Conforms to Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals

SAFETY DATA SHEET

Agilent Technologies

CE OQ-PV Chemical Kit, Part Number 5063-6520

Section 1. Identification

Product identifier : CE OQ-PV Chemical Kit, Part Number 5063-6520

Part no. (chemical kit) : 5063-6520

Part no. : 4'-(Hydroxy) Acetophenone Test Samples — Test Samples
Sodium Hydroxide Solution 1.0N for HPCE — 5062-8576
20 mM Borate Buffer - pH9.3 — 8500-6782

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use

4'-(Hydroxy) Acetophenone Test Samples	1 x 3 ml
Sodium Hydroxide Solution 1.0N for HPCE	1 x 250 ml
20 mM Borate Buffer - pH9.3	1 x 100 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

4'-(Hydroxy) Acetophenone Test Samples

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

Sodium Hydroxide Solution 1.0N for HPCE

H290	CORROSIVE TO METALS - Category 1
H315	SKIN CORROSION/IRRITATION - Category 2
H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

GHS label elements

Hazard pictograms : 4'-(Hydroxy) Acetophenone Test Samples

Sodium Hydroxide Solution 1.0N for HPCE

Section 2. Hazard(s) identification

Signal word

4'-(Hydroxy) Acetophenone Test Samples	WARNING
Sodium Hydroxide Solution 1.0N for HPCE	DANGER
20 mM Borate Buffer - pH9.3	No signal word.

Hazard 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. H318 - Causes serious eye damage. H315 - Causes skin irritation. H335 - May cause respiratory irritation.
20 mM Borate Buffer - pH9.3	No known significant effects or critical hazards.

Precautionary statements

Prevention

4'-(Hydroxy) Acetophenone Test Samples	P280 - Wear eye or face protection. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Sodium Hydroxide Solution 1.0N for HPCE	P280 - Wear protective gloves. Wear eye or face protection. P234 - Keep only in original container. P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapour. P264 - Wash hands thoroughly after handling.
20 mM Borate Buffer - pH9.3	Not applicable.

Response

4'-(Hydroxy) Acetophenone Test Samples	P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Sodium Hydroxide Solution 1.0N for HPCE	P390 - Absorb spillage to prevent material damage. P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
20 mM Borate Buffer - pH9.3	Not applicable.

Storage

4'-(Hydroxy) Acetophenone Test Samples	Not applicable.
Sodium Hydroxide Solution 1.0N for HPCE	P405 - Store locked up. P406 - Store in corrosive resistant container with a resistant inner liner.
20 mM Borate Buffer - pH9.3	Not applicable.

Section 2. Hazard(s) identification

Disposal :

4'-(Hydroxy) Acetophenone Test Samples	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Sodium Hydroxide Solution 1.0N for HPCE	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
20 mM Borate Buffer - pH9.3	Not applicable.

Supplemental label elements

Additional warning phrases :

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

Other hazards which do not result in classification :

4'-(Hydroxy) Acetophenone Test Samples	None known.
Sodium Hydroxide Solution 1.0N for HPCE	None known.
20 mM Borate Buffer - pH9.3	None known.

Section 3. Composition and ingredient information

Substance/mixture :

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

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
4'-(Hydroxy) Acetophenone Test Samples		
acetophenone	100	98-86-2
Sodium Hydroxide Solution 1.0N for HPCE		
Sodium hydroxide	≤5	1310-73-2

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.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact :

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. Continue to rinse for at least 10 minutes. Get medical attention.
Sodium Hydroxide Solution 1.0N for HPCE	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.
20 mM Borate Buffer - pH9.3	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.

Section 4. First aid measures

Inhalation

: 4'-(Hydroxy) Acetophenone Test Samples: 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.

Sodium Hydroxide Solution 1.0N for HPCE: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a 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

: 4'-(Hydroxy) Acetophenone Test Samples: 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.

20 mM Borate Buffer - pH9.3: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: 4'-(Hydroxy) Acetophenone Test Samples: 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

Section 4. First aid measures

		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 induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, 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	May cause respiratory irritation.
		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 skin irritation.
		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	No known significant effects or critical hazards.
		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	No specific data.
Sodium Hydroxide Solution 1.0N for HPCE	Adverse symptoms may include the following: respiratory tract irritation coughing
20 mM Borate Buffer - pH9.3	No specific data.

