

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91886-00
Product Identity: Total Alkalinity Indicator

Chemical Family: Not Applicable
Synonyms: None
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Non-flammable, non-corrosive, non-toxic. Does not present significant health hazards. Wash areas of contact with water.

Appearance: Clear, dark green liquid **Odor:** Odorless

Target Organs: Eyes, skin.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause slight irritation.

Skin: May cause slight irritation.

Ingestion: Large doses may cause upset stomach

Inhalation: Not likely to be a hazard by inhalation.

Chronic Effect / Carcinogenicity: None(IARC, NTP, OSHA)

Aggravated Medical Conditions No information available

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Bromocresol Green Na Salt, CAS# 62625-32-5, 0.06% w/v.

Methyl Red Na Salt, CAS# 845-10-3, 0.04% w/v.

Water, purified, CAS# 7732-18-5, >98% w/v.

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: Induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Toxic gas may be produced in fire. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available.
NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions No information Available.
Methods for Containment and Clean Up Collect liquid and dilute with water and release to drain. For larger spills, absorb with suitable material. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with bases.
Storage: Keep Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Bromocresol Green Na Salt, CAS# 62625-32-5, ACGIH TLV: NA, OSHA PEL: NA
Methyl Red Na Salt, CAS# 845-10-3, ACGIH TLV: NA, OHSA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.
Personal Protection Equipment: Skin Protection: Chemical resistant gloves.
Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, dark green liquid	
Odor: Odorless	% Volatility: No Information Available
Boiling Point: Approx 100C	Specific Gravity: Approx 1
Melting Point: Approx 0C	Vapor Pressure: No information Available
Vapor Density: No Information Available	Flash Point: Not Applicable
Evaporation Rate: No information Available	Coefficient of water/oil distribution: Not Available
pH: Approximately 8.5	Odor Threshold: Not Available
Flammability: No Information Available	Decomposition Temperature: No Information Available
Solubility: Infinite	Partition Coefficient n-octanol/water: No data
available	
Relative Density: No Information Available	Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: None Identified.
Conditions to Avoid: No information Available
Hazardous Decomposition Products: None expected
Hazardous Polymerization: Does not occur
Hazardous Reactions: Not available.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2
LD50 orl-rat: NA LC50 inhalation-rat: NA
Irritation: No Information Available
Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: No information available.

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Dilute with water and flush to sewer.

All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT - Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.

Canada DSL: CAS# 845-10-3 and CAS# 76-60-8 are listed on Canada's DSL List

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Not applicable

WHMIS: Not Applicable.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91887-00
Product Identity: Sulfuric Acid 0.12N

Chemical Family: Not Applicable
Synonyms: Not Applicable
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview: May irritate eyes and skin. Wash areas of contact with water.
Appearance: Clear, colorless liquid **Odor:** Odorless
Target Organs: Eyes, skin, respiratory system, teeth
Potential Health Effects/ Routes of Exposure:
Eyes: May cause slight irritation.
Skin: May cause slight irritation, redness, and pain.
Ingestion: May cause irritation, vomiting, and diarrhea.
Inhalation: May cause irritation.
Chronic Effect / Carcinogenicity: None (IARC, NTP, OSHA)
Aggravated Medical Conditions No information available
These chemicals are not considered hazardous by OSHA.
See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Sulfuric Acid, CAS# 7664-93-9, <1% w/v
Water, purified, CAS# 7732-18-5, >99% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.
Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.
Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.
Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.
Explosion Limits Upper No data available **Lower** No data available
Extinguishing Media: Dry Chemical, foam, or carbon dioxide.
Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: Can react with metal to form flammable and explosive hydrogen gas.
Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available
NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Not relevant considering the small amounts used.

Methods for Containment and Clean Up Cover spill with sodium carbonate or soda ash. Add water to slurry. Decant water to drain with excess water. Dispose of remaining solid as normal refuse. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with bases.

Storage: Keep container tightly closed. Do not store near combustible materials. Protect from freezing and physical damage. Store in a cool, dry, well-ventilated area. Do not mix with bases.

Section 8 – Exposure Controls, Personal Protection

Sulfuric Acid, CAS# 7664-93-9, ACGIH TLV: 1mg/m³, OSHA PEL: 1mg/m³

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Odorless

Boiling Point: Approx 100C

Melting Point: Below 0

Vapor Density: No Information Available

Evaporation Rate: No Information Available

pH: < 2

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: Approx 1

Vapor Pressure: No Information Available

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Organics, chlorates, alkalines, carbides, fulminates, reducing agents, nitrates, acetic acid, oxidizing agents, metals.

Conditions to Avoid: No Information Available.

Hazardous Decomposition Products: Oxides of sulfur.

