SAFETY DATA SHEET
3100 OFFGEL 12 Well Frame Set, Part Number 5188-8012

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

1.1 Product identifier
Product name: 3100 OFFGEL 12 Well Frame Set, Part Number 5188-8012
Part No. (Kit): 5188-8012
Part No.: Glycerol 50 percent 5188-6440
Mineral Oil 5188-6443

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

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
</tr>
<tr>
<td>10 ml</td>
</tr>
<tr>
<td>Mineral Oil</td>
</tr>
<tr>
<td>50 ml</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000
e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number
Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Product definition</th>
<th>Glycerol 50 percent</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Oil</td>
<td>Mono-constituent substance</td>
<td></td>
</tr>
</tbody>
</table>

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Glycerol 50 percent
H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Mineral Oil
H413 LONG-TERM AQUATIC HAZARD - Category 4

Ingredients of unknown ecotoxicity:
Glycerol 50 percent Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
Mineral Oil Not applicable.

Classification according to Directive 1999/45/EC [DPD]

Glycerol 50 percent The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Mineral Oil The product is not classified as dangerous according to Directive 67/548/EEC and its amendments.

Classification:
Glycerol 50 percent Not classified.
Mineral Oil Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

Date of issue/Date of revision: 28/07/2014
SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms:

Signal word:
- Glycerol 50 percent: Warning
- Mineral Oil: No signal word.

Hazard statements:
- Glycerol 50 percent: GHS08 - May cause damage to organs through prolonged or repeated exposure.
- Mineral Oil: May cause long lasting harmful effects to aquatic life.

Precautionary statements

Prevention:
- Glycerol 50 percent: P260 - Do not breathe vapour.
- Mineral Oil: P273 - Avoid release to the environment.

Response:
- Glycerol 50 percent: P314 - Get medical attention if you feel unwell.
- Mineral Oil: Not applicable.

Storage:
- Glycerol 50 percent: Not applicable.
- Mineral Oil: Not applicable.

Disposal:
- Glycerol 50 percent: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Mineral Oil: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients:
- Glycerol 50 percent: Glycerol
- Mineral Oil: White mineral oil (petroleum)

Supplemental label elements:
- Glycerol 50 percent: Not applicable.
- Mineral Oil: Not applicable.

Special packaging requirements:
- Tactile warning of danger:
  - Glycerol 50 percent: Not applicable.
  - Mineral Oil: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification:
- Glycerol 50 percent: None known.
- Mineral Oil: Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

Substance/mixture:
- Glycerol 50 percent: Mixture
- Mineral Oil: Mono-constituent substance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>EC: 200-289-5</td>
<td>50 - 75%</td>
<td>Not classified.</td>
<td>STOT RE 2, H373 (kidneys) (inhalation)</td>
<td>[1]</td>
</tr>
<tr>
<td>Glycerol</td>
<td>CAS: 56-81-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>EC: 232-455-8</td>
<td>100%</td>
<td>Not classified.</td>
<td>Aquatic Chronic 4, H413</td>
<td>[A]</td>
</tr>
<tr>
<td>White mineral oil</td>
<td>CAS: 8042-47-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 28/07/2014
**SECTION 3: Composition/information on ingredients**

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

**Type**

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [5] Substance of equivalent concern

[A] Constituent
[B] Constituent
[C] Impurity

Occupational exposure limits, if available, are listed in Section 8.

**SECTION 4: First aid measures**

### 4.1 Description of first aid measures

**Eye contact**

- **Glycerol 50 percent**
  - Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell.

- **Mineral Oil**
  - Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation**

- **Glycerol 50 percent**
  - Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

- **Mineral Oil**
  - Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**

- **Glycerol 50 percent**
  - Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

- **Mineral Oil**
  - Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**

- **Glycerol 50 percent**
  - Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious
**SECTION 4: First aid measures**

**Mineral Oil**

- If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders**: Glycerol 50 percent

- No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Mineral Oil**

- No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

**Potential acute health effects**

- **Eye contact**: Glycerol 50 percent
  - No known significant effects or critical hazards.

- **Inhalation**: Glycerol 50 percent
  - No known significant effects or critical hazards.

- **Skin contact**: Glycerol 50 percent
  - No known significant effects or critical hazards.

- **Ingestion**: Glycerol 50 percent
  - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- **Eye contact**: Glycerol 50 percent
  - No specific data.

