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

1.1. Product identifier

690-849 DEVELOPER

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

Use of the substance/mixture

PCB DEVELOPER

1.3. Details of the supplier of the safety data sheet

Company:

RS COMPONENTS LTD,

BIRCHINGTON RD, CORBY,

NORTHANTS

NN17 9RS

1.4. Emergency Contact:

RCustomerServicesUK@rs-components.com

Tel: +44(0)1536 402888

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP Classification: Skin Corr. 1B, STOT SE 3; H314 H335

Signal Word: DANGER

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary Statements:

P261 Avoid breathing dust

P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection

2.2. Label elements

Danger Symbols:
### 2.3 Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB. High pH value can damage water.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>EC No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DISODIUM METASILICATE</td>
<td>80%-100%</td>
</tr>
</tbody>
</table>

**INDEX NO:** 10213-79-3

Skin Corr. 1B, STOT SE 3; H314 H335

**Further Information:** No

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**After inhalation**

Move victim out of danger zone. Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice. Take SDS.

**After contact with skin**

After contact with skin, wash immediately with plenty of water. In case of skin irritation, seek medical treatment. Take SDS.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

**After ingestion**

Call a physician immediately. To be accompanied by SDS.
4.2. **Most important symptoms and effects, both acute and delayed**
   
   If applicable, delayed symptoms and effects can be found in section 11., i.e. under section 4.1 for absorption methods.

4.3. **Indication of any immediate medical attention and special treatment needed**
   
   No special measures are necessary.

**SECTION 5: Firefighting measures**

5.1. **Extinguishing media**
   
   - Suitable extinguishing media
     Water spray.
   
   - Unsuitable extinguishing media
     Not tested

5.2. **Special hazards arising from the substance or mixture**
   
   In case of fire may be liberated:
   - Chlorine gases
   - Gas/vapours, harmful.
   - Gas/vapours, corrosive.
   - Nitrogen oxides (NOx).

5.3. **Advice for firefighters**
   
   In case of fire: Wear self-contained breathing apparatus.
   - Alkali-resistant protective clothing (EN 13034)
   - If necessary Full protective suit.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Dispose of waste according to applicable legislation.

**SECTION 6: Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**
   
   - Provide adequate ventilation.
   - Avoid generation of dust.
   - Avoid breathing dust/fume/gas/mist/vapours/spray.
   - Avoid contact with skin and eyes.

6.2. **Environmental precautions**
   
   - Prevent spread over a wide area (e.g. by containment or oil barriers).
   - Do not allow to enter into surface water or drains.
   - Leakage into waters, ground or the drainage system, the appropriate authorities must be informed.
   - Avoid release to the environment.

6.3. **Methods and material for containment and cleaning up**
   
   - Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.
   - Flush residue with plenty of water. Knock down dust with water spray jet.

6.4. **Reference to other sections**
   
   For personal protective equipment see Section 8 and for disposal instructions see Section 13.
SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Advice on safe handling:
In addition to the information contained in this section, relevant information can also be found in sections 8 and 6.1.

Further information on handling
Observe instructions for use.
Notice the directions for use on the label.
Working methods should be applied according to operating instructions.
Provide adequate ventilation.
When using do not eat, drink or smoke.
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and after work.
Keep away from food, drink and animal feeding stuffs.
Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Store in a place accessible by authorized persons only.
Not to be stored in gangways or stair wells.
Separation regulations.
Store product closed and only in original packing.
Do not use materials not resistant to alkali.
Product contains around 1% explosive storage class II ingredients.
Protect from moisture.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation.
This can be achieved by local exhaust ventilation or general ventilation.
When exceeding the occupational exposure limit (OEL):
Use appropriate respiratory protection.
Applies only if maximum permissible exposure values are listed here.

Protective and hygiene measures
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and after work.
Keep away from food, drink and animal feeding stuffs.
Contaminated work clothing should not be allowed out of the workplace.

Eye/face protection
Tightly sealed safety glasses. (EN 166)

Hand protection
Protective gloves made of natural latex (EN 374), Permeation time (penetration time) in minutes: 480
Protective gloves of nitrile (EN 374), Permeation time (penetration time) in minutes: 480
Specification No.: 706 Lapren, 730 Camatril Velours
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin Protection**
- Protective working garments

**Respiratory Protection**
- When exceeding the occupational exposure limit (OEL): Dust mask with fine dust filter recommended (EN 143), white

**Environmental Exposure Controls**
- No information available.

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Details</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>solid, Powder</td>
<td>~12 (10 %)</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>white</td>
<td></td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>characteristic</td>
<td></td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Lower explosion limits</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Upper explosion limits</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>~0.875 g/cm³</td>
<td></td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>miscible</td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity / dynamic</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity / kinematic</strong></td>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>not determined</td>
<td></td>
</tr>
</tbody>
</table>
9.2. **Other information**

Mixability: not determined
Fat solubility (g/l): not determined
Conductivity: not determined
Surface tension: not determined

### SECTION 10: Stability and reactivity

10.1. **Reactivity**

See also Subsection 10.4 to 10.6.
The product has not been tested.

