

## 1 MANUFACTURING AND COMPANY

### 1.1 Manufacturing

The safety data sheet is valid for following products:

Product name: Fischer GeoSolid® 240HS  
Fischer GeoCompact®  
Fischer GeoSecure®  
Fischer GeoFlow®  
Fischer GeoFlow IQ®  
Fischer GeoTight®

### 1.2 The use of preparation

Application area: hydraulic backfilling material for grouting, sealing, solidifying for earthworks and civil engineering.

### 1.3 Company

Manufacturer/ Supplier: Fischer Spezialbaustoffe GmbH  
Gutenbergstraße 4  
D-91560 Heilsbronn  
Phone: +49 (0) 9872/953 999 - 0

Responsible for the safety data sheet: m.fischer@fischer-spezialbaustoffe.de

Responsible for information, technical service and quality monitoring: Phone: +49 (0) 9872/953 999 - 0

### 1.4 Emergency information

Giftinformationszentrale der Medizinischen Klinik 2, Nuremberg North (Emergency poison centre)  
Professor-Ernst-Nathan-Str. 1  
D-90340 Nuremberg  
Phone: + 49 (0) 911/398 24 51  
& see 1.3 Manufacturer/ Supplier

## 2 POSSIBLE HAZARDS

The product develops a strong alkaline PH- value, if it is in contact with water or gets moist.

### 2.1 Classification

Xi Irritant  
R 38 Irritating to skin  
R 37 Irritating to respiratory organs  
R 41 Risk of serious damage to eyes  
R 43 May cause sensitization by skin contact  
(in combination with R38)

### 2.2 Routes of exposure

Inhalation: Yes  
Skin-eyes: Yes  
Swallowing: No, only by accident

### 2.3 Possible harmful effects on humans

Inhalation: There is an increased risk for lung diseases, if large quantities dust of the dry product is inhaled repeatedly and over an extended period of time.  
Eyes: Risk of serious, and possible permanent damage to eyes, if the dry or wet product is in contact with the eyes.  
Skin: With ongoing contact, there is an irritation on moist skin. There is a possibility of irritations of the skin, dermatitis or other severe skin damages, if the skin is in contact with the moist material, over an extended period of time.

For more details see 3.

### 2.4 Possible negative impact on the environment

If the product is handled properly, there is no negative influence on the environment.

### 2.5 Other possible hazards

The product is low in chromate, if stored properly and used before the expiration date. See 7.2/15.

### 3 COMPOSITION/ DETAILS ON THE COMPONENTS

#### 3.1 Chemical characterization

Cement DIN 1164-10/ DIN EN 197, blast furnace, slag, aluminohydrosilicate, silicon dioxide, additive

#### 3.2 Hazardous constituents

| Substance   | Concentration | CAS-Nr.    | ED-Nr.:   | Symbol | R-Phrase      |
|---|---------------|------------|-----------|--------|---------------|
| Cement acc.to DIN<br>1164-10 / DIN EN 197<br>(PC-clinker) | < 20 M.-%     | 65997-15-1 | 266-043-4 | Xi     | R-37-38-41-43 |

The references to the R-Phrases are listed in 16.

### 4 FIRST AID MEASURES

Please present the safety data sheet to the doctor, if treatment is needed.

#### 4.1 After inhalation (unintended):

Lead the patient to fresh air. Seek medical advice with symptoms such as discomfort, cough or any ongoing irritation.

#### 4.2 After eye contact:

Rinse immediately with plenty of water and seek medical advice.

#### 4.3 After skin contact:

Wash immediately with plenty of water, in case of skin irritations seek medical advice.

#### 4.4 After swallowing (unintended):

Rinse out mouth and drink plenty of water, cause no vomiting, consult a doctor or Giftnotrufzentrale (Emergency poison centre). See 1.4.

### 5 FIRE FIGHTING MEASURES

#### 5.1 Suitable extinguishing medium

The product is not, as supplied nor as suspension (mixed with water), flammable or explosive. The extinguishing medium and fire fighting measures are to be coordinated in accordance with the surrounding fire.

#### 5.2 Unsuitable extinguishing medium for safety reasons

Not applicable

#### 5.3 Endangerment through resulting gases

Not applicable

#### 5.4 Special protective equipment

Not required, because the preparation is not flammable.

### 6 MEASURES IN THE EVENT OF ACCIDENTAL RELEASE

#### 6.1 Personal precautions

Wear personal protective equipment. See 8.2. Avoid contact between eyes /skin and dust development.  
Backup of a sufficient ventilation/ sufficient respiratory protection. See 7.1.