- **Inhalation**: Glycerol 50 percent
  - No specific data.

- **Skin contact**: Glycerol 50 percent
  - Adverse symptoms may include the following: irritation, dryness, cracking.

- **Ingestion**: Glycerol 50 percent
  - No specific data.

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

- **Notes to physician**: Glycerol 50 percent
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

- **Mineral Oil**: Glycerol 50 percent
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

- **Specific treatments**: Glycerol 50 percent
  - No specific treatment.

- **Mineral Oil**: Glycerol 50 percent
  - No specific treatment.
SECTION 5: Firefighting measures

5.1 Extinguishing media

| Suitable extinguishing media | Glycerol 50 percent | Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog). |
| Mineral Oil | |

| Unsuitable extinguishing media | Glycerol 50 percent | None known. |
| Mineral Oil | Do not use water jet. |

5.2 Special hazards arising from the substance or mixture

| Hazards from the substance or mixture | Glycerol 50 percent | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Mineral Oil | In a fire or if heated, a pressure increase will occur and the container may burst. This material may cause long lasting harmful effects to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |

| Hazardous combustion products | Glycerol 50 percent | Decomposition products may include the following materials: carbon dioxide, carbon monoxide |
| Mineral Oil | Decomposition products may include the following materials: carbon dioxide, carbon monoxide |

5.3 Advice for firefighters

| Special precautions for fire-fighters | Glycerol 50 percent | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Mineral Oil | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |

| Special protective equipment for fire-fighters | Glycerol 50 percent | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |
| Mineral Oil | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| For non-emergency personnel | Glycerol 50 percent | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| Mineral Oil | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
## SECTION 6: Accidental release measures

### For emergency responders

<table>
<thead>
<tr>
<th>Material</th>
<th>Section 6.2 Environmental precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.</td>
</tr>
</tbody>
</table>

### 6.3 Methods and materials for containment and cleaning up

<table>
<thead>
<tr>
<th>Material</th>
<th>Methods for cleaning up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.</td>
</tr>
</tbody>
</table>

### 6.4 Reference to other sections

- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<table>
<thead>
<tr>
<th>Material</th>
<th>Protective measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Advice on general occupational hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 28/07/2014
SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Material</th>
<th>Conditions for Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s)

<table>
<thead>
<tr>
<th>Material</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Industrial applications, Professional applications.</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>Industrial applications, Professional applications.</td>
</tr>
</tbody>
</table>

Industrial sector specific solutions: Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Date of issue/Date of revision: 28/07/2014
SECTION 8: Exposure controls/personal protection

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state**
- Glycerol 50 percent: Liquid.
- Mineral Oil: Liquid. [Oily liquid.]

**Colour**
- Glycerol 50 percent: Not available.
- Mineral Oil: Colourless.

**Odour**
- Glycerol 50 percent: Not available.
- Mineral Oil: Not available.

**Odour threshold**
- Glycerol 50 percent: Not available.
- Mineral Oil: Not available.

**pH**
- Glycerol 50 percent: Not available.
- Mineral Oil: Not available.

**Melting point/freezing point**
- Glycerol 50 percent: Not available.
- Mineral Oil: -60 to -9°C.

**Initial boiling point and boiling range**
- Glycerol 50 percent: Not available.
- Mineral Oil: 179 to 210°C.

**Flash point**
- Glycerol 50 percent: Not available.
- Mineral Oil: Closed cup: 135°C.

**Evaporation rate**
- Glycerol 50 percent: Not available.
- Mineral Oil: Not available.

**Flammability (solid, gas)**
- Glycerol 50 percent: Not applicable.
- Mineral Oil: Not applicable.

**Upper/lower flammability or explosive limits**
- Glycerol 50 percent: Not available.
- Mineral Oil: Not available.
**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Glycerol 50 percent</th>
<th>Mineral Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapour pressure</td>
<td>Not available.</td>
<td>0.011 kPa [room temperature]</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>0.875 to 0.905</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in the following materials: cold water and hot water.</td>
<td>Soluble in the following materials: diethyl ether. Insoluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>&gt;6</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td>260 to 371.11°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Kinematic (40°C): &gt;0.013 cm²/s</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<table>
<thead>
<tr>
<th>Property</th>
<th>Glycerol 50 percent</th>
<th>Mineral Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Reactivity</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
<tr>
<td>10.2 Chemical stability</td>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>10.3 Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>10.4 Conditions to avoid</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>10.5 Incompatible materials</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>10.6 Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

**Date of issue/Date of revision**: 28/07/2014
**SECTION 11: Toxicological information**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Acute toxicity estimates**
Not available.

