

# SAFETY DATA SHEET

P3213 pH combination electrode, Part Number 5190-3992

## Section 1. Identification

**Product identifier** : P3213 pH combination electrode, Part Number 5190-3992  
**Part No. (Chemical Kit)** : 5190-3992  
**Part No.** : \* pH combination electrode P3213  
 Reference solution 5190-0545-1

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

Analytical chemistry.

\* pH combination electrode Electrodes. (1 x 7 ml)  
 Reference solution 1 x 30 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

**Note \*** : This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

**pH combination electrode**  
 H400 ACUTE AQUATIC HAZARD - Category 1  
 H410 LONG-TERM AQUATIC HAZARD - Category 1

**Reference solution**  
 H400 ACUTE AQUATIC HAZARD - Category 1  
 H410 LONG-TERM AQUATIC HAZARD - Category 1

### GHS label elements

#### Hazard pictograms



**Signal word** : \*pH combination electrode WARNING  
 Reference solution WARNING

**Hazard statements** : pH combination electrode H410 - Very toxic to aquatic life with long lasting effects.  
 Reference solution H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** : \*pH combination electrode P273 - Avoid release to the environment.  
 Reference solution P273 - Avoid release to the environment.

## Section 2. Hazard(s) identification

<b>Response</b>	: *pH combination electrode Reference solution	P391 - Collect spillage. P391 - Collect spillage.
<b>Storage</b>	: *pH combination electrode Reference solution	Not applicable. Not applicable.
<b>Disposal</b>	: *pH combination electrode  Reference solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: *pH combination electrode Reference solution	Not applicable. Not applicable.
<b>Other hazards which do not result in classification</b>	: *pH combination electrode Reference solution	None known. None known.

## Section 3. Composition and ingredient information

<b>Substance/mixture</b>	: * pH combination electrode Reference solution, Part Number 5190-0545	Article Mixture
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### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
*pH combination electrode		
Glycerol	≥10 - ≤30	56-81-5
Ethenediol	≤5	107-21-1
Silver chloride	≤3	7783-90-6
<b>Reference solution</b>		
Silver chloride	≤1	7783-90-6

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

<b>Eye contact</b>	: *pH combination electrode  Reference solution	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 if irritation occurs. 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 if irritation occurs.
<b>Inhalation</b>	: *pH combination electrode	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

## Section 4. First aid measures

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

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: *pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Inhalation</b>	: *pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: *pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 4. First aid measures

<b>Ingestion</b>	: *pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b><u>Over-exposure signs/symptoms</u></b>		
<b>Eye contact</b>	: *pH combination electrode Reference solution	No specific data. No specific data.
<b>Inhalation</b>	: *pH combination electrode Reference solution	No specific data. No specific data.
<b>Skin contact</b>	: *pH combination electrode Reference solution	No specific data. No specific data.
<b>Ingestion</b>	: *pH combination electrode Reference solution	No specific data. No specific data.

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

<b>Notes to physician</b>	: *pH combination electrode  Reference solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: *pH combination electrode Reference solution	No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: *pH combination electrode  Reference solution	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. 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.





See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media



<b>Suitable extinguishing media</b>	: *pH combination electrode  Reference solution	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: *pH combination electrode Reference solution	None known. None known.
<b>Specific hazards arising from the chemical</b>	: *pH combination electrode  Reference solution	In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

## Section 5. Firefighting measures


<b>Hazardous thermal decomposition products</b>	:  pH combination electrode	Decomposition products may include the following materials: carbon dioxide carbon monoxide phosphorus oxides halogenated compounds metal oxide/oxides
	Reference solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
<b>Special protective actions for fire-fighters</b>	:  pH combination electrode	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.
	Reference solution	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.
<b>Special protective equipment for fire-fighters</b>	:  pH combination electrode	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Reference solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<b>Hazchem code</b>	:  pH combination electrode	•3Z
	Reference solution	•3Z

## Section 6. Accidental release measures


### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	:  pH combination electrode	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.
	Reference solution	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.
<b>For emergency responders</b>	:  pH combination electrode	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".
	Reference solution	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".

## Section 6. Accidental release measures



<b>Environmental precautions</b>	:  pH combination electrode	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
	Reference solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	:  pH combination electrode	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.
	Reference solution	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

<b>Protective measures</b>	:  pH combination electrode	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Reference solution	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	:  pH combination electrode	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.
	Reference solution	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.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : pH combination electrode

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.

Reference solution

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.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
pH combination electrode	
Glycerol	
Ethanediol	<p><b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m<sup>3</sup> 8 hours.</p> <p><b>Safe Work Australia (Australia, 1/2014).</b> <b>Absorbed through skin.</b> TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Particulate STEL: 104 mg/m<sup>3</sup> 15 minutes. Form: Vapour</p> <p>TWA: 52 mg/m<sup>3</sup> 8 hours. Form: Vapour TWA: 20 ppm 8 hours. Form: Vapour STEL: 40 ppm 15 minutes. Form: Vapour</p>
Silver chloride	<p><b>ACGIH TLV (United States).</b> TWA: 0.1 mg/m<sup>3</sup>, (Silver.) Form: Dust and fumes</p>
<b>Reference solution</b>	
Silver chloride	<p><b>ACGIH TLV (United States).</b> TWA: 0.1 mg/m<sup>3</sup>, (Silver.) Form: Dust and fumes</p>

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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.

