1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Commercial Product Name | VAL® 40 R
Name                   | Secondary Raw Material

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

Use of the Mixture | Manufacturing of concrete and formed refractories

Details of the supplier of the safety data sheet

Supplier       | VALOREF S.A.
                | ZI La Croisière
                | F – 84 500 BOLLENE
Telephone      | + 33 (0) 4 90 40 50 00
Email          | contact.valoref@saint-gobain.com
Website        | www.valoref.eu

Emergency telephone number | + 33 (0) 4 90 40 50 00

2 – HAZARDS IDENTIFICATION

Classification of the substance or mixture

None of the composants are classified as hazardous

Label elements
No label elements according to regulation 1272/2008/EC

Other hazards
Human
Product with a low rate of fines: risks of emission of dust while handling
Possible irritation by abrasive action

Environment
No particular risks to the environment

3 – COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Not applicable

Mixtures

Nature | Refractory grain of aluminosilicate
Origin | Secondary raw material from the treatment of used refractory

Chemicals characteristics | VAL® 40 R

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>%</th>
<th>EINECS</th>
<th>CAS</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALUMINIUM OXIDE</td>
<td>38 - 40 %</td>
<td>215-691-6</td>
<td>1344-28-1</td>
<td>01-2119529248-35</td>
</tr>
<tr>
<td>SILICIUM DIOXIDE</td>
<td>58 - 60 %</td>
<td>231-545-4</td>
<td>7631-86-9</td>
<td>Exempted</td>
</tr>
</tbody>
</table>
4 – FIRST AID MEASURES

Description of first aid measures

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>Wash with water and soap</td>
</tr>
<tr>
<td>Eyes contact</td>
<td>Immediately wash with water for 15 minutes and treat as well a particle</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Seek medical advice immediately</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Dust : go to dust free environment</td>
</tr>
</tbody>
</table>

Most important symptoms and effects, both acute and delayed

Not applicable

Indication of any immediate medical attention and special treatment needed

Not applicable

5 – FIREFIGHTING MEASURES

Extinguishing media

The product is non – flammable and is compatible with all firefighting measures

Special hazards arising from the substance or mixture

Not applicable

Advice for firefighters

Not applicable

6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear gloves, an anti-dust mask, type FFP3, and security glasses. Clean by aspiration

Environmental precautions

Clean by aspiration to prevent dust production

Methods and materials for containment and cleaning up

Cleaning methods

Pick up mechanically and clean by aspiration

Reference to other sections

Not applicable

7 – HANDLING AND STORAGE

Precautions for safe handling

Deconditioning Product handling

Use an anti-dust mask, type FFP3, according to NF EN 149
Use the Individual Protection Equipments (Security glasses, anti-dust mask type FFP3 according to NF EN 149, security shoes)
Handle in ventilated areas

Conditions for safe storage, including any incompatibilities

Storage

Dry storage needed

Special care of

Dense Product, control of right capacity of silos and all containers

Specific end use(s)

Not applicable
8 – EXPOSURE CONTROLS/PERSOAL PROTECTION

Control parameters
In normal conditions of use, the product doesn’t yield exposure above 1 mSv/y (1600 h/y) – public limits in accordance with Euratom 96/29 directive

Limits of inhalation:
- Compounds of aluminum oxide:
  - 5 mg/m³ OSHA / 10 mg/m³ ACGIH per 8 hours (TWA)
  - 6 mg/m³ cellular, MAK per 8 hours
  - 10 mg/m³ France per 8 hours (VME)
- Amorphous silicon dioxide:
  - 4 mg/m³, MAK – 6 mg/m³, OSHA per 8 hours (TWA)
  - 10 mg/m³ ACGIH per 8 hours (TWA)

Exposure controls
Individual protection measures in normal use
- Use the Individual Protection Equipments (Security glasses, anti-dust mask type FFP3 according to NF EN 149, security shoes)
- Handle in ventilated areas

9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Granule – fines</td>
</tr>
<tr>
<td>Bulk density</td>
<td>2.15 t/m³</td>
</tr>
<tr>
<td>Colour</td>
<td>Beige / orange clearly</td>
</tr>
<tr>
<td>Odour</td>
<td>Nil</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Product non soluble</td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt;1 %</td>
</tr>
</tbody>
</table>

Other information
- Not applicable

10 – STABILITY AND REACTIVITY

- Not applicable

11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity
- orally: \( \text{LD}_{50} > 2000 \text{ mg/kg bw (rat). OECD 420} \)
- by inhalation: Average maximum concentration applicable:
  \( \text{LC}_{50} > 2.3 \text{ mg/l. OECD 403} \)

Skin irritation: \( \text{Al}_{2}\text{O}_{3} \) Not irritating to the skin of rabbits \( \text{OECD 404} \)

Eye irritation: \( \text{Al}_{2}\text{O}_{3} \) The substance was determined to not be eye irritant \( \text{OECD 405} \)

Chronic toxicity
- by inhalation: \( \text{Al}_{2}\text{O}_{3} \) NOAEC = 70 mg/m³ \( \text{OECD 413} \)

Genetic toxicity in vitro: Aluminium oxide No effects (The authors briefly mention that no mortality nor toxic symptoms were observed at any dose level in the range-finding study nor in the 5 rats at the highest dose level in the main study that was reported in the article) \( \text{OECD TG 420} \)

Ingestion: None
12 – ECOLOGICAL INFORMATION

Toxicity

Short-term toxicity
- to fish
  \( \text{Al}_2\text{O}_3 \) NOEC (96h) > 0.071 mg/L OECD 203 (Salmo trutta)
  LC50 (96h) > 218.64 mg/L total Al, no filtered Pimephales promelas

- to aquatic invertebrates
  \( \text{Al}_2\text{O}_3 \) NOEC (48h) > 0.071 mg/L dissolved. (Daphnia Magna) OECD 202

Persistence and degradability
No data available

Bioaccumulative potential

Bioaccumulation
\( \text{Al}_2\text{O}_3 \) Not applicable, the substance is not classified

Mobility in soil
\( \text{Al}_2\text{O}_3 \) Not applicable, the substance is not classified

Results of PBT and vPvB assessment
\( \text{Al}_2\text{O}_3 \) Not applicable, the substance is not classified

Other adverse effects

Other information
Avert the reject in the environment

13 – DISPOSAL CONSIDERATIONS

Waste treatment methods

Elimination
Inert material which can be eliminated as same, but which may contain some lixiviable pollutant agent. Control of pollutant potential before elimination.

14 – TRANSPORT INFORMATION

UN number
Not applicable

Proper shipping name
Not applicable

Transport hazard clas(ses)
Not applicable

Packing group
Not applicable

Environmental hazards
Not applicable

Special precautions for user

Unloading care
Bulk transportation:
Move away the personnel of the zone of unloading
Open the doors with a mechanical or hydraulic system
15 – INFORMATIONS REGLEMENTAIRES

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

<table>
<thead>
<tr>
<th>CLP regulation EC 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbols and indications of danger</td>
</tr>
<tr>
<td>H phrases</td>
</tr>
<tr>
<td>P phrases</td>
</tr>
</tbody>
</table>

Chemical Safety Assessment

Al₂O₃  Not applicable, the substance is not classified

16 – OTHER INFORMATION

The information hereby contained is elements aware by VALOREF fat the time of the product’s delivery. They couldn’t substitute any safety and care instructions specified by the company while processing. Responsibility of VALOREF couldn’t be engaged in case of injuries or accident because of wrong non utilization of this information.