48



#### 4. FIRST AID MEASURES

When contacting a physician, take this SDS with you.

##### 4.1 After significant accidental inhalation

Move 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.

##### 4.2 After contact with eyes

Do not rub eye as additional cornea damage is possible as a result of mechanical stress. Remove any contact lenses and open the eyelid(s) widely to flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 45 minutes to remove all particles. If possible, use isotonic water (0.9% NaCl). Contact a specialist of occupational medicine or an eye specialist.

##### 4.3 After skin contact

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

##### 4.4 After significant accidental ingestion

Do not induce vomiting. If 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.

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Flashpoint and method

Binders are non-combustible and non-explosive and will not facilitate nor support combustion of other materials.

##### 5.2 Extinguishing media

All types of extinguishing media are suitable.

##### 5.3 Fire fighting equipment

Binder poses no fire-related hazards. No need for specialist protective equipment for fire fighters.

##### 5.4 Combustion products

None.

##### 5.5 Flammable limits: Lower explosion limit (LEL) – Upper explosion limit (UEL).

Not applicable.

#### 6. ACCIDENTAL RELEASE MEASURES

##### 6.1 Personal protective measures

Wear protective equipment as described under Heading 8 and follow the advice for safe handling and use given under Heading 7. Emergency procedures are not required.

##### 6.2 Environment protection measures

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

##### 6.3 Methods for cleaning up

Recover the spillage in a dry state if possible.

###### **Dry Binder**

Use dry cleanup methods that do not cause airborne dispersion, e.g.:

- Vacuum cleaner (Industrial portable units, equipped with high efficiency particulate filters (HEPA filter) or equivalent technique)
- Wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry.

If not possible, remove by slurring with water (see wet binder).

When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading.

Avoid inhalation of binder and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Heading 13.

###### **Wet Binder :**

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



## 7. HANDLING AND STORAGE

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

### 7.1 Handling :

Follow the recommendations as given under Heading 8.

Avoid dust development:

- For (bagged) binder used in open-ended mixers: first add the water and then carefully add the binder. Keep the height of the fall low. Start the mixing smoothly. Do not compress empty bags, except when contained in another clean bag.
- To clean up dry binder See heading 6.3.

Carrying binder bags may cause sprains and strains to the back, arms, shoulders and legs. Handle with care and use appropriate control measures.

### 7.2 Storage

Bulk binder should be stored in silos that are waterproof, dry (internal condensation minimised), clean and protected from contamination.

Engulfment hazard: To prevent burial 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 binder without taking the proper security measures. Binder can build-up or adhere to the walls of a confined space. The binder can release, collapse or fall unexpectedly.

Packed products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality.

Bags should be stacked in a stable manner.

### 7.3 Control of soluble Cr (VI)

For hydraulic binders treated with a Cr (VI) reducing agent according to the regulations given in Heading 15, the effectiveness of the reducing agent diminishes with time. Therefore hydraulic binder bags and/or delivery documents will contain information on the period of time ('shelf life') for which the manufacturer has established that the reducing agent will continue to maintain the level of soluble Cr (VI) below the imposed limit of 0.0002%, according to EN 197-10. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the reducing agent.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Exposure limit values

As no harmonised exposure limit values exist at EU level, values applicable in France :

Dust exposure limit values (article R.232-5-5 du Code du travail) :

- OEL inhalable : 10 mg/m<sup>3</sup>.
- OEL alveolar fraction: 5 mg/m<sup>3</sup>.

Refer to local and national legislation in force where the product is used.

### 8.2 Exposure controls

#### 8.2.1 Occupational exposure controls

**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 binder to avoid contact with skin or mouth.

Immediately after working with binder or binder-containing materials, workers should wash or shower or use skin moisturisers.

Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.

**Respiratory protection:** When a person is exposed to dust level above exposure limits, use appropriate respiratory protection. It should be adapted to the dust level and conform to the relevant EN standard.

**Eye protection:** : Wear approved glasses or safety goggles according to EN 166 when handling dry or wet binder 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 binder. Particular care should be taken to ensure that wet binder does not enter the boots.

In some circumstances such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

#### 8.2.2 Environmental exposure controls

According to available technology.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 General information

Dry binder is a finely ground inorganic material (odourless, grey or white powder).

### 9.2 Physical data

Main particle size: 2-10 µm  
Solubility in water (T = 20 °C): slight (0.1-1.5 g/l)  
Density: 2.75-3.20 g/cm<sup>3</sup>  
Apparent density (ES): 0.9-1.5 g/cm<sup>3</sup>  
pH (T = 20°C in water): 11-13.5  
Boiling/melting point: > 1 250 °C  
Vapour pressure, vapour density, evaporation rate, freezing point, viscosity: Not relevant.

## 10. STABILITY AND REACTIVITY

### 10.1 Stability

Dry binders are stable as long as they are stored properly (see Heading 7) and compatible with most other building materials.  
When mixed with water, binders will harden into a stable mass that is not reactive to normal environments.

### 10.2 Conditions to avoid

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

### 10.3 Materials to avoid

Uncontrolled use of aluminium powder in wet binder should be avoided as hydrogen produced.