#### 6.2 Environmental protection measures

Avoid uncontrolled ingress of water, avoid uncontrolled discharge after ingress of water, avoid discharge into drainage systems and sewers;

#### 6.3 Cleaning/absorption method

Reusable in dry consistence, when constantly dry.

Dry material: Collect as dry as possible, without formation of dust; or moist with formation of dust, please wear personal protective equipment;

Moist material: Absorb mechanically, when hardened then dispose. See 13.

## 7 HANDLING AND STORAGE

Do not store or use near food, drinks or tobacco products.

### 7.1 Handling

Please see recommendations 8. Avoid dust formation (in combination with R38)

Mixing process: pour water in the open mixer, add dry material (if filled in bags) slowly and from a low dropping height.

A careful handling with carrying the bags is recommended. There is a risk of injury for back, shoulders and legs due to the weight of the bags.

### 7.2 Storage

Store in original packaging at all times. Dry and cool storage in unopened bags/big bags without strong air draughts. Bags have to be stacked stably.

### 7.3 Control of the chromium (VI) content

The effectiveness of the reducing agent, which is reducing the chromium content, will degrade over time. Within the minimum period of effectiveness, the content of chromium (VI) remains the same, compared to the content of cement 0,0002%. (According to EN 197-10) Manufacturer's recommendation of storing needs to be followed. If not stored properly (moisture) or over storing the reducing agent can lose its effectiveness and a sensitizing effect can not be excluded for the contact with skin.

## 8 EXPOSURE LIMITATIONS AND PERSONAL PROTECTIVE EQUIPMENT

### 8.1 Exposure limit values

| Limit values  | Route of exposure | Exposure frequency                             | Remark       |
|---|-------------------|--|--------------|
| Watersoluble chromium(VI): 2 ppm  | dermale           | Short term (acutely)<br>Long term (repeatedly) | EN 196-10    |
| Portland cement (dust): 5 (E) mg/m <sup>3</sup>                               | inhalation        | Short term (acutely)<br>Long term (repeatedly) | TRGS 900 (2) |
| General dust limit value: 3 (A) mg/m <sup>3</sup><br>10 (E) mg/m <sup>3</sup> |                   |  |              |

### 8.2 Limitation and monitoring of exposure

#### 8.2.1 Limitation and monitoring of exposure at the workplace

|  |  |
|--|--|
| General protection and hygiene measures: | Do not eat, drink or smoke while working. Wash hands or shower to clean off adhesive dust. Change clothing and shoes. Avoid contact with skin and eyes.                        |
| Breath protection:                       | Instruction BGR 190 of the Central Federation of Industrial Professional Associations: particle-filtration half mask or particle-filtration mask P1-P3.                        |
| Hand protection:                         | Instruction BGR 195 of the Central Federation of Industrial Professional Associations: when preparing mortar or concrete, wear nitrile impregnated cotton gloves with CE mark. |
| Eye protection:                          | Instruction BGR 192 of the Central Federation of Industrial Professional Associations: protecting goggles with vision screen, Typ XY ZZ 3 or 4.                                |
| Skin protection:                         | Instruction BGR 197 of the Central Federation of Industrial Professional Associations: Skin protection through skin protection plan.   |
| Body protection:                         | Closed, long-sleeved protective clothing and close-fitting shoes.  |

#### 8.2.2 Limitation and monitoring of environmental exposure

In accordance with the current technology.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 General information

Form/color: granular, powdered substances/ soft grey  
 Odor: odorless

### 9.2 Important information on health- and environmental protection and safety

| Parameter                     | Value                 | Remark                     |
|-------------------------------|-----------------------|----------------------------|
| pH-Value                      | 12 - 13               | DIN ISO 787 Part 9 (mixed) |
| Average particle size         | 0,1 – 0,2 mm          |                            |
| Boiling point                 | Not applicable        |                            |
| Melting temperature           | > 1000°C              |                            |
| Deacidification of lime stone | > 650°C               |                            |
| Flashpoint                    | Not flammable         |                            |
| Danger of explosion           | Not applicable        |                            |
| Density                       | 2,7 g/cm <sup>3</sup> | DIN ISO 787 Part 10        |
| Water solubility (T=20°C)     | 0,1 - 1,5 g/l         |                            |

Further physical and chemical properties according to regulation EG 1907/2006 are not relevant.