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 2140 mg/kg

LC50 inhalation-rat: 510 mg/m³/2H

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity No Information Available

Sensitization No information available.
Mutagenic Effects No information available.
Reproductive Effects No information available.
Developmental Effects (Immediate/Delayed) No information available.
Teratogenicity No information available.
Other Adverse Effects No Information Available.
Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Concentrated sulfuric acid has moderate acute and chronic toxicity to aquatic life. Small quantities will be neutralized by natural alkalinity.
Persistence and Degradability: No Information Available **Mobility:** No Information Available
Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Neutralize with soda ash or calcium carbonate.
All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT - Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.
Canada DSL: These chemicals are listed on the Canada DSL list.
TSCA: The components of this solution are listed on the TSCA Inventory
SARA Title III Section 313: Not Applicable
RCRA Status: Not Applicable
CERCLA Reportable Quantity: Sulfuric Acid – 1000lbs.
WHMIS: Not Applicable.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91888-00
Product Identity: EDTA Hardness Reagent

Chemical Family: Not Applicable
Synonyms: Not Applicable
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date: 12/29/10

Section 2 – Hazard Identification

Emergency Overview
Does not present any significant health hazards. Wash areas of contact with water.

Appearance: Clear, colorless liquid **Odor:** Odorless
Target Organs: Eyes and skin.
Potential Health Effects/ Routes of Exposure:
Eyes: May cause slight irritation.
Skin: May cause slight irritation.
Ingestion: Large doses may cause upset stomach
Inhalation: Not likely to be a hazard by inhalation.
Chronic Effect / Carcinogenicity: None (IARC, NTP, OSHA)
Aggravated Medical Conditions No information available
These chemicals are not considered hazardous by OSHA.
See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 –Composition, Information on Ingredients

EDTA Disodium Dihydrate, CAS# 6381-92-6, <3% w/v
Water, purified, CAS# 7732-18-5, >97% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.
Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.
Ingestion: Dilute with water or milk. Get medical assistance.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.
Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.
Explosion Limits Upper No data available **Lower** No data available
Extinguishing Media: Any means suitable for extinguishing fire.
Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: Thermal decomposition can lead to release of irritating gases and vapors

NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use proper personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions Not Applicable

Methods for Containment and Clean Up Absorb with suitable material and treat as normal refuse. Small amounts may be flushed with excess water to sewer. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.

Storage: Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

EDTA Disodium Dihydrate, CAS# 6381-92-6, ACGIH TLV: NA, OSHA PEL: NA

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate.

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Odorless

Boiling Point: Approx 100C

Melting Point: Approx 0C

Vapor Density: >1

Evaporation Rate: Not available

pH: 8-10

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: Approx 1

Vapor Pressure: Not Applicable

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Strong oxidizers, copper, aluminum

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, nitrogen oxides

Hazardous Polymerization: Does not occur

Hazardous Reactions: Not Available

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 2000mg/kg (EDTA Disodium Anhydrous)

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No Information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Not applicable

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Dilute with water and flush to sewer.

Section 14 – Transport Information

DOT – Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.

Canada DSL: These chemicals are not on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: EDTA Disodium Dihydrate – 5000 lb

WHMIS: Not Applicable

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91889-00
Product Identity: Hardness Buffer

Chemical Family: Not Applicable
Synonyms: Not Available
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Warning. Hazardous fumes and liquid. Use with adequate ventilation. Avoid breathing vapor. Avoid contact with skin, eyes, and clothing. Do not induce vomiting. Get medical attention. Wash areas of contact for at least 15 minutes. For eyes, get medical attention.

Appearance: Clear, colorless liquid **Odor:** Ammonia odor

Target Organs: Respiratory system, eyes, skin.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause severe burns and eye damage.

Skin: May cause serious damage to the skin, skin burns, redness, and pain.

Ingestion: May cause corrosion to the stomach and esophagus, with perforation and peritonitis; chest, mouth and abdomen pain, coughing, vomiting, collapse. Small doses can be fatal.

Inhalation: Causes irritation to the upper respiratory tract, burns, pulmonary edema, and death.

Chronic Effect / Carcinogenicity: None. (IARC, NTP, OSHA)

Aggravated Medical Conditions No information available

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Ammonium Hydroxide, CAS# 1336-21-6, <52% w/v

Ammonium Chloride, CAS# 12125-02-9, <7% w/v

EDTA Mg Salt, CAS# 15954-95-7, <1% w/v

Water, purified, CAS# 7732-18-5, >40% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Any means suitable for extinguishing fire. Use water spray to blanket fire, cool fire exposed containers, and flush non-ignited spills away from fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Flammable vapors may accumulate in confined spaces.

Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: No information available.

NFPA Rating: (estimated) Health: 3; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Cover with mixture of sodium carbonate/calcium carbonate, clay, and sand. Pick up and place in suitable container and in fume hood add water. Neutralize with dilute hydrochloric acid, let stand in over night and flush to drain with plenty of water. Keep in suitable and closed containers for disposal

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with acids.