### 10.4 Hazardous decomposition products

Binders will not decompose into other hazardous by-products and do not polymerise.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Acute effects

**Eye contact:** Direct contact with binder may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry binder or splashes of wet binder may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.

**Skin contact:** Dry binder in contact with wet skin or exposure to moist or wet binder may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion can cause severe burns.

**Acute dermal toxicity:** Limit test, rabbit, 24 hours contact, 2 000 mg/kg body weight – no lethality [Reference (2)].

**Ingestion :** Swallowing large quantities may cause irritation to the gastrointestinal tract.

**Inhalation:** Binder may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits.

### 11.2 Chronic effects

**Inhalation:** 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).

**Carcinogenicity:** a causal association between binder exposure and cancer has not been established [Reference (1)].

### **Contact dermatitis/Sensitising effects:**

Some individuals may exhibit eczema upon exposure to wet binder, 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 [Reference (4)]. 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.

If the hydraulic binder contains a soluble Cr (VI) reducing agent and as long as the mentioned period of effectiveness of the chromate reduction is not exceeded, a sensitising effect is not expected [Reference (3)].

### 11.3 Medical conditions aggravated by exposure

Inhaling binder 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.

## 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity

The product is not expected to be hazardous to the environment (LC50 aquatic toxicity not determined). The addition of large amounts of binder to water may, however, cause a rise in pH and may therefore be toxic to aquatic life under certain circumstances.

### 12.2 Mobility

Dry binder is not volatile but might become airborne during handling operations.

### 12.3 Persistence and degradability/Bio accumulative potential/Results of PBT assessment/Other adverse effects

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

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Product – hydraulic binder that has exceeded its shelf life (and when demonstrated that it contains more than 0.0002% soluble Cr (VI)) :

Shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

### 13.2 Product – unused residue or dry spillage

Pick up dry. 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 13.4.

### 13.3 Product – slurries

Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as indicated in 13.4.

### 13.4 Product – after addition of water, hardened

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

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

### 13.5 Packaging:

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

**EWC entry:** 15 01 01 (waste paper and cardboard packaging).

## 14. TRANSPORT INFORMATION

Hydraulic binder 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 Heading 8.

## 15. REGULATORY INFORMATION

### 15.1 Classification and labelling of Hydraulic binder according to 1999/45/EC



Xi Irritant

R37/38 Irritating to respiratory system and skin  
R41 Risk of serious damage to eyes  
R43 May cause sensitisation by skin contact  
S2 Keep out of reach of children  
S22 Do not breathe dust  
S24/25 Avoid contact with skin and eyes  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
S46 If swallowed, seek medical advice immediately and show this container or label

### 15.2 The marketing and use of Hydraulic binder is subject to a restriction on the content of soluble Cr (VI).

#### ***In accordance with Council Directive 2003/53/EC.***

Beyond the date of suitable storage (see the bag or the delivery order), Hydraulic binder can contain more than soluble Cr (VI) 0.0002%. (which may be measured according to standard NF EN 196-10).

Outside the European Union, refer to local legislation.



### 15.3 National legislation/requirements

Arrêté du 26 mai 2005 relatif à l'étiquetage des ciments et des préparations de ciment contenant du chrome hexavalent ou chrome VI.

Décret n°2005-577 du 26 mai 2005 relatif aux conditions de mise sur le marché et d'emploi du ciment contenant du chrome hexavalent ou chrome VI.

In function of the State where the binder is placed on the market and used, please refer to any legislation or requirements regarding binder in force.

### 15.4 REACH requirements

Hydraulic binder is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH). However, some substances in the mixture Hydraulic binder might require registration and an exposure scenario. The necessary exposure scenarios will be added in the annex to this SDS as soon as these substances have been registered and the exposure scenarios have been received from the registrant.

## 16. OTHER INFORMATION

### Abbreviations

- IMDG : International Maritime Dangerous Goods
- IATA : International Air Transport Association
- ADR/RID : Agreement on the transport of dangerous goods by road/Regulations on the international transport of dangerous goods by rail
- LC50 : Lethal Concentration where 50% of the test animals dies.
- OEL : occupational exposure limit
- PBT : persistent, bio accumulative and toxic
- TWA : Time Weighted Averages
- vPvB : very persistent and very bio accumulative

### References

- (1) Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006. Available from: <http://www.hse.gov.uk/pubns/web/portlandcement.pdf>
- (2) Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).

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

- (4) Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, NIOH, Page 11, 2003.

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 own activities.

### Revision's data

Date of modification : 04/01/2011  
Modified data : safety data sheet entirely revised and updated

SPINOR®	Composition (percentage by mass)		
	Main Constituents <sup>a)</sup>		
	Clinker	Blast furnace slag	Minor additional Constituents
	<b>K</b>	<b>S</b>	
Spinor A6	< 20	> 80	0-5
Spinor A12	< 20	> 80	0-5
Spinor A16	< 20	> 80	0-5
Spinor A20	< 20	> 80	0-5
Spinor A32	< 40	> 60	0-5
Spinor A48	< 40	> 60	0-5

a) the values in the table refer to the sum of the main and minor additional constituents, without calcium sulfate, used to control setting.