## 10 STABILITY AND REACTIVITY

### 10.1 Stability

The material is stable, when the appropriate storage is ensured. See 7. If getting damp/ moist the material hardens and forms a solid mass, which does not react with its surroundings.

### 10.2 Conditions to be avoided

Avoid ingress of moisture

### 10.3 Substances to be avoided

No use of additives

### 10.4 Hazardous decomposition products

Not applicable

## 11 TOXICOLOGICAL DATA

### 11.1 Acute toxicity

Eye contact: Primary irritating effect and possibility of damage of the cornea caused by irritation and mechanical influence. In larger volumes: moderate eye irritation up to severe eye damages and blindness.

Skin contact: Irritant effect on skin and mucous membranes and inflammatory reactions of the skin (for example redness, cracking) up to severe skin damages.

Acute dermal toxicity: No difference in mortality (4) in limit tests, rabbit, 24 hours exposure, 200mg/kg weight

Swallowing: By swallowing large amounts, it can cause irritation of the gastrointestinal system.

Intake of breath: Irritation of the respiratory system (throat, lungs) with the exposure of dust. The limitations of exposure at the workplace need to be followed.

### 11.2 Chronic effects

Inhalation: Long term exposure of respirable dust above the limitation of exposure at the workplace, may cause cough, shortness of breath and chronic obstructive respiratory illness.

Carcinogenicity: There is no causal link between the exposure of the material and cancer. 3)

Contact dermatitis/ sensitizing effect: The contact with the moist material, can cause skin eczemas. The eczemas are caused by the PH-value (irritant contact dermatitis) or by the immunological reaction with chromium (VI) (allergic contact dermatitis) 5. In compliance with the expiration date the chromium (VI) substance is reduced lower than 2ppm through the reducing agent and a sensitizing effect is not to be expected.

### 11.3 Medical effects of exposure

The inhalation of dust can intensify pre-existing illnesses of the respiratory systems (f.e. asthma, lung emphysema). This also applies to pre-existing skin and eye diseases.

## 12 ECOLOGICAL DATA

### 12.1 Eco-toxicity effect

The product is not harmful to the environment. Eco-toxilogical tests have shown (16.2.,7,8,10) very small effects. Therefore the values LC50 and EC50 can not be determined. The release of larger amounts of the material into water can cause a toxic effect on the aquatic life under certain circumstances, due to the shift of the PH- value.

### 12.2 Mobility

The dry material is low-dispersal. When handled, microparticles may be stirred up and remain in the air as floating particles.

### 12.3 Persistence and degradability, bioaccumulation potential, other adverse effects

Not applicable, inorganic mineral material

## 13 DISPOSAL INSTRUCTIONS

### 13.1 Product with exceeded period of effectiveness of the reducing agent

The product shall not be used or sold anymore, unless it is used in closed and controlled processes and a new chromate reducer is added.

### 13.2 Unused quantities of the dry material

Collect the dry material, store properly and reuse. Disposal see 13.4.

### 13.3 Moist material/ suspension

Let the material harden and dispose in according to 13.4. Do not allow to reach ground water or sewers.

### 13.4 After addition of water, hardened material

Disposal as concrete in accordance to applicable local state and federal regulations.

RWC waste Code No: 101314 (concrete and concrete slurry)  
170101 (concrete)

### 13.5 Uncleaned Packaging

Dispose complete empty bags.

RWC waste Code No: 150101 (cardboard and paper)

## 14 TRANSPORT DATA

Remarks: The product is not an hazardous material according to the international transport relations. (IMDG, IATA, ADR/RID) A special labeling is not required.

## 15 REGULATIONS

### 15.1 EU Regulations

#### 15.1.1 Chemical safety assessment

A chemical safety assessment is not required, because the material needs to be mixed.

### 15.1.2 Marking

Marking according to directives 1999/45/EG and 67/548 EWG/ §5 Gef. StoffV

Hazard symbol:



Code letter/ hazard designation: Xi irritant

Hazardous constituents: cement

Risk phrases:

R 37 Irritates respiratory system

R 38 Irritates the skin

R 41 Danger of serious eye damages

S phrases:

S 2 Must not be handled by children

S 22 Do not inhale the dust

S 24/25 Avoid contact with the skin and eyes

S 26 In event of contact with the eyes immediately

rinse thoroughly with water and consult a doctor

S 36 Wear suitable protective clothing at work

S 37 Wear suitable protective gloves

S 39 Wear suitable eye/face protection

S 46 In event of swallowing consult doctor immediately

and show label and packaging

### 15.2 Certification and restriction on use

Cement and cement-containing preparations are prohibited, if their content of soluble chromium (VI) is more than 0,0002% of the dry weight of the cement, after hydration. EG 1907/2006 with the exception of controlled, closed and totally automated processes and for the use in such processes, if the cement or the cement-containing preparation is only in contact with the machine and there is no risk of skin contact.

