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

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>CE OQ - PV Test Kit, Part Number 5063-6515</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No. (Kit)</td>
<td>5063-6515</td>
</tr>
<tr>
<td>Part No.</td>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
</tr>
<tr>
<td></td>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
</tr>
<tr>
<td></td>
<td>20 mM Borate Buffer - pH9.3</td>
</tr>
</tbody>
</table>

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>Analytical chemistry.</td>
</tr>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</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>Mono-constituent substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Mixture</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

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

4’-(Hydroxy) Acetophenone Test Samples

H302 ACUTE TOXICITY (oral) - Category 4
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Sodium Hydroxide Solution 1.0N for HPCE

Date of issue/Date of revision : 23/08/2017
SECTION 2: Hazards identification

H290  CORROSIVE TO METALS - Category 1
H314  SKIN CORROSION/IRRITATION - Category 1B

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

2.2 Label elements

Hazard pictograms:
- 4’-(Hydroxy) Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE

Signal word:
- 4’-(Hydroxy) Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Warning
- H302 - Harmful if swallowed.
- H319 - Causes serious eye irritation.
- H290 - May be corrosive to metals.
- H314 - Causes severe skin burns and eye damage.

Precautionary statements

Prevention:
- 4’-(Hydroxy) Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

- P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.
- P234 - Keep only in original packaging.

Response:
- 4’-(Hydroxy) Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE

- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
- P304 + P310 + P331 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician.
- P305 + P310 - IF IN EYES: Rinse cautiously with water for several minutes.
- P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician.
- P303 + P361 + P353 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
- P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
- P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician.
- P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician.

Date of issue/Date of revision: 23/08/2017
### SECTION 2: Hazards identification

<table>
<thead>
<tr>
<th>Component</th>
<th>Storage</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Not applicable.</td>
<td>P405 - Store locked up.</td>
</tr>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td></td>
<td>P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>P405 - Store locked up.</td>
<td>P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td></td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

#### Hazardous ingredients
- Sodium Hydroxide Solution 1.0N for HPCE - sodium hydroxide

#### Supplemental label elements
- 4’-(Hydroxy) Acetophenone Test Samples - Not applicable.
- Sodium Hydroxide Solution 1.0N for HPCE - Not applicable.
- 20 mM Borate Buffer - pH9.3 - Not applicable.

#### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
- 4’-(Hydroxy) Acetophenone Test Samples - Not applicable.
- Sodium Hydroxide Solution 1.0N for HPCE - Not applicable.
- 20 mM Borate Buffer - pH9.3 - Not applicable.

### Special packaging requirements
- **Tactile warning of danger**: Not applicable.
- 4’-(Hydroxy) Acetophenone Test Samples - Not applicable.
- Sodium Hydroxide Solution 1.0N for HPCE - Not applicable.
- 20 mM Borate Buffer - pH9.3 - Not applicable.

### 2.3 Other hazards
- **Other hazards which do not result in classification**: None known.
- 4’-(Hydroxy) Acetophenone Test Samples - Causes digestive tract burns.
- Sodium Hydroxide Solution 1.0N for HPCE - None known.
- 20 mM Borate Buffer - pH9.3 - None known.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances
- 4’-(Hydroxy) Acetophenone Test Samples - Mono-constituent substance
- Sodium Hydroxide Solution 1.0N for HPCE - Mixture
- 20 mM Borate Buffer - pH9.3 - Mixture
**SECTION 3: Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>acetophenone</td>
<td>EC: 202-708-7 CAS: 98-86-2 Index: 606-042-00-1</td>
<td>100</td>
<td>Acute Tox. 4, H302 Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

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
- [6] Additional disclosure due to company policy
- [*] Substance
  - [A] Constituent
  - [B] Impurity
  - [C] Stabilising additive

**SECTION 4: First aid measures**

### 4.1 Description of first aid measures

#### Eye contact
- 4’-(Hydroxy) Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE

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.

Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

#### Inhalation
- 4’-(Hydroxy) Acetophenone Test Samples

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

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.

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a

Date of issue/Date of revision : 23/08/2017
SECTION 4: First aid measures

Position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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.

20 mM Borate Buffer - pH9.3
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Sodium Hydroxide Solution 1.0N for HPCE
Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

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 necessary, call a poison center or physician. 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.

Sodium Hydroxide Solution 1.0N for HPCE
Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.

20 mM Borate Buffer - pH9.3
Wash out mouth with water. 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. Do not

Date of issue/Date of revision : 23/08/2017
SECTION 4: First aid measures

**Protection of first-aiders**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - 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.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- **20 mM Borate Buffer - pH9.3**
  - No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

**Potential acute health effects**

**Eye contact**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - Causes serious eye irritation.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - Causes serious eye damage.
- **20 mM Borate Buffer - pH9.3**
  - No known significant effects or critical hazards.