Skin contact

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

Ingestion

4'-(Hydroxy) Acetophenone Test Samples	No specific data.
Sodium Hydroxide Solution 1.0N for HPCE	Adverse symptoms may include the following: stomach pains
20 mM Borate Buffer - pH9.3	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

4'-(Hydroxy) Acetophenone Test Samples	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Sodium Hydroxide Solution 1.0N for HPCE	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
20 mM Borate Buffer - pH9.3	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

4'-(Hydroxy) Acetophenone Test Samples	No specific treatment.
Sodium Hydroxide Solution 1.0N for HPCE	No specific treatment.
20 mM Borate Buffer - pH9.3	No specific treatment.

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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

4'-(Hydroxy) Acetophenone Test Samples	Use an extinguishing agent suitable for the surrounding fire.
Sodium Hydroxide Solution 1.0N for HPCE	Use an extinguishing agent suitable for the surrounding fire.
20 mM Borate Buffer - pH9.3	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

4'-(Hydroxy) Acetophenone Test Samples	None known.
Sodium Hydroxide Solution 1.0N for HPCE	None known.
20 mM Borate Buffer - pH9.3	None known.

Specific hazards arising from the chemical

4'-(Hydroxy) Acetophenone Test Samples	In a fire or if heated, a pressure increase will occur and the container may burst.
Sodium Hydroxide Solution 1.0N for HPCE	In a fire or if heated, a pressure increase will occur and the container may burst.
20 mM Borate Buffer - pH9.3	In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

4'-(Hydroxy) Acetophenone Test Samples	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Sodium Hydroxide Solution 1.0N for HPCE	Decomposition products may include the following materials: metal oxide/oxides
20 mM Borate Buffer - pH9.3	No specific data.

Special protective actions for fire-fighters

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

4'-(Hydroxy) Acetophenone Test Samples	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Sodium Hydroxide Solution 1.0N for HPCE	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
20 mM Borate Buffer - pH9.3	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Hazchem code

4'-(Hydroxy) Acetophenone Test Samples	Not available.
Sodium Hydroxide Solution 1.0N for HPCE	2R
20 mM Borate Buffer - pH9.3	Not available.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	4'-(Hydroxy) Acetophenone Test Samples	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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		Sodium Hydroxide Solution 1.0N for HPCE	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 spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		20 mM Borate Buffer - pH9.3	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 spilt material. Put on appropriate personal protective equipment.
For emergency responders	:	4'-(Hydroxy) Acetophenone Test Samples	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".
		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".
Environmental precautions	:	4'-(Hydroxy) Acetophenone Test Samples	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).
		Sodium Hydroxide Solution 1.0N for HPCE	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).
		20 mM Borate Buffer - pH9.3	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).

Methods and material for containment and cleaning up

Methods for cleaning up	:	4'-(Hydroxy) Acetophenone Test Samples	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.
		Sodium Hydroxide Solution 1.0N for HPCE	Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-

Section 6. Accidental release measures

	combustible, absorbent material e.g. sand, earth, vermiculite 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.
20 mM Borate Buffer - pH9.3	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.

Section 7. Handling and storage

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. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Absorb spillage to prevent material damage.
20 mM Borate Buffer - pH9.3	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 - pH9.3	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.

Conditions for safe storage, including any incompatibilities :

Section 7. Handling and 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 in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
20 mM Borate Buffer - pH9.3	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.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
4'-(Hydroxy) Acetophenone Test Samples acetophenone	**ACGIH TLV (United States, 3/2017).** TWA: 10 ppm 8 hours. TWA: 49 mg/m³ 8 hours.
Sodium Hydroxide Solution 1.0N for HPCE Sodium hydroxide	**Safe Work Australia (Australia, 1/2014).** TWA: 2 mg/m³ 8 hours.

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.

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 8. Exposure controls and personal protection

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.

Section 9. 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]

Odour :

4'-(Hydroxy) Acetophenone Test Samples	Jasmine-like.
Sodium Hydroxide Solution 1. 0N for HPCE	Not available.
20 mM Borate Buffer - pH9.3	Not available.

Odour threshold :

4'-(Hydroxy) Acetophenone Test Samples	0.2 ppm
Sodium Hydroxide Solution 1. 0N for HPCE	Not available.
20 mM Borate Buffer - pH9.3	Not available.

pH :

4'-(Hydroxy) Acetophenone Test Samples	Not available.
Sodium Hydroxide Solution 1. 0N for HPCE	>11.5
20 mM Borate Buffer - pH9.3	9.3