Storage: Keep container tightly closed. Protect from freezing and physical damage. Store below 25 C. Empty containers may be hazardous since they may contain product residue.

Section 8 – Exposure Controls, Personal Protection

Ammonium Hydroxide, CAS# 1336-21-6, ACGIH TLV: 17mg/m³, OSHA PEL: 35mg/m³.

Ammonium Chloride, CAS# 12125-02-9, ACGIH TLV: 10mg/m³, OSHA PEL: NA

EDTA Mg Salt, CAS# 15954-95-7, ACGIH TLV: NA, OSHA PEL: NA

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Local/general exhaust is recommended. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** If the TLV is exceeded, a full-face chemical cartridge respirator may be worn up to 50 times the TLV or the maximum use of concentration specified for the respirator supplier.

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Ammonia odor

Boiling Point: No Information Available

Melting Point: No Information Available

Vapor Density: No Information Available

Evaporation Rate: No Information Available

pH: No Information Available

Flammability: No Information Available

Solubility: Infinite
available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: Approx 1

Vapor Pressure: No Information Available

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Strong oxidizers, nitric acids, calcium hypochlorite bleaches, gold, mercury, silver, halogens.

Conditions to Avoid: No information available.

Hazardous Decomposition Products: Oxides of Nitrogen and ammonia.

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 350mg/kg (Ammonium Hydroxide), 1650 mg/kg (Ammonium Chloride)

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity No Information Available

Sensitization No information available.

Mutagenic Effects No Information Available

Reproductive Effects No Information Available

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No Information Available

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Expected to be very toxic to aquatic life

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Ventilate area of spill. Cover spill with mixture of sodium carbonate/calcium carbonate, clay, and sand. Pick up and place in suitable container and in fume hood add water. Neutralize with dilute hydrochloric acid, let stand in over night and flush to drain with plenty of water. Dispose of solid with normal refuse. Wash area of spill with plenty of water. All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN2672, Ammonia Solution, 8, III

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: This items are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Ammonium Chloride – 5000 lbs, Ammonium Hydroxide – 1000 lbs.

WHMIS: E: Corrosive Material

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91890-00

Product Identity: Hardness Indicator Liquid

Chemical Family: No information available

Synonyms: None

Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10

Revision Date:

Section 2 – Hazard Identification

Emergency Overview

May cause eye, skin, and respiratory tract irritation. The toxicological properties have not been fully investigated.

Appearance: Clear, Purple liquid

Odor: Odorless

Target Organs: Eyes, skin..

Potential Health Effects/ Routes of Exposure:

Eyes: May cause slight irritation.

Skin: May cause slight irritation.

Ingestion: May cause slight irritation of digestive tract.

Inhalation: Not likely to be a hazard by inhalation.

Chronic Effect / Carcinogenicity: None(IARC, NTP, OSHA)

Aggravated Medical Conditions No information available

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Calmagite, CAS# 3147-14-6, 0.05% w/v

Water, purified, CAS# 7732-18-5, >99% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Toxic gas may be produced in fire. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available.
NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable and closed containers for disposal

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.
Storage: Keep Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Calmagite, CAS# 3147-14-6, ACGIH TLV: NA, OSHA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA
Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.
Personal Protection Equipment: **Skin Protection:** Chemical resistant gloves.
Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, Purple Liquid	
Odor: Calmagite Odor	% Volatility: No Information Available
Boiling Point: Approx 100C	Specific Gravity: Approx 1
Melting Point: Approx 0C	Vapor Pressure: 14mmHg @ 20C
Vapor Density: No Information Available	Flash Point: Not Applicable
Evaporation Rate: > 1	Coefficient of water/oil distribution: Not Available
pH: Not Applicable	Odor Threshold: Not Available
Flammability: No Information Available	Decomposition Temperature: No Information Available
Solubility: Infinite	Partition Coefficient n-octanol/water: No data
available	
Relative Density: No Information Available	Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: None Identified
Conditions to Avoid: Excess heat.
Hazardous Decomposition Products: None Identified
Hazardous Polymerization: Does not occur
Hazardous Reactions: Not available.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2
LD50 orl-rat: NA LC50 inhalation-rat: NA
Irritation: No Information Available
Toxicologically Synergistic: No Information Available
Chronic Exposure
Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.
Mutagenic Effects No information available.
Reproductive Effects No information available.
Developmental Effects (Immediate/Delayed) No information available.
Teratogenicity No information available.
Other Adverse Effects No information available.
Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: No information available
Persistence and Degradability: No Information Available **Mobility:** No Information Available
Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT - Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.
Canada DSL: These chemicals are listed on Canada's DSL list.
TSCA: The components of this solution are listed on the TSCA Inventory
SARA Title III Section 313: Not Applicable
RCRA Status: Not Applicable
CERCLA Reportable Quantity: Not Applicable
WHMIS: Not controlled

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91891-00
Product Identity: Orthotolidine Indicator

Chemical Family: No information available
Synonyms: No Information Available
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Corrosive liquid. Contains a suspected carcinogen. Handle with care. May irritate skin and eyes. Handle with care. Wash areas of contact with water. If ingested dilute with water and get medical attention.

