

SAFETY DATA SHEET



8211 ORP electrode with refilling solution, Part Number 5190-3999

Section 1. Identification

1.1 Product identifier

Product name : 8211 ORP electrode with refilling solution, Part Number 5190-3999
Part No. (Chemical Kit) : 5190-3999
Part No. : * ORP8211 electrode ORP8211
 pH Reference solution 5190-0545
Validation date : 2015-08-25

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

Material uses : Analytical chemistry.
 * ORP8211 electrode Electrodes.
 pH Reference solution 3 x 30 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Note * : * This component is considered an article. Information provided is based on the encapsulated substance or mixture in this article.

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : * ORP8211 electrode This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 pH Reference solution This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

* ORP8211 electrode
 H320 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

pH Reference solution
 H320 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

Ingredients of unknown toxicity : * ORP8211 electrode Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 1.5%
 pH Reference solution Not applicable.

2.2 GHS label elements

Signal word : * ORP8211 electrode Warning
 pH Reference solution Warning
Hazard statements : * ORP8211 electrode H320 - Causes eye irritation.
 pH Reference solution H320 - Causes eye irritation.

Precautionary statements

Section 2. Hazards identification

Prevention	: * ORP8211 electrode pH Reference solution	P264 - Wash hands thoroughly after handling. P264 - Wash hands thoroughly after handling.
Response	: * ORP8211 electrode pH Reference solution	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. 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.
Storage	: * ORP8211 electrode pH Reference solution	Not applicable. Not applicable.
Disposal	: * ORP8211 electrode pH Reference solution	Not applicable. Not applicable.
Supplemental label elements	: * ORP8211 electrode pH Reference solution	None known. None known.
<u>2.3 Other hazards</u>		
Hazards not otherwise classified	: * ORP8211 electrode pH Reference solution	None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: * ORP8211 electrode pH Reference solution	Mixture (encapsulated in article) Mixture
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Ingredient name	%	CAS number
* ORP8211 electrode		
Glycerol	≥10 - <25	56-81-5
Potassium chloride	≥10 - <25	7447-40-7
pH Reference solution		
Potassium chloride	≥10 - <25	7447-40-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

4.1 Description of necessary first aid measures

Eye contact	: * ORP8211 electrode pH 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. If irritation persists, get medical attention. 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. If
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Section 4. First aid measures

Inhalation

: * ORP8211 electrode

irritation persists, get medical attention.

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.

pH Reference solution

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

Skin contact

: * ORP8211 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.

pH 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.

Ingestion

: * ORP8211 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.

pH 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

Section 4. First aid measures

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: * ORP8211 electrode pH Reference solution	Causes eye irritation. Causes eye irritation.
Inhalation	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: * ORP8211 electrode pH Reference solution	Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: irritation watering redness
Inhalation	: * ORP8211 electrode pH Reference solution	No specific data. No specific data.
Skin contact	: * ORP8211 electrode pH Reference solution	No specific data. No specific data.
Ingestion	: * ORP8211 electrode pH Reference solution	No specific data. No specific data.

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

Notes to physician	: * ORP8211 electrode pH 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.
Specific treatments	: * ORP8211 electrode pH Reference solution	No specific treatment. No specific treatment.
Protection of first-aiders	: * ORP8211 electrode pH 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.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: * ORP8211 electrode pH Reference solution	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: * ORP8211 electrode pH Reference solution	None known. None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: * ORP8211 electrode pH Reference solution	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: * ORP8211 electrode pH Reference solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: halogenated compounds metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	: * ORP8211 electrode pH 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. 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	: * ORP8211 electrode pH 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. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: * ORP8211 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when
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Section 6. Accidental release measures

pH Reference solution

ventilation is inadequate. Put on appropriate personal protective equipment. 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : * ORP8211 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". 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".

pH Reference solution

6.2 Environmental precautions : * ORP8211 electrode

Avoid dispersal of spilled 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).

pH Reference solution

Avoid dispersal of spilled 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : * ORP8211 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.

pH 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

7.1 Precautions for safe handling

Protective measures : * ORP8211 electrode

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

pH Reference solution

Put on appropriate personal protective equipment

Section 7. Handling and storage

(see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.

Advice on general occupational hygiene : * ORP8211 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.

pH 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.

7.2 Conditions for safe storage, including any incompatibilities : * ORP8211 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

pH 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : * ORP8211 electrode
pH Reference solution

Industrial applications, Professional applications.
Industrial applications, Professional applications.

Industrial sector specific solutions : * ORP8211 electrode
pH Reference solution

Not applicable.
Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
* ORP8211 electrode Glycerol Potassium chloride pH Reference solution Potassium chloride	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust None. None.

