SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name : SEWPERCOAT® PG
Product code : K00SPCPG-US.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Hydraulic concrete for application in the sewers

1.3. Details of the supplier of the safety data sheet
Registered company name : KERNEOS INC.
Address : 1316 Priority Lane.VA 23324.Chesapeake.USA.
Telephone : +1 757 284 3200. Fax : +1 757 284 3300.
sds@kerneos.com
www.kerneosinc.com

1.4. Emergency telephone number : +1 800 424 9300.
Association/Organisation : Chemtrec for USA and Canada.
Other emergency numbers
American Association of Poison Control Centers, 515 King Street, Suite 510 VA 22314 Alexandria : +1 800 222 1222

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
HCS compliant.
This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.
This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

2.2. Label elements
HCS compliant.
No labelling requirements for this mixture.

2.3. Other hazards
None to your knowledge

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures
Composition :
Cement Alumina Chemicals CAS : 65997-16-2 EC : 266-045-5 Reach : Exempt
Classification SGH : none
Content : 20 - 40 %

<table>
<thead>
<tr>
<th>Identification</th>
<th>HCS</th>
<th>Nota</th>
<th>%</th>
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<td>CAS: 69012-64-2</td>
<td></td>
<td>[1]</td>
<td>1 &lt;= x % &lt; 2.5</td>
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<tr>
<td>EC: 273-761-1</td>
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<td>REACH: 01-2119486866-17</td>
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AMORPHOUS SILICON DIOXIDE

Information on ingredients :
[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.
4.1. Description of first aid measures

In the event of exposure by inhalation:
In case of exposure to high concentrations of dust: move the affected person away from the contaminated area and into the fresh air.

In the event of splashes or contact with eyes:
Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.
If there is any redness, pain or visual impairment, consult an ophthalmologist.

In the event of splashes or contact with skin:
Watch out for any remaining product between skin and clothing, watches, shoes, etc.
Wash with soap.

In the event of swallowing:
Seek medical attention, showing the label.
Never attempt to induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
None, to our knowledge.

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

SECTION 5: FIREFIGHTING MEASURES
Non-flammable.

5.1. Extinguishing media

Unsuitable methods of extinction
- water jet

5.2. Special hazards arising from the substance or mixture
A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.
Do not breathe in smoke.
In the event of a fire, the following may be formed:
- carbon monoxide (CO)
- carbon dioxide (CO2)

5.3. Advice for firefighters
Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Consult the safety measures listed under headings 7 and 8.

For first aid worker
First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions
Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up
Retrieve the product by mechanical means (sweeping/vacuuming).

6.4. Reference to other sections
Sections 7, 8 & 13

SECTION 7: HANDLING AND STORAGE
Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling
Always wash hands after handling.

Fire prevention:
Prevent access by unauthorised personnel.
Recommended equipment and procedures:
For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.

Prohibited equipment and procedures:
No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities
Keep the container tightly closed in a cool, well ventilated place
Keep the container away from dampness

Packaging
Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)
No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Occupational exposure limits:
- Germany - AGW (BaUa - TRGS 900, 21/06/2010):
  
<table>
<thead>
<tr>
<th>CAS</th>
<th>VME :</th>
<th>VME :</th>
<th>Excess</th>
<th>Notes</th>
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<tr>
<td>69012-64-2</td>
<td>0,3 A mg/m3</td>
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Particles not otherwise specified/classified

UK / WEL (Workplace exposure limits, EH40/2005, 2007) : Total Dust TWA=10mg/m3 Respirable dust TWA=4mg/m3
ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) : Respirable particles TWA =3 mg/m3 Inhalable particles TWA=10mg/m3
USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) : Respirable particles TWA=5mg/m3 Total particles TWA=15mg/m3

Derived no effect level (DNEL) or derived minimum effect level (DMEL):
AMORPHOUS SILICON DIOXIDE (CAS: 69012-64-2)

| Final use: | Man exposed via the environment. |
| Final use: | Man exposed via the environment. |
| Exposure method: | Inhalation. |
| Potential health effects: | Long term local effects. |
| DNEL: | 0.3 mg of substance/m3 |

8.2. Exposure controls
Personal protection measures, such as personal protective equipment
Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE):

Use personal protective equipment that is clean and has been properly maintained.
Store personal protective equipment in a clean place, away from the work area.
Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection
  Avoid contact with eyes.
  Before handling powders or dust emission, wear mask goggles in accordance with standard EN166.

- Hand protection
  Wear suitable protective gloves in the event of prolonged or repeated skin contact.
  Recommended properties:
  - Impervious gloves in accordance with standard EN374

- Body protection
  Work clothing worn by personnel shall be laundered regularly.
  After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection
  Avoid breathing dust.
  Type of FFP mask:
  Wear a disposable half-mask dust filter in accordance with standard EN149.
SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :
- Physical state : Solid in granules.
- Apparent bulk density (Loose packed) : 1400 - 2000 kg/m³
- Color: Grey / brown
- Odour: Odourless

Important health, safety and environmental information
- pH (aqueous solution) : 11 - 12
- pH : Not relevant.
- Boiling point/boiling range : Not relevant.
- Flash point interval : Not relevant.
- Vapour pressure (50°C) : Not relevant.
- Density : 2.9 - 3.3 g/cm³
- Water solubility : Insoluble.
- Melting point/melting range : Not relevant.
- Self-ignition temperature : Not relevant.
- Decomposition point/decomposition range : Not relevant.