Appearance: Clear, colorless liquid **Odor:** Slightly acrid odor

Target Organs: Eyes, skin, respiratory system, gastrointestinal tract

Potential Health Effects/ Routes of Exposure:

Eyes: May cause irritation, redness, pain, tearing

Skin: May cause irritation

Ingestion: May cause nausea, vomiting, and diarrhea.

Inhalation: May cause irritation.

Chronic Effect / Carcinogenicity Possible carcinogen

Aggravated Medical Conditions No information available

These chemicals are considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Hydrochloric Acid, CAS# 7647-01-0, <15% v/v

Water, purified, CAS# 7732-18-5, <84% v/v

o-Tolidine, CAS# 119-93-7, <1% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire. Neutralize with soda ash or slaked lime.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: May react with metals to release hydrogen gas.

Fire Fighting Instructions / Equipment: Use normal procedures. Can react with metal to form flammable and explosive hydrogen gas. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: Thermal decomposition can lead to release of irritating gases and vapors

NFPA Rating: (estimated) Health: 2; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Cover with sodium carbonate or soda ash. Add water to make slurry. Decant to drain. Treat the solid residue as normal refuse. Wash site with soda ash solution. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.

Storage: Keep Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Hydrochloric Acid, CAS# 7647-01-0, ACGIH TLV: 7.5mg/m3, OSHA PEL: 7mg/m3

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

o-Tolidine, CAS# 119-93-7, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Ensure ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** If exposure limits are reached use approved respirator

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Slightly acid odor

Boiling Point: Approx 100C

Melting Point: Approx 0C

Vapor Density: No Information Available

Evaporation Rate: No Information Available

pH: No information available

Flammability: No Information Available

Solubility: Misible
available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: 1.01

Vapor Pressure: No Information Available

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: No Information Available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Alkalies, sulfides, cyanides, formaldehyde, sulfites, most metals, active metals, metal oxides

Conditions to Avoid: No information available

Hazardous Decomposition Products: Fumes of hydrogen chloride and hydrogen in contact with metals. Chloride gas from oxidizers.

Hazardous Polymerization: Does not occur
Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 900mg/kg (Hydrochloric acid) LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects Mutagenic effects have occurred in microorganisms.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Hydrogen chloride has slight acute and chronic toxicity to aquatic life.

Persistence and Degradability: No Information Available **Mobility:** No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry. Decant to drain. Treat the solid residue as normal refuse.

All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN1760, Corrosive Liquids, N.O.S., (Hydrochloric Acid Solution), 8, II

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: These chemicals are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Hydrochloric acid – 5000 lbs.

WHMIS: E: Corrosive Material. D-2B: Poisonous and Infectious material. Materials causing other toxic effects-toxic material.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91894-00
Product Identity: Sour Test Rgt/Sour Tester

Chemical Family: Not Applicable
Synonyms: Not Applicable
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview: Flammable. May irritate eyes and skin. Wash areas of contact with water. If ingested, give large quantity of water and induce vomiting and get medical assistance. Contains phenolphthalein; a possible carcinogen.

Appearance: Dark green liquid **Odor:** Mild alcohol

Target Organs: central nervous system, eyes, skin, respiratory system.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause burning and stinging irritation and possible damage to cornea and conjunctiva.

Skin: Results in cracking and burning which may lead to secondary infections and dermatitis.

Ingestion: May cause nausea, vomiting, cramps, and diarrhea. Approximately 250mL (Isopropanol) is the lethal dose for a human adult.

Inhalation: May cause mild irritation of the mucous membrane and upper respiratory tract.

Chronic Effect / Carcinogenicity: None

IARC: Phenolphthalein is a possible carcinogen.

NTP: Phenolphthalein is anticipated to be a carcinogen.

OSHA: No

Aggravated Medical Conditions No information available

These chemicals are considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Isopropyl Alcohol, CAS# 67-63-0, 50% v/v
Phenolphthalein, CAS# 77-09-8, <0.1% w/v
Methyl Red Na Salt, CAS# 845-10-3, 0.04% w/v
Bromothymol Blue, 0.08% w/v
Water, purified, CAS# 7732-18-5, >49% v/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Approximately 13C (Isopropanol) **Autoignition Temperature** Approximately 398C

Explosion Limits Upper 12.7 **Lower** 2.0

Extinguishing Media: Dry Chemical, foam, or carbon dioxide. Water can be used to dilute to non-flammable mixtures.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Vapors can flow to distant ignition sources and flashback. Use water spray to cool fire exposed containers, and flush non-ignited spills or vapors away from fire.