**Inhalation**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - No known significant effects or critical hazards.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - No known significant effects or critical hazards.
- **20 mM Borate Buffer - pH9.3**
  - No known significant effects or critical hazards.

**Skin contact**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - No known significant effects or critical hazards.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - Causes severe burns.
- **20 mM Borate Buffer - pH9.3**
  - No known significant effects or critical hazards.

**Ingestion**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - Harmful if swallowed.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - Corrosive to the digestive tract. Causes burns.
- **20 mM Borate Buffer - pH9.3**
  - No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact**
- **4’-(Hydroxy)Acetophenone Test Samples**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness
  - **Sodium Hydroxide Solution 1.0N for HPCE**
    - Adverse symptoms may include the following:
    - pain
    - watering
    - redness
  - **20 mM Borate Buffer - pH9.3**
    - No specific data.
SECTION 4: First aid measures

**Inhalation**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
No specific data.

**Skin contact**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
No specific data.

**Ingestion**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
No specific data.

Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Adverse symptoms may include the following:  
stomach pains  
pain or irritation  
redness  
blistering may occur  
No specific data.

**Specific treatments**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
No specific treatment.

SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing media**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**

4’-(Hydroxy) Acetophenone Test Samples  
Sodium Hydroxide Solution 1.0N for HPCE  
20 mM Borate Buffer - pH 9.3  
None known.

Date of issue/Date of revision: 23/08/2017 7/23
SECTION 5: Firefighting measures

5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Substance or mixture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>In a fire or if heated, a pressure increase will occur and the container may burst.</td>
</tr>
</tbody>
</table>

Hazardous combustion products:

<table>
<thead>
<tr>
<th>Substance or mixture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>Decomposition products may include the following materials:</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>carbon monoxide</td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters

Special precautions for fire-fighters:

<table>
<thead>
<tr>
<th>Substance or mixture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>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.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>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.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>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.</td>
</tr>
</tbody>
</table>

Special protective equipment for fire-fighters:

<table>
<thead>
<tr>
<th>Substance or mixture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>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.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>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.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>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.</td>
</tr>
</tbody>
</table>

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

<table>
<thead>
<tr>
<th>Substance or mixture</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 23/08/2017
### SECTION 6: Accidental release measures

- **20 mM Borate Buffer - pH9.3**
  - If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- **Sodium Hydroxide Solution 1.0N for HPCE**
  - If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**For emergency responders**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy)Acetophenone Test Samples</td>
<td>Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermicullite or diatomaceous earth and place in container for disposal according to local regulations. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</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>

**6.2 Environmental precautions**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy)Acetophenone Test Samples</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>Sodium Hydroxide Solution 1.0N for HPCE</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>20 mM Borate Buffer - pH9.3</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>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy)Acetophenone Test Samples</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>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermicullite or diatomaceous earth and place in container for disposal according to local regulations. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</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.

**Date of issue/Date of revision**

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/08/2017</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 7: Handling and storage

7.1 Precautions for safe handling

**Protective measures**

: 4’-(Hydroxy)Acetophenone Test Samples

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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.

: Sodium Hydroxide Solution 1.0N for HPCE

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

: 20 mM Borate Buffer - pH 9.3

Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

: 4’-(Hydroxy)Acetophenone Test Samples

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.

: Sodium Hydroxide Solution 1.0N for HPCE

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.

: 20 mM Borate Buffer - pH 9.3

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.

7.2 Conditions for safe storage, including any incompatibilities

**Storage**

: 4’-(Hydroxy)Acetophenone Test Samples

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. See Section 10 for incompatible materials before handling or use.

: Sodium Hydroxide Solution 1.0N for HPCE

Store between the following temperatures: 15 to 25°C (59 to 77°F). 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. Store in corrosive resistant container with a resistant inner liner. Store locked up. Separate from acids. Keep away from metals. 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.

Date of issue/Date of revision : 23/08/2017
SECTION 7: Handling and storage

20 mM Borate Buffer - pH 9.3
in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations:

Industrial sector specific solutions:

4’-(Hydroxy) Acetophenone Test Samples
Sodium Hydroxide Solution 1.0N for HPCE
20 mM Borate Buffer - pH 9.3
Industrial applications, Professional applications.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 2 mg/m³ 15 minutes.</td>
</tr>
</tbody>
</table>

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.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Date of issue/Date of revision: 23/08/2017
**SECTION 8: Exposure controls/personal protection**

**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**

**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: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**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**
- Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**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**
- 4'-((Hydroxy)Acetophenone Test Samples
  - Liquid.
- Sodium Hydroxide Solution 1.0N for HPCE
  - Liquid. [Clear.]
- 20 mM Borate Buffer - pH9.3
  - Liquid.

