

## Item # CWTK200, Cooling Water Combination Kit 200

List Price \$1,313.37

### Cooling Water Combination Kit 200

Cooling Water Test Kit 200



#### SPECIFICATIONS

Kit Contents	AD1582 AD1596-DB AI6925-A CA1100-H CA1119-A ED2070-B ED2073-B FE3144-A HA7405-A HA7475-H ND2270-B PC8025-B PH-0714-PK PH1605-A SA1555-B SA1595-B SN3410-B
Alkalinity P & T	1 Drop = 10 ppm as $\text{CaCO}_3/25\text{ml}$ 1 Drop = 50 ppm as $\text{CaCO}_3/25\text{ml}$
Chloride	1 Drop = 10 ppm as $\text{Cl}/25\text{ml}$
Total & Calcium Hardness	1 Drop = 2 or 10 ppm as $\text{CaCO}_3/25\text{ml}$
Nitrite (CAN)	1 Drop = 50 ppm as $\text{NaNO}_2/5\text{ml}$
Organophosphonate	1 Drop = 0.7 ppm as active OP
pH Strips (100pk)	7.0-14.0
Myron L 6PII	Conductivity ORP pH Resistivity Temperature

# Material Safety Data Sheet

## Section 1 – Chemical Product and Company Identification

Catalog Numbers: QCAD1596, QCAD1596-DB, QCAD1598  
Product Identity: OP Titrant, Organophosphonate Solution No. 2

**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): Chemtel (800) 255-3924

Issue Date: 1/8/07  
Revision Date: 6/5/08, 04/16/10, 02/19/12, 03/05/13

## 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, purple colored 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

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

**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

Thorium Nitrate, CAS# 13823-29-5, <1% w/v  
Xylene Cyanol FF, CAS# 2650-17-1, <1% w/v  
Xylenol Orange, CAS# 3618-43-7, <1% w/v  
Water, purified, CAS# 7732-18-5, 60-100% 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. 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.

**Environmental Precautions** Not relevant considering the small amounts used.

**Methods for Containment and Clean Up** Absorb with suitable material. 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**

Thorium Nitrate, CAS# 13823-29-5, ACGIH TLV: NA, OSHA PEL: NA

Xylene Cyanol FF, CAS# 2650-17-1, ACGIH TLV: NA, OSHA PEL: NA

Xylenol Orange, CAS# 3618-43-7, 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, purple colored liquid

**Odor:** Odorless

**Boiling Point:** Approx 100C

**Melting Point:** Below 0

**Vapor Density:** No Information Available

**Evaporation Rate:** No Information Available

**pH:** No Information Available

**Flammability:** No Information Available

**Solubility:** Miscible

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:** Not available

## **Section 10 – Stability and Reactivity**

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

**Incompatible Materials:** Strong Oxidizing agents, Lithium, Bromine, Trifluoride.

**Conditions to Avoid:** No Information Available.

**Hazardous Decomposition Products:** Oxides of Sodium and fumes of Chloride

**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: No Information Available

LC50 inhalation-rat: No Information Available

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

### **Section 13 – Disposal Considerations**

Dilute with water. 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:** Not available.  
**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: QCAD1582, QCAD1582-100  
Product Identity: OP Tablets

**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): Chemtel (800) 255-3924

Issue Date: 1/08/07  
Revision Date: 06/05/08, 07/08/10, 02/19/12

## Section 2 – Hazard Identification

### **Emergency Overview**

May cause irritation to the eyes, skin and respiratory system. May cause autonomic nervous system and gastrointestinal disorders. Wash areas of contact with water.

**Appearance:** Small Solid Tablet                      **Odor:** Odorless

**Target Organs:** Eyes, skin, nervous system, gastrointestinal system, respiratory system

### **Potential Health Effects/ Routes of Exposure:**

**Eyes:** May cause irritation.

**Skin:** May cause irritation and dermatitis.

**Ingestion:** Large doses may cause upset stomach

**Inhalation:** May cause respiratory tract irritation.

**Chronic Effect / Carcinogenicity:** No information found. (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

Adipic Acid, CAS# 124-04-9, 100% w/w

## 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:** 196C    **Autoignition Temperature** 420C

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

**Extinguishing Media:** Use water spray, dry chemical, chemical foam or carbon dioxide

**Unsuitable Extinguishing Media:** No information available

**Fire & Explosion Hazards:** No information available.

**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:** Keep away from heat source.  
**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** No information available

**Methods for Containment and Clean Up** Sweep up and containerize for disposal.

### **Section 7 – Handling and Storage**

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

**Storage:** Protect from freezing and physical damage. Store away from bases and oxidizing agents

### **Section 8 – Exposure Controls, Personal Protection**

Adipic Acid, CAS# 124-04-9, ACGIH TLV: 5mg/m<sup>3</sup>, 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:** Small Solid Tablets

**Odor:** Odorless

**Boiling Point:** 337C

**Melting Point:** 152C

**Vapor Density:** 5.04

**Evaporation Rate:** No information available

**pH:** No Information Available

**Flammability:** No Information Available

**Solubility:** No Information Available  
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:** Under normal conditions product is stable.

**Incompatible Materials:** Strong oxidizing Agents, bases, strong reducing agents

**Conditions to Avoid:** Avoid dust, air, and heat.

**Hazardous Decomposition Products:** Carbon dioxide and carbon monoxide.

**Hazardous Polymerization:** Does not occur

**Hazardous Reactions:** None under normal conditions

### **Section 11 – Toxicological Information**

**Routes of Exposure/Symptoms/Corrosiveness** – See Section 2

LD50 orl-rat: >11g/Kg

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

### **Section 13 – Disposal Considerations**

Dilute with water.