Fire Fighting Instructions / Equipment: Vapors can flow to distant ignition sources and flashback. Use water spray to cool fire exposed containers, and flush non-ignited spills or vapors away from fire.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: No information available

NFPA Rating: (estimated) Health: 1; Flammable: 2; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Not relevant considering the small amounts used.

Methods for Containment and Clean Up Remove source from ignition. Contain spill. Do not flush to sewer. Absorb with inert material and place in chemical waste container. Ventilate spill area. Have extinguishing agent available in case of fire. Use non-sparking equipment. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with bases.

Storage: Keep container tightly closed. Do not store near combustible materials. Protect from freezing and physical damage. May be hazardous since they retain product residue.

Section 8 – Exposure Controls, Personal Protection

Isopropyl Alcohol, CAS# 67-63-0, 50%, ACGIH TLV: 983mg/m³, OSHA PEL: 980mg/m³

Phenolphthalein, CAS# 77-09-8, 0.5%, ACGIH TLV: NA, OSHA PEL: NA

Water, purified, CAS# 7732-18-5, 50%, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Dark Green liquid

Odor: Mild alcohol

Boiling Point: No information available

Melting Point: No information available

Vapor Density: No information available

Evaporation Rate: No information available

pH: Not available

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: No information available

Vapor Pressure: No information available

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: No information available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Oxidizers, aldehydes, heat, sparks, open flame. Metallic oxides may cause ignition.

Conditions to Avoid: Ignition sources, excess heat.

Hazardous Decomposition Products: Acrid and irritating fumes, including toxic oxides of carbon will heat to combustion.

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 1 g/kg (Phenolphthalein), 5045 mg/kg (Isopropanol)

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity Phenolphthalein is in California.

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No Information Available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Not Available.

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Do not flush to sewer. Absorb with inert material and place in chemical waste container for proper disposal in a disposable facility for incineration in a chemical incinerator. Ventilate spill area. Have extinguishing agent available in case of fire. Eliminate all sources of ignition. Use non-sparking equipment.

All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN1993, Flammable Liquids, N.O.S., (Isopropanol Solution), 3, II

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: The components of this solution are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Not reported.

WHMIS: B3: Flammable and Combustible material. Combustible Liquid.D-2B: Poisonous and infectious material. Materials causing other toxic effects-toxic material.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91883-00
Product Identity: Phenolphthalein Indicator

Chemical Family: Not Applicable
Synonyms: Not Applicable
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10
Revision Date:

Section 2 – Hazard Identification

Emergency Overview: Flammable. May irritate eyes and skin. Wash areas of contact with water. If ingested, give large quantity of water and induce vomiting and get medical assistance. Contains phenolphthalein; a possible carcinogen.

Appearance: Clear, colorless to slight pink liquid **Odor:** Mild alcohol

Target Organs: central nervous system, eyes, skin, respiratory system.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause burning and stinging irritation and possible damage to cornea and conjunctiva.

Skin: Results in cracking and burning which may lead to secondary infections and dermatitis.

Ingestion: May cause nausea, vomiting, cramps, and diarrhea. Approximately 250mL (Isopropanol) is the lethal dose for a human adult.

Inhalation: May cause mild irritation of the mucous membrane and upper respiratory tract.

Chronic Effect / Carcinogenicity: Phenolphthalein is a possible cancer hazard. Prolong exposure may cause adverse reproductive effects. May cause kidney injury. May cause allergic skin reaction.

Aggravated Medical Conditions No information available

These chemicals are considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Isopropyl Alcohol, CAS# 67-63-0, 50% v/v
Phenolphthalein, CAS# 77-09-8, 0.5% w/v
Water, purified, CAS# 7732-18-5, 50% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Approximately 13C (Isopropanol) **Autoignition Temperature** Approximately 398C

Explosion Limits Upper 12.7 **Lower** 2.0

Extinguishing Media: Dry Chemical, foam, or carbon dioxide. Water can be used to dilute to non-flammable mixtures.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Vapors can flow to distant ignition sources and flashback. Use water spray to cool fire exposed containers, and flush non-ignited spills or vapors away from fire.

Fire Fighting Instructions / Equipment: Vapors can flow to distant ignition sources and flashback. Use water spray to cool fire exposed containers, and flush non-ignited spills or vapors away from fire.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: No information available

NFPA Rating: (estimated) Health: 1; Flammable: 2; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Not relevant considering the small amounts used.