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitiser**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Oil</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

**Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity**
Not available.

**Specific target organ toxicity (single exposure)**
Not available.

**Specific target organ toxicity (repeated exposure)**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Category 2</td>
<td>Inhalation</td>
<td>kidneys</td>
</tr>
</tbody>
</table>

**Aspiration hazard**
Not available.

**Information on the likely routes of exposure**
Not available.

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no specific data)</td>
<td>Glycerol 50 percent</td>
<td>Category 2</td>
<td>Inhalation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no specific data)</td>
<td>Mineral Oil</td>
<td>Category 2</td>
<td>Inhalation</td>
</tr>
</tbody>
</table>

**Symptoms related to the physical, chemical and toxicological characteristics**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(no specific data)</td>
<td>Glycerol 50 percent</td>
<td>Category 2</td>
<td>Inhalation</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**
28/07/2014
SECTION 11: Toxicological information

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

### Potential chronic health effects

#### General
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

#### Carcinogenicity
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

#### Mutagenicity
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

#### Teratogenicity
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

#### Developmental effects
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

#### Fertility effects
- **Glycerol 50 percent**: No known significant effects or critical hazards.
- **Mineral Oil**: No known significant effects or critical hazards.

### Toxicokinetics

#### Absorption
- **Glycerol 50 percent**: Not available.
- **Mineral Oil**: Not available.

#### Distribution
- **Glycerol 50 percent**: Not available.
- **Mineral Oil**: Not available.

#### Metabolism
- **Glycerol 50 percent**: Not available.
- **Mineral Oil**: Not available.

#### Elimination
- **Glycerol 50 percent**: Not available.
- **Mineral Oil**: Not available.

### Other information
- Not available.

SECTION 12: Ecological information

#### 12.1 Toxicity
- **Conclusion/Summary**: Not available.

#### 12.2 Persistence and degradability
- **Conclusion/Summary**: Not available.

#### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White mineral oil</td>
<td>&gt;6</td>
<td>-</td>
<td>high</td>
</tr>
</tbody>
</table>

#### 12.4 Mobility in soil
- **Date of issue/Date of revision**: 28/07/2014
SECTION 12: Ecological information

- **Soil/water partition coefficient (K<sub>oc</sub>)**: Not available.
- **Mobility**: Not available.

12.5 Results of PBT and vPvB assessment

- **PBT**: Not applicable.
- **vPvB**: Not applicable.

12.6 Other adverse effects: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- **Product**
  - **Methods of disposal**: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
  - **Hazardous waste**
    - **Packaging**
      - **Methods of disposal**: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
      - **Special precautions**: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

- **Regulatory information**
  - **ADR/RID / IMDG / IATA**: Not regulated.
  - **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**: Not available.

SECTION 15: Regulatory information

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

- **EU Regulation (EC) No. 1907/2006 (REACH)**
  - **Annex XIV - List of substances subject to authorisation**
    - **Substances of very high concern**: None of the components are listed.
  - **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**: Not applicable.
- **Other EU regulations**
  - **Europe inventory**: All components are listed or exempted.
  - **Black List Chemicals**: Not listed
  - **Priority List Chemicals**: Not listed

Date of issue/Date of revision: 28/07/2014
SECTION 15: Regulatory information

Integrated pollution prevention and control list (IPPC) - Air : Not listed
Integrated pollution prevention and control list (IPPC) - Water : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 50 percent</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT RE 2, H373</td>
<td></td>
</tr>
<tr>
<td>Mineral Oil</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Aquatic Chronic 4, H413</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements:
- Glycerol 50 percent
  - H373: May cause damage to organs through prolonged or repeated exposure.
  - H373 (kidneys) (inhalation): May cause damage to organs through prolonged or repeated exposure if inhaled. (kidneys)
- Mineral Oil
  - H413: May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS]:
- Glycerol 50 percent
  - STOT RE 2, H373: SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
  - (kidneys) (inhalation): SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys) (inhalation) - Category 2
- Mineral Oil
  - Aquatic Chronic 4, H413: LONG-TERM AQUATIC HAZARD - Category 4

Date of issue/Date of revision : 28/07/2014
Date of previous issue       : 30/01/2008.
Version                      : 2

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