

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 10.24.2014**ORP Standard,229mV****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** ORP Standard,229mV**Manufacturer/Supplier Article number:** OR4229SS**Recommended uses of the product and restrictions on use:****Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
 860 Gitts Run Road  
 Hanover, PA 17331  
 1-717-632-1291

**Emergency telephone number:****ChemTel: (24-hour)**

+1(800)255-3924

+1(813)248-0585 (International)

**SECTION 2: Hazards identification****Classification of the substance or mixture:**

Not classified for physical or health hazards under GHS.

**Signal word:** None**Hazard statements:**

None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.

Keep out of reach of children.

Read label before use.

**Other Non-GHS Classification:** None**SECTION 3: Composition/information on ingredients****Ingredients:**

<b>Ingredients:</b>		
CAS 7732-18-5	Water	99.00395 %
CAS 7447-40-7	Potassium Chloride	0.7455 %
CAS 13746-66-2	Potassium Ferricyanide	0.10975 %
CAS 14459-95-1	Potassium Ferrocyanide	0.1408 %
Percentages are by weight		

**SECTION 4: First aid measures****Description of first aid measures****After inhalation:**

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Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

**After skin contact:**

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person.

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

Irritation. Headache. Nausea. Shortness of breath.

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

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:****Protective equipment:**

Wear protective eyewear, gloves, and clothing. Use NIOSH-approved respiratory protection/breathing apparatus. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

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

Wear protective eyewear, gloves, and clothing. Always obey local regulations. Containerize for disposal. Refer to Section 13. Refer to Section 8. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

**Reference to other sections:** None**SECTION 7: Handling and storage****Precautions for safe handling:**

Avoid contact with skin, eyes and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when

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handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage.  
Provide ventilation for containers. Keep container tightly closed. Store away from incompatible materials.

**SECTION 8: Exposure controls/personal protection****Control parameters:**

13746-66-2, Potassium Ferricyanide, ACGIH TLV TWA 5 mg/m3.

**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Ensure that air-handling systems are operational and ventilation is adequate.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes and clothing. Before re-wearing, wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, yellow to yellow - green liquid	<b>Explosion limit lower:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Explosion limit upper:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor pressure at 20°C:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approx. 0°C	<b>Relative density:</b>	Approx. 1
<b>Boiling point/Boiling range:</b>	Approx. 100C	<b>Solubilities:</b>	Infinite solubility.
<b>Flash point (closed cup):</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not flammable	<b>Decomposition temperature:</b>	Not determined
		<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined

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Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials.

**Incompatible materials:**

Acids, sodium nitrate, ammonia, bromine trifluoride, cupric nitrate, chromium trioxide, chromic anhydride.

**Hazardous decomposition products:**

Fumes of cyanide and oxides of carbon, potassium, and nitrogen.

**SECTION 11: Toxicological information****Acute Toxicity:** No additional information.**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:** No additional information.**Serious eye damage/irritation:** No additional information.**Respiratory or skin sensitization:** No additional information.**Carcinogenicity:** No additional information.**Germ cell mutagenicity:** No additional information.**Reproductive Toxicity:** No additional information.**STOT-single and repeated exposure:** No additional information.**Additional toxicological information:**

No additional information.

**SECTION 12: Ecological information****Ecotoxicity:**

Toxicity to fish, LC50 - Pimephales promelas (fathead minnow) - 880 mg/l (Potassium Chloride).

Toxicity to fish, mortality NOEC - Pimephales promelas (fathead minnow) - 500 mg/l - 7 d (Potassium Chloride).

Toxicity to fish, mortality LOEC - Pimephales promelas (fathead minnow) - 1,000 mg/l - 7 d (Potassium Chloride).

Toxicity to daphnia and other aquatic invertebrates, EC50 - Daphnia - 32 mg/l - 48 h (Potassium Ferrocyanide).

Toxicity to fish, LC50 - Oncorhynchus mykiss (rainbow trout) - 869 mg/l - 9 (Potassium Ferricyanide).

Toxicity to daphnia and other aquatic invertebrates, EC50 - Daphnia magna (Water flea) - 549 mg/l - 48 h (Potassium Ferricyanide).

**Persistence and degradability:** No additional information.**Bioaccumulative potential:** No additional information.**Mobility in soil:** No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations**

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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

**SECTION 14: Transport information****US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Hazard Class:** None**Packing Group:** Not Regulated.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

None of the ingredients are listed.

**SARA Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act) :**

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

None of the ingredients are listed.

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

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None of the ingredients are listed.

**Canada****Canadian Domestic Substances List (DSL) :**

All ingredients are listed.

**SECTION 16: Other information**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 1-0-0**HMIS:** 1-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG	International Maritime Code for Dangerous Goods.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.