Methods for Containment and Clean Up Remove source from ignition. Contain spill. Do not flush to sewer. Absorb with inert material and place in chemical waste container. Ventilate spill area. Have extinguishing agent available in case of fire. Use non-sparking equipment. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with bases.

Storage: Keep container tightly closed. Do not store near combustible materials. Protect from freezing and physical damage. May be hazardous since they retain product residue.

Section 8 – Exposure Controls, Personal Protection

Isopropyl Alcohol, CAS# 67-63-0, 50%, ACGIH TLV: 983mg/m³, OSHA PEL: 980mg/m³

Phenolphthalein, CAS# 77-09-8, 0.5%, ACGIH TLV: NA, OSHA PEL: NA

Water, purified, CAS# 7732-18-5, 50%, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Mild alcohol

Boiling Point: Approx 82C

Melting Point: -88C

Vapor Density: 2.1

Evaporation Rate: 2.88

pH: Not available

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: 0.85-0.95

Vapor Pressure: 40mmHG

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: 0

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Oxidizers, aldehydes, heat, sparks, open flame. Metallic oxides may cause ignition.

Conditions to Avoid: Ignition sources, excess heat.

Hazardous Decomposition Products: Acrid and irritating fumes, including toxic oxides of carbon will heat to combustion.

Hazardous Polymerization: Does not occur

Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 1 g/kg (Phenolphthalein), 5045 mg/kg (Isopropanol)

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity Phenolphthalein is in California.

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No Information Available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Not Available.

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Do not flush to sewer. Absorb with inert material and place in chemical waste container for proper disposal in a disposable facility for incineration in a chemical incinerator. Ventilate spill area. Have extinguishing agent available in case of fire. Eliminate all sources of ignition. Use non-sparking equipment.

All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN1993, Flammable Liquids, N.O.S., (Isopropanol Solution), 3, II

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: The components of this solution are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Not reported.

WHMIS: B3: Flammable and Combustible material. Combustible Liquid.D-2B: Poisonous and infectious material. Materials causing other toxic effects-toxic material.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91884-00

Product Identity: Sodium Thiosulfate 0.0365N

Chemical Family: Not Applicable

Synonyms: Thiosulfuric acid, disodium salt pentahydrate solutions (certified)

Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331

Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10

Revision Date: 12/29/10

Section 2 – Hazard Identification

Emergency Overview

May cause eye, skin, respiratory system irritation. Wash areas of contact with water. If ingested, dilute with water and get medical assistance.

Appearance: Clear, colorless liquid

Odor: Odorless

Target Organs: Eyes and skin.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause slight irritation.

Skin: May cause slight irritation.

Ingestion: Large doses may cause upset stomach

Inhalation: May cause mild irritation to the respiratory tract

Chronic Effect / Carcinogenicity: None (IARC, NTP, OSHA)

Aggravated Medical Conditions No information available

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 –Composition, Information on Ingredients

Sodium Thiosulfate, CAS# 10102-17-7, < 5% w/v

Sodium Tetraborate, Decahydrate, CAS# 1303-96-4, <1% w/v

Water, purified, CAS# 7732-18-5, >94% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Any means suitable for extinguishing fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: Thermal decomposition can lead to release of irritating gases and vapors

NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use proper personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions Not Applicable

Methods for Containment and Clean Up Absorb with suitable material and treat as normal refuse. Small amounts may be flushed with excess water to sewer. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.

Storage: Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Sodium Thiosulfate, CAS# 10102-17-7, ACGIH TLV: NA, OSHA PEL: NA

Sodium Tetraborate, Decahydrate, CAS# 1303-96-4, ACGIH TLV: NA, OSHA PEL: NA

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate.

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Odorless

Boiling Point: Approx 100C

Melting Point: Approx 0C

Vapor Density: >1

Evaporation Rate: Not available

pH: Not Applicable

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: Approx 1

Vapor Pressure: Not Applicable

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Metal nitrates, lead, mercury, silver salts, acids, iodine, sodium nitrate

Hazardous Decomposition Products: Oxides of sodium and sulfur

Hazardous Polymerization: Does not occur

Hazardous Reactions: Not Available

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: NA

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No Information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Not applicable

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Dilute with water and flush to sewer.

Section 14 – Transport Information

DOT – Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.

Canada DSL: These chemicals are on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Not Applicable

WHMIS: Not Applicable

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91892-00

Product Identity: Iron #1

Chemical Family: No information available

Synonyms: No information available

Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10

Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Toxic by ingestion. Extremely irritating to the eyes, skin, and mucous membranes. Wash areas of contact for at least 15 minutes. If irritation persists, get medical attention.

Appearance: Clear, Colorless Liquid **Odor:** Odorless

Target Organs: Eyes, skin, respiratory system, and gastrointestinal tract.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause irritation, redness, pain, and tearing.