Section 9. Physical and chemical properties

Melting point	:	4'-(Hydroxy) Acetophenone Test Samples	20°C (68°F)
		Sodium Hydroxide Solution 1.0N for HPCE	0°C (32°F)
		20 mM Borate Buffer - pH9.3	0°C (32°F)
Boiling point	:	4'-(Hydroxy) Acetophenone Test Samples	202°C (395.6°F)
		Sodium Hydroxide Solution 1.0N for HPCE	100°C (212°F)
		20 mM Borate Buffer - pH9.3	100°C (212°F)
Flash point	:	4'-(Hydroxy) Acetophenone Test Samples	Closed cup: 81.85°C (179.3°F) [Setaflash.] Open cup: 82°C (179.6°F) [Cleveland.]
		Sodium Hydroxide Solution 1.0N for HPCE	Not available.
		20 mM Borate Buffer - pH9.3	Not available.
Evaporation rate	:	4'-(Hydroxy) Acetophenone Test Samples	0.032 (butyl acetate = 1)
		Sodium Hydroxide Solution 1.0N for HPCE	Not available.
		20 mM Borate Buffer - pH9.3	<1 (butyl acetate = 1)
Flammability (solid, gas)	:	4'-(Hydroxy) Acetophenone Test Samples	Not applicable.
		Sodium Hydroxide Solution 1.0N for HPCE	Not applicable.
		20 mM Borate Buffer - pH9.3	Not applicable.
Lower and upper explosive (flammable) limits	:	4'-(Hydroxy) Acetophenone Test Samples	Lower: 1.1% Upper: 6.7%
		Sodium Hydroxide Solution 1.0N for HPCE	Not available.
		20 mM Borate Buffer - pH9.3	Not available.
Vapour pressure	:	4'-(Hydroxy) Acetophenone Test Samples	<2.4 kPa (<18 mm Hg) [room temperature]
		Sodium Hydroxide Solution 1.0N for HPCE	<2.4 kPa (<18 mm Hg) [room temperature]
		20 mM Borate Buffer - pH9.3	Not available.
Vapour density	:	4'-(Hydroxy) Acetophenone Test Samples	<1 [Air = 1]
		Sodium Hydroxide Solution 1.0N for HPCE	<1 [Air = 1]
		20 mM Borate Buffer - pH9.3	Not available.
Relative density	:	4'-(Hydroxy) Acetophenone Test Samples	1.03
		Sodium Hydroxide Solution 1.0N for HPCE	Not available.
		20 mM Borate Buffer - pH9.3	1
Solubility	:	4'-(Hydroxy) Acetophenone Test Samples	Soluble in the following materials: cold water, hot water and acetone. Very slightly soluble in the following materials: diethyl ether.
		Sodium Hydroxide Solution 1.0N for HPCE	Easily soluble in the following materials: cold water and hot water.
		20 mM Borate Buffer - pH9.3	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	4'-(Hydroxy) Acetophenone Test Samples	1.59
		Sodium Hydroxide Solution 1.0N for HPCE	Not available.
		20 mM Borate Buffer - pH9.3	Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature :

4'-(Hydroxy) Acetophenone Test Samples	571°C (1059.8°F)
Sodium Hydroxide Solution 1.0N for HPCE	Not available.
20 mM Borate Buffer - pH9.3	Not available.

Decomposition temperature :

4'-(Hydroxy) Acetophenone Test Samples	Not available.
Sodium Hydroxide Solution 1.0N for HPCE	Not available.
20 mM Borate Buffer - pH9.3	Not available.

Viscosity :

4'-(Hydroxy) Acetophenone Test Samples	Dynamic (room temperature): 1.68 mPa·s (1.68 cP)
Sodium Hydroxide Solution 1.0N for HPCE	Not available.
20 mM Borate Buffer - pH9.3	Not available.

Section 10. Stability and reactivity

Reactivity :

4'-(Hydroxy) Acetophenone Test Samples	No specific test data related to reactivity available for this product or its ingredients.
Sodium Hydroxide Solution 1.0N for HPCE	No specific test data related to reactivity available for this product or its ingredients.
20 mM Borate Buffer - pH9.3	No specific test data related to reactivity available for this product or its ingredients.

Chemical stability :

4'-(Hydroxy) Acetophenone Test Samples	The product is stable.
Sodium Hydroxide Solution 1.0N for HPCE	The product is stable.
20 mM Borate Buffer - pH9.3	The product is stable.

Possibility of hazardous reactions :

4'-(Hydroxy) Acetophenone Test Samples	Under normal conditions of storage and use, hazardous reactions will not occur.
Sodium Hydroxide Solution 1.0N for HPCE	Under normal conditions of storage and use, hazardous reactions will not occur.
20 mM Borate Buffer - pH9.3	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid :

4'-(Hydroxy) Acetophenone Test Samples	No specific data.
Sodium Hydroxide Solution 1.0N for HPCE	No specific data.
20 mM Borate Buffer - pH9.3	No specific data.

