

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 10.24.2014

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ORP Standard, 400 mV +/-5% @ 25°C

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : ORP Standard, 400 mV +/-5% @ 25°C

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: ANDOR4400-P

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Anderson Chemical Company
325 South David Avenue, Litchfield, MN 55355
(320) 693-2477

Emergency telephone number:

Anderson Chemical Company Emergency Telephone No.: (800) 255-3924

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Irritant

Skin irritation, category 2
Eye irritation, category 2A

Skin Irritation Cat. 2
Eye Irritation 2A

Signal word :Warning

Hazard statements:

Causes skin irritation

Causes serious eye irritation

Precautionary statements:

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

Keep out of reach of children

Read label before use

Wash skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Continue rinsing

Specific treatment (see supplemental first aid instructions on this label)

Take off contaminated clothing and wash before reuse

If skin irritation occurs: Get medical advice/attention

If eye irritation persists get medical advice/attention

IF ON SKIN: Wash with soap and water

Other Non-GHS Classification:

WHMIS

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NFPA/HMIS



NFPA SCALE (0-4)

Health	2
Flammability	0
Physical Hazard	0
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7664-93-9	Sulfuric Acid	11.04 %
CAS 7783-85-9	Ferrous Ammonium Sulfate	4 %
CAS 7732-18-5	Water	84.96 %
Percentages are by weight		

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: 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 immediate medical attention.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Most important symptoms and effects, both acute and delayed:

Skin redness. 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

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foam.

For safety reasons unsuitable extinguishing agents:

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors. Can react with metal to form flammable and explosive hydrogen gas.

Advice for firefighters:

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

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. Refer to Section 8. Always obey local regulations. Use spill berms to contain spill. Apply acid neutralizer and absorb spill from outside working way towards center. Place in appropriate container for disposal. For disposal, refer to Section 13. If necessary use trained response staff or contractor. Evacuate personnel to safe areas.

Reference to other sections:

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. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances.

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 sealed. Store away from incompatible materials.

SECTION 8 : Exposure controls/personal protection



Control Parameters:

7664-93-9, Sulfuric Acid, ACGIH TLV 1 mg/m³
7664-93-9, Sulfuric Acid, OSHA PEL 1 mg/m³
7783-85-9, Ferrous Ammonium Sulfate, ACGIH TLV TWA 1 mg/m³

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

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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. Wear protective clothing.
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 wearing wash contaminated clothing.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Clear, greenish liquid	Explosion limit lower: Explosion limit upper:	Not determined Not determined
Odor:	Odorless	Vapor pressure:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	Not determined
Melting/Freezing point:	Not determined	Solubilities:	Infinite solubility
Boiling point/Boiling range:	Not determined	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid,gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density: Not determined			

SECTION 10 : Stability and reactivity

Reactivity: Nonreactive under normal conditions.

Chemical stability: Stable under normal conditions.

Possible hazardous reactions: None under normal processing.

Conditions to avoid: Incompatible materials.

Incompatible materials: Organics, chlorates, alkalines, picrates, carbides, fulminates, nitrates, acetic acid, oxidizing agents, reducing agents, metals

Hazardous decomposition products: Oxides of sulfur

SECTION 11 : Toxicological information

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Acute Toxicity:		
Oral:	Rat	LD50 2140 mg/kg (Sulfuric Acid)
Inhalation:	Rat	LC50/2 h 510 mg/m3 (Sulfuric Acid)
Chronic Toxicity: No additional information.		
Corrosion Irritation: No additional information.		
Sensitization:		No additional information.
Single Target Organ (STOT):		No additional information.
Numerical Measures:		No additional information.
Carcinogenicity:		Strong Inorganic Acid Mists Containing Sulfuric Acid: California Prop. 65: Cancer Acid mists, strong inorganic.: IARC Class 1 Carcinogen
Mutagenicity:		No additional information.
Reproductive Toxicity:		No additional information.

SECTION 12 : Ecological information

Ecotoxicity

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h (Sulfuric Acid)

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h (Sulfuric Acid)

Persistence and degradability:

Bioaccumulative potential:

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. 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

UN-Number

3264

UN proper shipping name

Corrosive Liquid, Acidic, Inorganic, N.O.S., (Sulfuric Acid Solution)

Transport hazard class(es)



Class:

8 Corrosive substances

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Packing group:III

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute

SARA Section 313 (Specific toxic chemical listings):

7664-93-9 Sulfuric Acid

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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

7664-93-9 Sulfuric Acid 1000 lbs

Proposition 65 (California):

Chemicals known to cause cancer:

7664-93-9 Sulfuric Acid

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

7664-93-9 Sulfuric Acid

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

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material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

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

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