9.2. Other information
No data available.

SECTION 10 : STABILITY AND REACTIVITY

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

10.2. Chemical stability
This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions
None under normal conditions.

10.4. Conditions to avoid
Avoid :
- formation of dusts
- accumulation of electrostatic charges.
- humidity

10.5. Incompatible materials
None, to our knowledge

10.6. Hazardous decomposition products
The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO₂)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
No data available.

11.1.1. Substances

Acute toxicity :
AMORPHOUS SILICON DIOXIDE (CAS: 69012-64-2)
- Oral route : LD₅₀ > 5000 mg/kg
  - Species : Rat
  - OECD Guideline 401 (Acute Oral Toxicity)

- Dermal route : LD₅₀ > 5000 mg/kg
Skin corrosion/skin irritation:
CEMENT, ALUMINA, CHEMICALS (CAS: 65997-16-2)
- Corrosivity:
  No observed effect - Rabbit - OECD 404
AMORPHOUS SILICON DIOXIDE (CAS: 69012-64-2)
  Corrosivity:
  No observed effect.  
Species : Rabbit  
OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious damage to eyes/eye irritation:
Dust may cause slight irritation to the ocular mucous membranes due to the presence of a foreign body.
CEMENT, ALUMINA, CHEMICALS (CAS: 65997-16-2)
- Corneal haze & Iritis:
  Average score < 1 - Rabbit - 72h - OECD 405
- Conjunctival redness & Conjunctival oedema:
  Average score < 2 - Rabbit - 72h - OECD 405

Germ cell mutagenicity:
AMORPHOUS SILICON DIOXIDE (CAS: 69012-64-2)
  Mutagenesis (in vitro):
  Positive.
  Species : Bacteria
OECD Guideline 471 (Bacterial Reverse Mutation Assay)

11.1.2. Mixture

Skin corrosion/skin irritation:
Not irritating

Serious damage to eyes/eye irritation:
Dust may cause slight irritation to the ocular mucous membranes due to the presence of a foreign body.
Not irritating

SECTION 12 : ECOLOGICAL INFORMATION
The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances
CEMENT, ALUMINA, CHEMICALS (CAS: 65997-16-2)
- Fish toxicity:
  CL50 > 100 mg/l - NOEC > 100 mg/l
Oncorhynchus mykiss - 96 h - OECD 203
- Crustacean toxicity:
  CE50 = 6.6 mg/l - NOEC = 1.8 mg/l
Daphnia magna - 48 h - OECD 202
- Algae toxicity:
  CEr50 > 5.6 mg/l - NOEC = 3.2 mg/l
Pseudokirchnerella subcapitata - 72 h - OECD 201
AMORPHOUS SILICON DIOXIDE (CAS: 69012-64-2)
  Fish toxicity:
  LC50 > 100 mg/l
  Species : Brachydanio rerio
  Duration of exposure : 96 h
OECD Guideline 203 (Fish, Acute Toxicity Test)

  Crustacean toxicity:
  EC50 > 1003 mg/l
  Species : Daphnia magna
  Duration of exposure : 24 h
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Algae toxicity:

ECr50 = 4200 mg/l
Species: Selenastrum capricornutum
Duration of exposure: 72 h
ISO 10253 (Water quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum)

12.1.2. Mixtures
No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
No data available.

12.6. Other adverse effects
No data available.

SECTION 13: DISPOSAL CONSIDERATIONS
The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

13.1. Waste treatment methods
Do not pour into drains or waterways.

Waste:
Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.
Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.
Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging:
Empty container completely. Keep label(s) on container.
Give to a certified disposal contractor.

SECTION 14: TRANSPORT INFORMATION
Exempt from transport classification and labelling.

14.1. UN number
-

14.2. UN proper shipping name
-

14.3. Transport hazard class(es)
-

14.4. Packing group
-

14.5. Environmental hazards
-

14.6. Special precautions for user
-

SECTION 15: REGULATORY INFORMATION
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
The following regulations have been used:
- Container information:
No data available.
- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

   NFPA 704, Labelling: Health=0 Inflammability=0 Instability/Reactivity=0 Specific Risk=none

- Clean Water Act : Toxic Pollutants (CWA 307A)
  Unlisted.
- Clean Water Act : Hazardous Substances (CWA 311)
  Unlisted.
- Clean Water Act : Hazardous Substances (CWA 304b)
  Unlisted.
- Clean Water Act : Priority Pollutants (CWA Priority)
  Unlisted.
- Clean Air Act : Hazardous Air Pollutants (CAA 112(b) HAP (188))
  Unlisted.
- Clean Air Act : Organic Hazardous Air Pollutants National Emission Standards (CAA 112(b) HON (387))
  Unlisted.
- Clean Air Act : Protection of Stratospheric Ozone (CAA 602)
  Unlisted.
- SARA 110
  Unlisted.
- SARA 302/304
  Unlisted.
- SARA 313
  Unlisted.
- California proposition 65 : Chemicals known to the state to cause cancer or reproductive toxicity
  Unlisted.
- Massachusetts : Right to Know
  Unlisted.
- New Jersey : Right to Know
  Unlisted.
- Pennsylvania : Hazardous Substance
  Unlisted.
- Rhode Island : Hazardous substance list
  Unlisted.
- TSCA (Toxic Substances Control Act) - USA
  Unlisted.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Abbreviations :

DNEL : Derived No-Effect Level
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organisation
RID: Regulations concerning the International carriage of Dangerous goods by rail.
PBT: Persistent, bioaccumulable and toxic.
vPvB: Very persistent, very bioaccumulable.
HCS: Hazard Communication standard (OSHA).