10.2. **Chemical stability**

See also Subsection 10.4 to 10.6.

10.3. **Possibility of hazardous reactions**

See also Subsection 10.4 to 10.6.

10.4. **Conditions to avoid**

See also section 7.
Protect from moisture.

10.5. **Incompatible materials**

See also section 7.
Protect from moisture.
Avoid contact with other chemicals.
Avoid contact with materials that are not alkali resistant.
Possibly extensive generation of hydrogen on contact with amphoteric metals (e.g. aluminium, lead, zinc) (explosive hazard!).
Contact with strong acids leads to strong reaction and heat production

10.6. **Hazardous decomposition products**

See also Subsection 10.4 to 10.6.
See also section 5.2.
Contact with other products can produce dangerous chloride gases.

### SECTION 11: Toxicological information

11.1. **Information on toxicological effects**

**Toxicocinetics, Metabolism and Distribution**

Any classification is carried out according to the calculation method of the Preparations Directive (1999/45/EC).
Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>10213-79-3</td>
<td>disodium metasilicate</td>
<td>oral</td>
<td>LD50</td>
<td>- mg/kg</td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>- mg/kg</td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>LC50</td>
<td>- mg/l</td>
<td></td>
<td>No data available</td>
</tr>
</tbody>
</table>

12.1. Toxicity

See section 2.1 (rating) for potentially additional information concerning environmental effects.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Method</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>10213-79-3</td>
<td>disodium metasilicate</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>210 mg/l</td>
<td>96</td>
<td></td>
<td>Brachydanio rerio (zebra-fish)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>4857 mg/l</td>
<td>48</td>
<td></td>
<td>Daphnia magna</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

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

13.1. Waste treatment methods

Advice on disposal
Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products
200129 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); detergents containing dangerous substances Classified as hazardous waste.

Contaminated packaging
Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN3253
14.2. UN proper shipping name: Disodium Trioxosilicate - Mixture
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Classification code: C6
Limited quantity: 5 kg
Transport category: 3
Hazard No: 80
Tunnel restriction code: E

Other applicable information (land transport)
Excepted Quantities: E1

Inland waterways transport (ADN)

14.1. UN number: UN3253
14.2. UN proper shipping name: Disodium Trioxosilicate - Mixture
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Classification code: C6
Limited quantity: 5 kg

Other applicable information (inland waterways transport)
Excepted Quantities: E1

Marine transport (IMDG)

14.1. UN number: UN3253
14.2. UN proper shipping name: Disodium Trioxosilicate - Mixture
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Limited Quantity: 5 KG
Excepted Quantity: E1
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Air transport (ICAO)

14.1. UN number: UN3253
14.2. UN proper shipping name: Disodium Trioxosilicate - Mixture
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8
Special Provisions: A803
Limited quantity Passenger: 5 kg
IATA-packing instructions - Passenger: 860
IATA-max. quantity - Passenger: 25 kg
IATA-packing instructions - Cargo: 864
IATA-max. quantity - Cargo: 100 kg

Other applicable information (air transport)

- Excepted Quantities: E1
- Passenger-LQ: Y845

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

- Persons responsible for the transport of dangerous goods must be trained.
- Security provisions must be observed by all persons involved.
- Precautions must be taken to avoid injury.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not applicable, as freight is carried as general cargo, not in bulk.
- Minimum quantity regulations are not observed here.

Other applicable information

- Hazard number and packing code are available on request.

SECTION 15: Regulatory information

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

EU regulatory information

Additional information

- For classification and labelling, see section 2.
- Observe trade association/occupational health regulations.
- Observe Chemical Ordinance, ChemO
- Observe Chemical Risk Reduction Ordinance, ORRChem
- Observe Air Quality Control regulation

National regulatory information

- Employment restrictions: Observe employment restrictions for young people.
- Water contaminating class (D): 1 - slightly water contaminating
SECTION 16: OTHER INFORMATION

Changes
Revised sections: 1-16

Abbreviations and acronyms
vPvB = ver
PBT = persistent bioaccumulative toxic

Full text of H and P statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

P261 Avoid breathing dust
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection

Further Information
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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

Version: 170418/4/CLP10