### 15.3 National regulations

Restriction of employment:

None

GISCODE:

ZP 1 (cement containing products/low chromate)

Clean Air regulation:

para 5.2.3. (exposure of dust in transshipment, storage and handling)

Water endangering classification:

Water hazard class 1 (slightly hazardous to water) Self classification VwVwS/ 17.05.1999

Further information:

Gefahrstoffverordnung (GefStoffV), Chemikalienverbotsverordnung (ChemVerbotsV), Instructions of the Central Federation of Industrial, Professional Associations (BGR), TRGS 613

Storage class:

VCI class 13 (not flammable solids)

## 16 OTHER DATA

### 16.1 R-Phrases (2. and 3.)

R 37 Irritating to respiratory system

R 38 Irritating to skin

R 41 Danger of severe eye damages

R 43 Sensitizing possible through skin contact

### 16.2 Data sources

1) <http://www.baua.de>

2) <http://www.hvbg.de>

3) UK Health and Safety Executive (2006): Portland Cement Dust - Hazard Assessment Document EH 57/7; [www.hse.gov.uk/pubns/web/portlandcement.pdf](http://www.hse.gov.uk/pubns/web/portlandcement.pdf)

4) Kietzman et al. (1999): Anmerkungen zu hautirritierenden Wirkungen von Zement; Dermatosen, 47, 5, 184-189.

5) National Institute of Occupational Health (NIOSH, 2003): Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr(VI) in cement; p. 11, Oslo.

6) European Commission, Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE, 2002): Opinion of the risks to health from Cr(VI) in cement; Brussels, C2/AST/csteeop/ChromiumVI 27062002/D(02).

7) U.S EPA (1994a): Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 3rd ed. EPA/600/7-91/002, Environmental Monitoring & Support Laboratory, Cincinnati.

8) U.S EPA (1993): Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 4th ed. EPA/600/4-90/027F, Environmental Monitoring & Support Laboratory, Cincinnati.

9) NCHRP: (2001): Environmental Impact of Construction and Repair Materials on Surface and Ground Waters, Summary of Methodology, Laboratory Results and Model Development; report 448, National Academy Press, Washington D.C.

10) AnalyCen Ecotox AS (2007): Sediment Phase Toxicity Test Results with Corophium volutator for Portland clinker-Final report; prepared for Norcem A.S.

### 16.3 Abbreviations

|          |  |
|----------|--|
| IMDG:    | International Maritime Dangerous Goods   |
| IATA:    | International Air Transport Association  |
| ADR/RID: | Aggreement on the tranport of dangerous goods by road/ Regulations on the international transport of dangerous goods by rail |
| LC50:    | lethal concentration, 50% of the trail population died   |
| EC50:    | median effective concentration, 50% of the trial population show a defined effect  |
| BGR:     | Berufsgenossenschaftliche Regel für Sicherheit und Gesundheit  |
| AVV:     | Abfallverzeichnisverordnung  |

### 16.4 Additional remarks

If Fischer GeoSolid® 240-HS / Fischer GeoCompact® / Fischer GeoSecure® / GeoFlow® / GeoFlow IQ® / GeoTight® is narrowed down to a kernel size of <5µm, the fine dust is silicogenic. Then the accident prevention regulation applies. (VBG 119)

According to article 6 2) RL 1999/45EG the classification of the cement as R43 is not required, because with a conventional evaluation the sensitizing effect of the cement due to its antagonistical (chromium VI and reduction agent) effect has been overestimated.

### 16.5 Changes made since the last version

The current safety data sheet has been revised and extended due to the changes according to REACH regulation.

### 16.6 Additional data

The information given on this safety data sheet must be regarded as a description of the safety requirements relating to our products and relies on the current state of our knowledge. It does not represent a guarantee (in the sense of the legal guarantee regulations) of the properties of the products. Current rules and regulations including those which are not listed in this sheet have to be obeyed by the recipient at his own responsibility.

### 16.7 Department issuing data sheet

See 1.3.