**Colour**
- 4'-((Hydroxy)Acetophenone Test Samples
  - Clear. Colourless.
- Sodium Hydroxide Solution 1.0N for HPCE
  - Colourless.
- 20 mM Borate Buffer - pH9.3
  - Yellow. [Light]
# SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>4’-(Hydroxy) Acetophenone Test Samples</th>
<th>Sodium Hydroxide Solution 1.0N for HPCE 20 mM Borate Buffer - pH9.3</th>
<th>20 mM Borate Buffer - pH9.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour threshold</td>
<td>0.2 ppm</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td>&gt;11.5</td>
<td>9.3</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>20°C</td>
<td>0°C</td>
<td>0°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>202°C</td>
<td>100°C</td>
<td>100°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Closed cup: 81.85°C [Setaflash.]</td>
<td>Open cup: 82°C [Cleveland.]</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>0.032 (butyl acetate = 1)</td>
<td>Not available.</td>
<td>&lt;1 (butyl acetate = 1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 23/08/2017
## SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>4'-Hydroxy Acetophenone Test Samples</th>
<th>20 mM Borate Buffer - pH9.3</th>
<th>Sodium Hydroxide Solution 1.0N for HPCE 20 mM Borate Buffer - pH9.3</th>
<th>Sodium Hydroxide Solution 1.0N for HPCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>&lt;2.4 kPa [room temperature]</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>&lt;1 [Air = 1]</td>
<td>Not available.</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>1.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td>Soluble in the following materials: cold water, hot water and acetone.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very slightly soluble in the following materials: diethyl ether.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>1.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>571°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not available.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 23/08/2017
## SECTION 9: Physical and chemical properties

### Viscosity

<table>
<thead>
<tr>
<th>Product</th>
<th>Viscosity Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>Dynamic (room temperature): 1.68 mPa·s</td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

### Explosive properties

<table>
<thead>
<tr>
<th>Product</th>
<th>Explosive Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

### Oxidising properties

<table>
<thead>
<tr>
<th>Product</th>
<th>Oxidising Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

## 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

<table>
<thead>
<tr>
<th>Product</th>
<th>Reactivity Details</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
</tbody>
</table>

### 10.2 Chemical stability

<table>
<thead>
<tr>
<th>Product</th>
<th>Chemical stability Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

### 10.3 Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>Product</th>
<th>Possibility of hazardous reactions Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

### 10.4 Conditions to avoid

<table>
<thead>
<tr>
<th>Product</th>
<th>Conditions to avoid Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>No specific data.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>
**SECTION 10: Stability and reactivity**

10.5 Incompatible materials : 4’-(Hydroxy)Acetophenone Test Samples

Sodium Hydroxide Solution 1.0N for HPCE

May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products : 4’-(Hydroxy)Acetophenone Test Samples

Sodium Hydroxide Solution 1.0N for HPCE

20 mM Borate Buffer -pH9.3

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

11.1 Information on toxicological effects

**Acute toxicity**

<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>4’-(Hydroxy)Acetophenone Test Samples acetophenone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>815 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>4’-(Hydroxy)Acetophenone Test Samples acetophenone</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>515 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE Sodium hydroxide</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 50 Micrograms</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>1 Percent</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>0.5 minutes 1 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitiser**

**Conclusion/Summary** : Not available.

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

Not available.

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

Not available.

**Aspiration hazard**

Date of issue/Date of revision : 23/08/2017
SECTION 11: Toxicological information

Not available.

Information on likely routes of exposure
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Potential acute health effects

Inhalation
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Ingestion
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Skin contact
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Eye contact
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Ingestion
- 4’-(Hydroxy)Acetophenone Test Samples
- Sodium Hydroxide Solution 1.0N for HPCE
- 20 mM Borate Buffer - pH9.3

Adverse symptoms may include the following:
- stomach pains
### SECTION 11: Toxicological information

#### Potential chronic health effects

<table>
<thead>
<tr>
<th>Material</th>
<th>General</th>
<th>Carcinogenicity</th>
<th>Mutagenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’-(Hydroxy) Acetophenone Test Samples</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>20 mM Borate Buffer - pH9.3</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

#### Skin contact

- **4’-(Hydroxy) Acetophenone Test Samples**
  - No specific data.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - Adverse symptoms may include:
    - pain or irritation
    - redness
    - blistering may occur
  - No specific data.
- **20 mM Borate Buffer - pH9.3**
  - No specific data.