Incompatible materials :

4'-(Hydroxy) Acetophenone Test Samples	May react or be incompatible with oxidising materials.
Sodium Hydroxide Solution 1.0N for HPCE	Reactive or incompatible with the following materials: acids metals
20 mM Borate Buffer - pH9.3	May react or be incompatible with oxidising materials.

Hazardous decomposition products :

4'-(Hydroxy) Acetophenone Test Samples	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Sodium Hydroxide Solution 1.0N for HPCE	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
20 mM Borate Buffer - pH9.3	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
4'-(Hydroxy) Acetophenone Test Samples				
acetophenone	LD50 Dermal	Rat - Male, Female	3300 mg/kg	-
	LD50 Oral	Rat	815 mg/kg	-
Sodium Hydroxide Solution 1.0N for HPCE				
Sodium hydroxide	LD50 Dermal	Rabbit	1350 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4'-(Hydroxy) Acetophenone Test Samples					
acetophenone	Skin - Mild irritant	Rabbit	-	515 milligrams	-
Sodium Hydroxide Solution 1.0N for HPCE					
Sodium hydroxide	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	1 Percent	-
	Eyes - Severe irritant	Rabbit	-	0.5 minutes 1 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Sodium Hydroxide Solution 1.0N for HPCE Sodium Hydroxide Solution 1.0N for HPCE	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on likely routes of exposure :

4'-(Hydroxy) Acetophenone Test Samples	Routes of entry anticipated: Oral, Dermal, Inhalation.
Sodium Hydroxide Solution 1.0N for HPCE	Routes of entry anticipated: Oral, Dermal, Inhalation.
20 mM Borate Buffer - pH9.3	Not available.

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	May cause respiratory irritation.
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 skin irritation.
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	No known significant effects or critical hazards.
20 mM Borate Buffer - pH9.3	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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.

Inhalation :

4'-(Hydroxy) Acetophenone Test Samples	No specific data.
Sodium Hydroxide Solution 1.0N for HPCE	Adverse symptoms may include the following: respiratory tract irritation coughing
20 mM Borate Buffer - pH9.3	No specific data.

Skin contact :

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

Ingestion :

4'-(Hydroxy) Acetophenone Test Samples	No specific data.
Sodium Hydroxide Solution 1.0N for HPCE	Adverse symptoms may include the following: stomach pains
20 mM Borate Buffer - pH9.3	No specific data.

Section 11. Toxicological information

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.

Potential chronic health effects

General	:	4'-(Hydroxy) Acetophenone	No known significant effects or critical hazards.
		Test Samples	
		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.
Carcinogenicity	:	4'-(Hydroxy) Acetophenone	No known significant effects or critical hazards.
		Test Samples	
		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.
Mutagenicity	:	4'-(Hydroxy) Acetophenone	No known significant effects or critical hazards.
		Test Samples	
		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.
Teratogenicity	:	4'-(Hydroxy) Acetophenone	No known significant effects or critical hazards.
		Test Samples	
		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	No known significant effects or critical hazards.
		Test Samples	
		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	No known significant effects or critical hazards.
		Test Samples	
		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.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
4'-(Hydroxy) Acetophenone Test Samples			
acetophenone	Acute EC50 40 mg/l Fresh water	Algae	72 hours
	Acute LC50 155000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute NOEC 24.8 mg/l Fresh water	Algae	72 hours
Sodium Hydroxide Solution 1.0N for HPCE			
Sodium hydroxide	Acute LC50 125 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4'-(Hydroxy) Acetophenone Test Samples			
acetophenone	-	-	Readily
Sodium Hydroxide Solution 1.0N for HPCE			
Sodium hydroxide	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
4'-(Hydroxy) Acetophenone Test Samples			
acetophenone	1.59	0.4749	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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

	ADG	IMDG	IATA
UN number	UN3316	UN3316	UN3316
UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
Transport hazard class(es)	9 	9 	9 
Packing group	II	II	II
Environmental hazards	No.	No.	No.

Additional information

ADG : **Hazchem code** 2Z
Special provisions 251, 340

IMDG : **Emergency schedules** F-A, _S-P_
Special provisions 251, 340

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
Special provisions A44, A163

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.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

5

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

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

Section 15. Regulatory information

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : Not determined.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

United States : Not determined.

Viet Nam : Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 19/07/2018

Date of previous issue : 02/06/2016

Version : 5

Key to abbreviations : ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
4'-(Hydroxy) Acetophenone Test Samples	
Acute Tox. 4, H302	Expert judgment
Eye Irrit. 2A, H319	Expert judgment
Sodium Hydroxide Solution 1.0N for HPCE	
Met. Corr. 1, H290	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Dam. 1, H318	Expert judgment
STOT SE 3, H335	Expert judgment

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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