### Individual protection measures

## Section 8. Exposure controls and personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : 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

<b>Physical state</b>	: * pH combination electrode Reference solution	Liquid. Liquid.
<b>Colour</b>	: pH combination electrode Reference solution	Not available. White.
<b>Odour</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>Odour threshold</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>pH</b>	: * pH combination electrode Reference solution	6 6
<b>Melting point</b>	: * pH combination electrode Reference solution	-25°C (-13°F) 0°C (32°F)
<b>Boiling point</b>	: * pH combination electrode Reference solution	110°C (230°F) 100°C (212°F)
<b>Flash point</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>Evaporation rate</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>Flammability (solid, gas)</b>	: pH combination electrode Reference solution	Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>Vapour pressure</b>	: * pH combination electrode Reference solution	Not available. Not available.
<b>Vapour density</b>	:	



## Section 9. Physical and chemical properties

	* pH combination electrode	Not available.
	Reference solution	Not available.
<b>Relative density</b>	: * pH combination electrode	1.1
	Reference solution	1
<b>Solubility</b>	: * pH combination electrode	Soluble in the following materials: cold water and hot water.
	Reference solution	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: * pH combination electrode	Not available.
	Reference solution	Not available.
<b>Auto-ignition temperature</b>	: * pH combination electrode	Not available.
	Reference solution	Not available.
<b>Decomposition temperature</b>	: * pH combination electrode	Not available.
	Reference solution	Not available.
<b>Viscosity</b>	: * pH combination electrode	Not available.
	Reference solution	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: * pH combination electrode	No specific test data related to reactivity available for this product or its ingredients.
	Reference solution	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: * pH combination electrode	The product is stable.
	Reference solution	The product is stable.
<b>Possibility of hazardous reactions</b>	: * pH combination electrode	Under normal conditions of storage and use, hazardous reactions will not occur.
	Reference solution	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: * pH combination electrode	No specific data.
	Reference solution	No specific data.
<b>Incompatible materials</b>	: * pH combination electrode	May react or be incompatible with oxidising materials.
	Reference solution	May react or be incompatible with oxidising materials.
<b>Hazardous decomposition products</b>	: * pH combination electrode	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Reference solution	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
* pH combination electrode				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Ethanediol	LD50 Oral	Rat	4700 mg/kg	-
Silver chloride	LD50 Oral	Rat	>5000 mg/kg	-
<b>Reference solution</b>				
Silver chloride	LD50 Oral	Rat	>5000 mg/kg	-

## Section 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
pH combination electrode Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Ethanediol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 milligrams	-
	Skin - Mild irritant	Rabbit	-	555 milligrams	-

### Sensitisation

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** : pH combination electrode Reference solution Routes of entry anticipated: Oral, Dermal, Inhalation.  
 pH combination electrode Reference solution Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

**Eye contact** : pH combination electrode Reference solution No known significant effects or critical hazards.  
 pH combination electrode Reference solution No known significant effects or critical hazards.

**Inhalation** : pH combination electrode Reference solution No known significant effects or critical hazards.  
 pH combination electrode Reference solution No known significant effects or critical hazards.

**Skin contact** : pH combination electrode Reference solution No known significant effects or critical hazards.  
 pH combination electrode Reference solution No known significant effects or critical hazards.

**Ingestion** : pH combination electrode Reference solution No known significant effects or critical hazards.  
 pH combination electrode Reference solution No known significant effects or critical hazards.

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

**Eye contact** : pH combination electrode Reference solution No specific data.  
 pH combination electrode Reference solution No specific data.

**Inhalation** : pH combination electrode Reference solution No specific data.  
 pH combination electrode Reference solution No specific data.

## Section 11. Toxicological information

<b>Skin contact</b>	: *	pH combination electrode Reference solution	No specific data. No specific data.
<b>Ingestion</b>	: *	pH combination electrode Reference solution	No specific data. No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

Not available.

<b>General</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: *	pH combination electrode Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
*pH combination electrode Oral	16666.7 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
*pH combination electrode			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Ethanediol	Acute LC50 10000000 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 41000000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Silver chloride	Acute LC50 8050000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 5.3 µg/l Fresh water	Fish - Lepidocephalichthys guntea	96 hours
<b>Reference solution</b>			
Silver chloride	Acute LC50 5.3 µg/l Fresh water	Fish - Lepidocephalichthys guntea	96 hours

## Section 12. Ecological information

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
*pH combination electrode Ethenediol	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
*pH combination electrode			
Glycerol	-1.76	-	low
Ethenediol	-1.36	-	low
Silver chloride	-	70	low
<b>Reference solution</b>			
Silver chloride	-	70	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : 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

### Regulatory information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

**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

Not regulated.

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

**Australia inventory (AICS)** : All components are listed or exempted.

### 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 Inform Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : All components are listed or exempted.
<b>Malaysia</b>	: All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 26/07/2016

**Date of previous issue** : 25/07/2014.

**Version** : 3

### 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

## Section 16. Any other relevant information

### Procedure used to derive the classification

Classification	Justification
<p><b>*pH combination electrode</b>                      Aquatic Acute 1, H400                      Aquatic Chronic 1, H410</p> <p><b>Reference solution</b>                      Aquatic Acute 1, H400                      Aquatic Chronic 1, H410</p>	<p>Calculation method                      Calculation method</p> <p>Calculation method                      Calculation method</p>

**References** : Not available.

**Indicates information that has changed from previously issued version.**

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