SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
markSolid 590.G9LP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture
Firing, ceramic coating for glass and ceramics

1.3. Details of the supplier of the safety data sheet

Manufacturer
Company name: Pigmentum GmbH
Street: Schillerstr. 35
Place: D-90547 Stein
Telephone: +49 (0) 911-2126-0  Telex: +49 (0) 911-21260-10
E-mail: office@markSolid.de

Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:
Emergency telephone: +49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
This mixture is not classified as hazardous according to Directive 1999/45/EC.

GHS classification
This mixture is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2. Label elements

Additional advice on labelling
The product does not require a hazard warning label in accordance with EC directives/German regulations on dangerous substances.

2.3. Other hazards
No data available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization
Aqueous suspension
Aqueous preparation with non-hazardous admixtures

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
In the event of persistent symptoms receive medical treatment.

After inhalation
Move victim to fresh air.
In the event of symptoms refer for medical treatment.

After contact with skin
Wash off immediately with soap and plenty of water.
**Safety Data Sheet**

According to Regulation (EC) No 1907/2006

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**markSolid 590.G9LP**

Print date: 23.09.2013

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**After contact with eyes**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

**After ingestion**

If symptoms persist, call a physician.

---

**4.2. Most important symptoms and effects, both acute and delayed**

Do not rub eyes - contains inorganic fillers, which irritate the eyes mechanically like other inert materials.

---

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

Treat symptoms.

---

**SECTION 5: Firefighting measures**

---

**5.1. Extinguishing media**

Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

---

**5.2. Special hazards arising from the substance or mixture**

No specific fire preventions necessary.

---

**5.3. Advice for firefighters**

No special protective equipment required.

---

**SECTION 6: Accidental release measures**

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**6.1. Personal precautions, protective equipment and emergency procedures**

Observe protective instructions (see Sections 7 and 8).

---

**6.2. Environmental precautions**

Do not discharge into the drains or bodies of water.

---

**6.3. Methods and material for containment and cleaning up**

Sweep up and shovel.

---

**6.4. Reference to other sections**

Information for disposal see section 13.

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**SECTION 7: Handling and storage**

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**7.1. Precautions for safe handling**

Advice on safe handling

Keep container tightly closed in a dry, cool and well-ventilated place.

---

**7.2. Conditions for safe storage, including any incompatibilities**

Requirements for storage rooms and vessels

Keep in a dry, cool and well-ventilated place.

Advice on storage compatibility

No incompatible products to be specially mentioned.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

---

**7.3. Specific end use(s)**

Firing, ceramic coating for glass and ceramics

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**SECTION 8: Exposure controls/personal protection**

---

**8.1. Control parameters**
Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1314-23-4</td>
<td>Zirconium dioxide</td>
<td></td>
<td>1</td>
<td></td>
<td>TWA (8 h)</td>
<td>DFG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STEL (15 min)</td>
<td>DFG</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

**Occupational exposure controls**
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

**Protective and hygiene measures**
At work do not eat, drink, smoke or take drugs. Wash hands and skin before breaks and after work.

**Respiratory protection**
Breathing apparatus (particle filter) only if dust is formed.

**Hand protection**
Chemical-resistant gloves (EN 374).

**Eye protection**
Safety goggles with side protection (EN 166).

**Skin protection**
Protection clothes

**Environmental exposure controls**
Handle in accordance with good industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Black</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
</tr>
</tbody>
</table>

**Test method**

pH-Value (at 20 °C): 8

**Changes in the physical state**

Flash point: n.a.
Density: 1,5 g/cm³

9.2. Other information

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
No data available.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Not known
10.5. Incompatible materials
   Not known

10.6. Hazardous decomposition products
   No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
   Toxicokinetics, metabolism and distribution
   No data available.
   Severe effects after repeated or prolonged exposure
   Prolonged skin contact may cause irritation.
   Further information
   Classification in compliance with the assessment procedure specified in the EC guidelines 1999/45/EC.

SECTION 12: Ecological information

12.1. Toxicity
   No data available.

12.2. Persistence and degradability
   Not determined

12.3. Bioaccumulative potential
   Not determined

12.4. Mobility in soil
   Not determined

12.5. Results of PBT and vPvB assessment
   Not determined

12.6. Other adverse effects
   Low hazard to waters.
   Further information
   Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
   Advice on disposal
   Where possible recycling is preferred to disposal.
   Waste disposal number of waste from residues/unused products
   080203 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of other coatings (including ceramic materials); aqueous suspensions containing ceramic materials
   Contaminated packaging
   Can be landfilled or incinerated, when in compliance with local regulations.

SECTION 14: Transport information

Land transport (ADR/RID)
   Other applicable information (land transport)
   No hazardous material as defined by the transport regulations.
Inland waterways transport (ADN)

Other applicable information (inland waterways transport)
No hazardous material as defined by the transport regulations.

Marine transport (IMDG)

Other applicable information (marine transport)
No hazardous material as defined by the transport regulations.

Air transport (ICAO)

Other applicable information (air transport)
No hazardous material as defined by the transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
Handle in accordance with good industrial hygiene and safety practice.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
The transport takes place only in approved and appropriate packaging.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information
Water contaminating class (D): 1 - slightly water contaminating

Additional information
The substance resp. all components are in:

- TSCA: listed
- EINECS/ELINCS: listed
- DSL: listed
- AICS: listed
- ENCS/MITI: listed
- PICCS (PH): listed
- KECI (KR): listed
- HSNO listed
- IECS listed

SECTION 16: Other information

Abbreviations and acronyms
- ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
- RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
- ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
- IMDG = International Maritime Code for Dangerous Goods
- IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
- MARPOL = International Convention for the Prevention of Pollution from Ships
- IBC = Code International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
- CAS = Chemical Abstract Service
- EN = European norm
- ISO = International Organization for Standardization
- VOC = Volatile organic compound
STOT SE = Specific target organ toxicity single exposure
STOT RE = Specific target organ toxicity repeated exposure
PBT = Persistent Bioaccumulative and Toxic
vPvB = Very Persistent and very Bio-accumulative
bw = body weight
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

**Further Information**

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)