#### Eye contact

- **4’-(Hydroxy) Acetophenone Test Samples**
  - Adverse symptoms may include:
    - pain or irritation
    - redness
  - No specific data.
- **Sodium Hydroxide Solution 1.0N for HPCE**
  - Adverse symptoms may include:
    - pain
    - watering
    - redness
  - No specific data.
- **20 mM Borate Buffer - pH9.3**
  - No specific data.

#### Delayed and immediate effects as well as 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.

### Date of issue/Date of revision

**Date of issue/Date of revision**: 23/08/2017
**SECTION 11: Toxicological information**

**Teratogenicity:** 4′-(Hydroxy)Acetophenone Test Samples
No known significant effects or critical hazards.

Sodium Hydroxide Solution 1.0N for HPCE
No known significant effects or critical hazards.

20 mM Borate Buffer -pH9.3
No known significant effects or critical hazards.

**Developmental effects:** 4′-(Hydroxy)Acetophenone Test Samples
No known significant effects or critical hazards.

Sodium Hydroxide Solution 1.0N for HPCE
No known significant effects or critical hazards.

20 mM Borate Buffer -pH9.3
No known significant effects or critical hazards.

**Fertility effects:** 4′-(Hydroxy)Acetophenone Test Samples
No known significant effects or critical hazards.

Sodium Hydroxide Solution 1.0N for HPCE
No known significant effects or critical hazards.

20 mM Borate Buffer -pH9.3
No known significant effects or critical hazards.

**SECTION 12: Ecological information**

**12.1 Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4′-(Hydroxy)Acetophenone Test Samples acetophenone</td>
<td>Acute LC50 155000 μg/l Fresh water</td>
<td>Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>96 hours</td>
</tr>
<tr>
<td>sodium hydroxide</td>
<td>Acute LC50 125 ppm Fresh water</td>
<td>Fish - Gambusia affinis - Adult</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**12.2 Persistence and degradability**

Not available.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

**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>4′-(Hydroxy)Acetophenone Test Samples acetophenone</td>
<td>1.59</td>
<td>0.4749</td>
<td>low</td>
</tr>
</tbody>
</table>

**12.4 Mobility in soil**

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

**Date of issue/Date of revision:** 23/08/2017
SECTION 12: Ecological information

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

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN3316</td>
<td>UN3316</td>
<td>UN3316</td>
<td>UN3316</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>CHEMICAL KIT</td>
<td>CHEMICAL KIT</td>
<td>Chemical kit</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>II</td>
<td>II</td>
<td>II</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Additional information

ADR/RID : Hazard identification number 90

Limited quantity See SP 251

Special provisions 251, 340

Tunnel code (E)

Remarks LQ19 P001

IMDG : Emergency schedules F-A, _S-P_

Special provisions 251, 340
SECTION 14: Transport information

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol 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

Annex XIV

None of the components are listed.

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

4’-(Hydroxy) Acetophenone Test Samples

Not applicable.

Sodium Hydroxide Solution 1.0N for HPCE

0N for HPCE

Not applicable.

20 mM Borate Buffer - pH9.3

Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia: Not determined.

Canada: Not determined.

Date of issue/Date of revision: 23/08/2017
SECTION 15: Regulatory information

15.2 Chemical safety assessment

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

SECTION 16: Other information

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>4’-(Hydroxy) Acetophenone Test Samples</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4, H302</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>Sodium Hydroxide Solution 1.0N for HPCE</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1B, H314</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

4’-(Hydroxy) Acetophenone Test Samples
- H302: Harmful if swallowed.
- H319: Causes serious eye irritation.

Sodium Hydroxide Solution 1.0N for HPCE
- H290: May be corrosive to metals.
- H314: Causes severe skin burns and eye damage.

Full text of classifications [CLP/GHS]

4’-(Hydroxy) Acetophenone Test Samples
- Acute Tox. 4, H302: ACUTE TOXICITY (oral) - Category 4
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Sodium Hydroxide Solution 1.0N for HPCE
- Met. Corr. 1, H290: CORROSIVE TO METALS - Category 1
- Skin Corr. 1A, H314: SKIN CORROSION/IRRITATION - Category 1A
- Skin Corr. 1B, H314: SKIN CORROSION/IRRITATION - Category 1B
**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>Date of issue/Date of revision</th>
<th>:</th>
<th>23/08/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of previous issue</td>
<td>:</td>
<td>No previous validation.</td>
</tr>
<tr>
<td>Version</td>
<td>:</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notice to reader**

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.