8.2 Exposure controls

- 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

- 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.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: * ORP8211 electrode pH Reference solution	Liquid. Liquid.
Color	: * ORP8211 electrode pH Reference solution	White. White.
Odor	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Odor threshold	: * ORP8211 electrode pH Reference solution	Not available. Not available.
pH	: * ORP8211 electrode pH Reference solution	6 6
Melting point	: * ORP8211 electrode pH Reference solution	-25°C (-13°F) 0°C (32°F)
Boiling point	: * ORP8211 electrode pH Reference solution	110°C (230°F) 100°C (212°F)
Flash point	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Evaporation rate	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Flammability (solid, gas)	: * ORP8211 electrode pH Reference solution	Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Vapor pressure	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Vapor density	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Relative density	: * ORP8211 electrode pH Reference solution	1.1 1
Solubility	: * ORP8211 electrode pH Reference solution	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Auto-ignition temperature	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Decomposition temperature	: * ORP8211 electrode pH Reference solution	Not available. Not available.
Viscosity	: * ORP8211 electrode pH Reference solution	Not available. Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: * ORP8211 electrode pH Reference solution	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: * ORP8211 electrode pH Reference solution	The product is stable. The product is stable.

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions	: * ORP8211 electrode pH Reference solution	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: * ORP8211 electrode pH Reference solution	No specific data. No specific data.
10.5 Incompatible materials	: * ORP8211 electrode pH Reference solution	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: * ORP8211 electrode pH Reference solution	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

Product/ingredient name	Result	Species	Dose	Exposure
* ORP8211 electrode				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
pH Reference solution				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
* ORP8211 electrode					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
pH Reference solution					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Section 11. Toxicological information

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 the likely routes of exposure : * ORP8211 electrode
pH Reference solution
Routes of entry anticipated: Oral, Dermal, Inhalation.
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : * ORP8211 electrode
pH Reference solution
Causes eye irritation.
Causes eye irritation.

Inhalation : * ORP8211 electrode
pH Reference solution
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Skin contact : * ORP8211 electrode
pH Reference solution
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Ingestion : * ORP8211 electrode
pH Reference solution
No known significant effects or critical hazards.
No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : * ORP8211 electrode
pH Reference solution
Adverse symptoms may include the following:
irritation
watering
redness
Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : * ORP8211 electrode
pH Reference solution
No specific data.
No specific data.

Skin contact : * ORP8211 electrode
pH Reference solution
No specific data.
No specific data.

Ingestion : * ORP8211 electrode
pH Reference solution
No specific data.
No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

General	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: * ORP8211 electrode pH Reference solution	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: * ORP8211 electrode pH 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
* ORP8211 electrode Oral	15568.9 mg/kg
pH Reference solution Oral	11158.8 mg/kg

Other information	: * ORP8211 electrode pH Reference solution	Not available. Not available.
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Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
* ORP8211 electrode Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodemus subspicatus	72 hours
	Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
pH Reference solution Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodemus subspicatus	72 hours
	Acute EC50 83000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours

12.2 Persistence and degradability

Not available.

Section 12. Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
* ORP8211 electrode Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
Clean Water Act (CWA) 307: Silver chloride

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Section 15. Regulatory information

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
* ORP8211 electrode						
Glycerol	≥10 - <25	No.	No.	No.	Yes.	No.
Potassium chloride	≥10 - <25	No.	No.	No.	Yes.	No.
pH Reference solution						
Potassium chloride	≥10 - <25	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	* ORP8211 electrode Silver chloride	7783-90-6	≥1 - <3
Supplier notification	* ORP8211 electrode Silver chloride	7783-90-6	≥1 - <3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL
- California Prop. 65**

No products were found.

Canada inventory : All components are listed or exempted.

International regulations

- International lists** :
- Australia inventory (AICS)**: All components are listed or exempted.
 - China inventory (IECSC)**: All components are listed or exempted.
 - Japan inventory**: All components are listed or exempted.
 - Korea inventory**: All components are listed or exempted.
 - Malaysia Inventory (EHS Register)**: Not determined.
 - New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
 - Philippines inventory (PICCS)**: All components are listed or exempted.
 - Taiwan inventory (CSNN)**: All components are listed or exempted.

Section 15. Regulatory information

Chemical Weapons : Not listed

**Convention List Schedule
I Chemicals**

Chemical Weapons : Not listed

**Convention List Schedule
II Chemicals**

Chemical Weapons : Not listed

**Convention List Schedule
III Chemicals**

Section 16. Other information

History

Date of issue : 2015-08-25

Date of previous issue : No previous validation

Version : 1

✔ Indicates information that has changed from previously issued version.

Note * : * This component is considered an article. Information provided is based on the encapsulated substance or mixture in this article.

Notice to reader

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