# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

Revision: March 24, 2020

## 1 Identification

· **Product identifier**

· **Trade name: ORP Standard, 475 mV +/-5% @ 25°C**
· **Product code:** OR4475SS

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

| | | |
|---|---|---|
| Met. Corr.1 | H290 | May be corrosive to metals. |
| Skin Irrit. 2 | H315 | Causes skin irritation. |
| Eye Irrit. 2A | H319 | Causes serious eye irritation. |

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05

· **Signal word:** Warning
· **Hazard statements:**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
· **Precautionary statements:**
P234 Keep only in original container.
P260 Do not breathe mist/vapors/spray.

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| | |
|---|---|
| P264 | Wash thoroughly after handling. |
| P280 | Wear protective gloves and eye protection. |
| P301+P330+P331 | If swallowed: Rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a poison center/doctor. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

| | | |
|---|---|---|
| 7732-18-5 | Water | 81% |
| 7664-93-9 | Sulfuric acid<br>Met. Corr.1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 | 10% |
| 7783-83-7 | Ferric Ammonium Sulfate | 5% |
| 10045-89-3 | Diammonium iron bis(sulfate) | 4% |

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation is experienced, consult a doctor.
Seek immediate help for blistering or open wounds.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.
Strong irritant with the danger of severe eye injury.

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Caustic effect on skin and mucous membranes.
Acidosis
Causes skin irritation.
· **Danger:**
Causes serious eye damage.
Danger of gastric perforation.
· **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No relevant information available.
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information:** Cool endangered receptacles with water in flooding quantities.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
· **Environmental precautions** Do not allow product to reach sewage system or any water course.
· **Methods and material for containment and cleaning up**
Use limestone to neutralize and/or absorb spill.
Dispose of the collected material according to regulations.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
· **Information about protection against explosions and fires:** No special measures required.

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· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
Store only in the original receptacle.
Unsuitable material for receptacle: aluminium.
Unsuitable material for receptacle: steel.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).
Store away from metals.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Keep containers tightly sealed.
· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

| **7664-93-9 Sulfuric acid** | |
|---|---|
| PEL (USA) | Long-term value: 1 mg/m³ |
| REL (USA) | Long-term value: 1 mg/m³ |
| TLV (USA) | Long-term value: 0.2* mg/m³<br>*as thoracic fraction |
| EL (Canada) | Long-term value: 0.2 mg/m³<br>ACGIH A2; IARC 1 |
| EV (Canada) | Long-term value: 0.2 mg/m³ |
| LMPE (Mexico) | Long-term value: 0.2* mg/m³<br>A2;*fracción torácica |

· **Exposure controls**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Wash hands and face after working with the substance.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Engineering controls:** Provide adequate ventilation.
· **Breathing equipment:** For large spills, respiratory protection may be advisable.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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· **Material of gloves**
Butyl rubber, BR
Natural rubber, NR
Nitrile rubber, NBR
Neoprene gloves
Fluorocarbon rubber (Viton)
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.
· **Body protection:** Acid resistant protective clothing.
· **Limitation and supervision of exposure into the environment**
No relevant information available.

## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **Appearance:** | |
| **Form:** | Liquid |
| **Color:** | Clear, colorless |
| · **Odor:** | Nearly odorless |
| · **Odor threshold:** | Not determined. |
| · **pH-value:** | Not determined. |
| · **Melting point/Melting range:** | Not determined. |
| · **Boiling point/Boiling range:** | 105-110 °C (221-166 °F) |
| · **Flash point:** | The product is not flammable. |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Auto-ignition temperature:** | Not determined. |
| · **Decomposition temperature:** | Not determined. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Oxidizing properties:** | Not determined. |
| · **Vapor pressure at 20 °C (68 °F):** | 23 hPa (17.3 mm Hg) |
| · **Density:** | |
| **Relative density:** | Not determined. |
| **Vapor density:** | Not determined. |
| **Evaporation rate:** | Not determined. |

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| | |
|---|---|
| · **Solubility in / Miscibility with Water:** | Not determined. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |
| · **Viscosity** | |
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| · **Other information** | No relevant information available. |

## 10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Corrosive action on metals.
Reacts with certain metals.
Reacts with alkali (lyes).
Reacts with strong oxidizing agents.
· **Conditions to avoid** Excessive heat.
· **Incompatible materials**
Metals.
Alkalis.
Oxidizers
· **Hazardous decomposition products**
Under fire conditions only:
Sulfur oxides (SOx)
Ammonia

## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** Caustic effect on skin and mucous membranes.
· **On the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

| | | |
|---|---|---|
| 7664-93-9 | Sulfuric acid | K |

· **OSHA-Ca (Occupational Safety & Health Administration):**

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None of the ingredients are listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):** Causes severe skin burns and eye damage.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects** No relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | UN2796 |
| · **UN proper shipping name** | |
| · **DOT** | Sulfuric acid mixture |

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| | |
|---|---|
| · **ADR/RID/ADN, IMDG, IATA** | SULPHURIC ACID mixture |
| · **Transport hazard class(es)** | |
| · **DOT** | |
|  | |
| · **Class** | 8 |
| · **Label** | 8 |
| · **ADR/RID/ADN** | |
|  | |
| · **Class** | 8 (C1) |
| · **Label** | 8 |
| · **IMDG, IATA** | |
|  | |
| · **Class** | 8 |
| · **Label** | 8 |
| · **Packing group** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | II |
| · **Environmental hazards** | |
| · **Marine pollutant:** | No |
| · **Special precautions for user** | Warning: Corrosive substances |
| · **Hazard identification number (Kemler code):** | 80 |
| · **EMS Number:** | F-A,S-B |
| · **Segregation groups** | Acids |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

## 15 Regulatory information

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

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

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

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| | |
|---|---|
| 7664-93-9 | Sulfuric acid |

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

| | |
|---|---|
| 7664-93-9 | Sulfuric acid |
| 10045-89-3 | Diammonium iron bis(sulfate) |
| 7732-18-5 | Water |

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

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

Contact manufacturer for further information. *

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
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Safety Data Sheets, Individual Manufacturers

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