Skin: May cause slight irritation.

Ingestion: May cause nausea, vomiting, and headache. May convert hemoglobin to methemoglobin causing cyanosis.

Inhalation: May cause irritation.

Chronic Effect / Carcinogenicity: None (NTP, OSHA)

IARC – unclassified as to carcinogenicity

Aggravated Medical Conditions No information available

These chemicals are considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Hydrochloric Acid, CAS# 7647-01-0, 5% w/v

Hydroxylamine Hydrochloride, CAS# 5470-11-1, 5% w/v

Water, purified, CAS# 7732-18-5, 90% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT Induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire.
Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: May react with metals to release hydrogen gas.
Fire Fighting Instructions / Equipment: Use normal procedures. Poisonous gases may be produced in fire. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available.
NFPA Rating: (estimated) Health: 2; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Absorb with suitable material and containerize for disposal. Neutralize with soda ash or slaked lime. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.
Storage: Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Hydrochloric Acid, CAS# 7647-01-0, ACGIH TLV: 7.5mg/m³, OSHA PEL: 7mg/m³
Hydroxylamine Hydrochloride, CAS# 5470-11-1, ACGIH TLV: NA, OSHA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.
Personal Protection Equipment: **Skin Protection:** Chemical resistant gloves.
Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, Colorless Liquid	
Odor: Odorless	% Volatility: No Information Available
Boiling Point: No Information Available	Specific Gravity: Approx 1
Melting Point: No Information Available	Vapor Pressure: No Information Available
Vapor Density: No Information Available	Flash Point: Not Applicable
Evaporation Rate: No Information Available	Coefficient of water/oil distribution: Not Available
pH: Not Applicable	Odor Threshold: Not Available
Flammability: No Information Available	Decomposition Temperature: No Information Available
Solubility: Infinite	Partition Coefficient n-octanol/water: No data
available	
Relative Density: No Information Available	Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: Oxidizers, metals, bases
Conditions to Avoid: Incompatibles
Hazardous Decomposition Products: -NH₃, HCl, oxides of nitrogen
Hazardous Polymerization: Does not occur
Hazardous Reactions: Not available.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 900 mg/kg (Hydrochloric Acid), 141mg/kg (Hydroxylamine Hydrochloride)

LC50 inhalation-rat:

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Hydrogen chloride has slight acute and chronic toxicity to aquatic life.

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Neutralize with dilute bases solutions. Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry. Decant to drain. Treat the solid residue as normal refuse.

All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN1789, Hydrochloric Acid, 8, III

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: These chemicals are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Hydrochloric acid – 1000 lbs.

WHMIS: E: Corrosive Material

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91893-00

Product Identity: Iron #2

Chemical Family: No information available

Synonyms: No information available

Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10

Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Toxic by ingestion. May cause eye, skin, respiratory tract irritation. Wash areas of contact for at least 15 minutes. If irritation persists, get medical attention.

Appearance: Clear, Colorless Liquid **Odor:** Odorless

Target Organs: Eyes, skin, and mucous membranes

Potential Health Effects/ Routes of Exposure:

Eyes: May cause irritation.

Skin: May cause irritation. May be harmful if absorbed through the skin

Ingestion: May be harmful or toxic if swallowed. May cause digestive tract irritation.

Inhalation: May cause respiratory tract irritation.

Chronic Effect / Carcinogenicity: None (NTP, OSHA)

IARC – unclassified as to carcinogenicity

Aggravated Medical Conditions No information available

These chemicals are considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Hydrochloric Acid, CAS# 7647-01-0, <0.01% w/v

2,2-Dipyridyl, CAS# 366-18-7, 0.5%w/v

Water, purified, CAS# 7732-18-5, >99% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: DO NOT Induce vomiting. Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Use means suitable to extinguishing surrounding fire.

Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: May react with metals to release hydrogen gas.
Fire Fighting Instructions / Equipment: Use normal procedures. Poisonous gases may be produced in fire. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available.
NFPA Rating: (estimated) Health: 2; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions No information available.
Methods for Containment and Clean Up Absorb with suitable material. Flush to sewer if regulations allow. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes.
Storage: Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Hydrochloric Acid, CAS# 7647-01-0, ACGIH TLV: 7.5mg/m³, OSHA PEL: 7mg/m³
2,2-Dipyridyl, CAS# 366-18-7, ACGIH TLV: NA, OSHA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.
Personal Protection Equipment: **Skin Protection:** Chemical resistant gloves.
Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, Colorless Liquid	
Odor: Odorless	% Volatility: No Information Available
Boiling Point: No Information Available	Specific Gravity: Approx 1
Melting Point: No Information Available	Vapor Pressure: No Information Available
Vapor Density: No Information Available	Flash Point: Not Applicable
Evaporation Rate: No Information Available	Coefficient of water/oil distribution: Not Available
pH: Not Applicable	Odor Threshold: Not Available
Flammability: No Information Available	Decomposition Temperature: No Information Available
Solubility: Infinite	Partition Coefficient n-octanol/water: No data
available	
Relative Density: No Information Available	Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: Strong oxidizers
Conditions to Avoid: Incompatibles
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of nitrogen
Hazardous Polymerization: Does not occur
Hazardous Reactions: Not available.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 900 mg/kg (Hydrochloric Acid) LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Hydrogen chloride has slight acute and chronic toxicity to aquatic life.

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Absorb with suitable material and containerize for disposal.

All chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.

Canada DSL: These chemicals are listed on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Hydrochloric acid – 1000 lbs.

WHMIS: Not Applicable

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: 91901-00

Product Identity: Starch Ind. 1%

Chemical Family: Not Applicable

Synonyms: Not known

Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331

Emergency Contact Number (24hr): InfoTrac (800) 535-5053

Issue Date: 10/22/10

Revision Date:

Section 2 – Hazard Identification

Emergency Overview

Wash areas of contact with water. If ingested, dilute with water and get medical assistance.

Appearance: Translucent liquid

Odor: Slight potato-like odor

Target Organs: Eyes and skin.

Potential Health Effects/ Routes of Exposure:

Eyes: May cause slight irritation.

Skin: May cause slight irritation.

Ingestion: Large doses may cause upset stomach

Inhalation: Not likely to be a hazard by inhalation.

Chronic Effect / Carcinogenicity: None (IARC, NTP, OSHA)

Aggravated Medical Conditions No information available

These chemicals are not considered hazardous by OSHA.

See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 –Composition, Information on Ingredients

Salicylic Acid, CAS# 69-72-7, 0.1% w/v

Starch, CAS# 9005-25-8, 1.0% w/v

Water, purified, CAS# 7732-18-5, >98% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.

Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.

Ingestion: Dilute with water or milk. Get medical assistance.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.

Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Any means suitable for extinguishing fire.

Unsuitable Extinguishing Media: No information available

Fire & Explosion Hazards: Not considered to be a fire or explosion hazard.

Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.

Hazardous Combustion Products: No information Available

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical: Thermal decomposition can lead to release of irritating gases and vapors

NFPA Rating: (estimated) Health: 1; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use proper personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions No information available

Methods for Containment and Clean Up Absorb with suitable material and release to sewer. Always obey local regulations.

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Minimize dust.

Storage: Protect from freezing and physical damage.

Section 8 – Exposure Controls, Personal Protection

Salicylic Acid, CAS# 69-72-7, ACGIH TLV: NA, OSHA PEL: NA

Starch, CAS# 9005-25-8, ACGIH TLV: 10 mg/m³, OSHA PEL: 15 mg/m³

Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

Engineering Measures/ General Hygiene: Normal ventilation is adequate. Ensure eyewash and safety showers are available.

Personal Protection Equipment: Skin Protection: Chemical resistant gloves.

Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** Normal ventilation is adequate.

Section 9 – Physical and Chemical Properties

Appearance/Physical State: translucent liquid

Odor: slight potato-like odor

Boiling Point: No information available

Melting Point: No information available

Vapor Density: No information available

Evaporation Rate: Not available

pH: Not Applicable

Flammability: No Information Available

Solubility: Infinite

available

Relative Density: No Information Available

% Volatility: No Information Available

Specific Gravity: No information available

Vapor Pressure: Not Applicable

Flash Point: Not Applicable

Coefficient of water/oil distribution: Not Available

Odor Threshold: Not Available

Decomposition Temperature: No Information Available

Partition Coefficient n-octanol/water: No data

Molecular Weight: Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatible Materials: Strong oxidizers

Hazardous Decomposition Products: Oxides of carbon

Hazardous Polymerization: Does not occur

Hazardous Reactions: Not Available

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2

LD50 orl-rat: 891 mg/kg (Salicylic acid)

LC50 inhalation-rat: NA

Irritation: No Information Available

Toxicologically Synergistic: No Information Available

Chronic Exposure

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No Information available.

Developmental Effects (Immediate/Delayed) No information available.

Teratogenicity No information available.

Other Adverse Effects No information available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Not applicable

Persistence and Degradability: No Information Available

Mobility: No Information Available

Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Dilute with water and flush to sewer.

Section 14 – Transport Information

DOT – Not Regulated

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are not considered hazardous by OSHA.

Canada DSL: These chemicals are on Canada's DSL list.

TSCA: The components of this solution are listed on the TSCA Inventory

SARA Title III Section 313: Not Applicable

RCRA Status: Not Applicable

CERCLA Reportable Quantity: Not Applicable

WHMIS: Not controlled.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.