**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:** All ingredients are listed on Canada's DSL list.

**TSCA:** The component is listed on the TSCA Inventory.

**SARA Title III Section 313:** Not Applicable

**RCRA Status:** Not Applicable

**CERCLA Reportable Quantity:** 5000 lb

**WHMIS:** Non-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: QCAI6925-A, QCAI6925-B, QCAI6925-C, QCAI6925-D, QCAI6925-P, QCAI6925-Q, QCAI6925-G, QCAI6925-T

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): Chemtel (800) 255-3924

Issue Date: 12/29/06

Revision Date: 06/03/08, 04/20/10, 02/19/12

## 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, 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**

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

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.



**Explosion Limits Upper** 12.7% vol      **Lower** 2.0% vol

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

**Unsuitable Extinguishing Media:** Water may be ineffective. Do not use a solid water stream as it may scatter and spread fire.

**Fire & Explosion Hazards:** Containers may explode when heated. May form explosive peroxides. Vapors can flow to distant ignition sources and flashback. Thermal decomposition can lead to release of irritating gases and vapors.

**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. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**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. Empty containers may be hazardous since they retain product residue.

### **Section 8 – Exposure Controls, Personal Protection**

Isopropanol, CAS# 67-63-0, ACGIH TLV: 983mg/m<sup>3</sup>, OSHA PEL: 980mg/m<sup>3</sup>

Ethanol, CAS# 64-17-5, ACGIH TLV: 1880mg/m<sup>3</sup>, OSHA PEL: 1900mg/m<sup>3</sup>

Methanol, CAS# 67-56-1, ACGIH TLV: 200ppm OSHA PEL: 200ppm

Phenolphthalein, CAS# 77-09-8, 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 to slight pink 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:** 33mm Hg at 20C

**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 Applicable

## **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), 5840 mg/kg (Isopropanol) LC50 inhalation-rat: 72.6 mg/L (Isopropanol)

**Irritation:** No Information Available

**Toxicologically Synergistic:** No Information Available

### **Chronic Exposure**

**Carcinogenicity:** Phenolphthalein is a known carcinogen 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:** Do not empty into drains.

**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 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 – UN1993, Flammable Liquids, N.O.S., (Isopropanol), 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.

**California Prop. 65:** WARNING: This product contains chemicals known to the State of California to cause cancer.

**WHMIS:** B3: Flammable and Combustible material. Combustible Liquid.D-2B: Poisonous and infectious material. Materials causing other toxic effects - Toxic 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: QCSA1555-A, QCSA1555-B, QCSA1555-C, QCSA1555-D, QCSA1555-P,  
QCSA1555-Q, QCSA1555-G, QCSA1555-T

Product Identity: Sulfuric Acid 0.12N, Alkalinity Titrant Low

**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): Chemtel (800) 255-3924

**Issue Date:** 12/28/06

**Revision Date:** 07/09/08, 04/14/10, 02/19/12

## 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, 0.3% v/v

Water, purified, CAS# 7732-18-5, >99% 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:** 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/m<sup>3</sup>, OSHA PEL: 1mg/m<sup>3</sup>

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/m<sup>3</sup>/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.

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: QCSA1595-A, QCSA1595-B, QCSA1595-C, QCSA1595-D, QCSA1595-P,  
QCSA1595-Q, QCSA1595-G, QCSA1595-T

Product Identity: Sulfuric Acid 0.6N, Alkalinity Titrant High

**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): Chemtel (800) 255-3924

**Issue Date:** 12/28/06

**Revision Date:** 07/09/08, 04/14/10, 10/06/10, 02/19/12

## 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 irritation.

**Skin:** May cause irritation

**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 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, <3% v/v

Water, purified, CAS# 7732-18-5, >97% 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:** 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: 2; Flammable: 0; Reactivity: 1

## **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.

## **Section 8 – Exposure Controls, Personal Protection**

Sulfuric Acid, CAS# 7664-93-9, ACGIH TLV: 1mg/m<sup>3</sup>, OSHA PEL: 1mg/m<sup>3</sup>

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:** < 1

**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/m<sup>3</sup>/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 – UN2796, Sulfuric 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 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.  
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: QCPC8025-A, QCPC8025-B, QCPC8025-C, QCPC8025-D, QCPC8025-P,  
QCPC8025-Q, QCPC8025-G, QCPC8025-T  
Product Identity: Potassium Chromate

**Chemical Family:** Not Applicable  
**Synonyms:** Indicator for chloride determination  
**Recommended Use:** Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291  
Emergency Contact Number (24hr): Chemtel (800) 255-3924

**Issue Date:** 12/29/06  
**Revision Date:** 07/07/08, 04/13/10, 02/19/12

## Section 2 – Hazard Identification

### **Emergency Overview**

Contains hexavalent chromium compound, a known carcinogen. May cause irritation to eyes and skin.  
Wash areas of contact with water. If ingested, dilute with water. Get medical attention.

**Appearance:** Yellow                      **Odor:** Odorless

**Target Organs:** Gastrointestinal system, eyes, skin, respiratory system, liver, kidney, blood

### **Potential Health Effects/ Routes of Exposure:**

**Eyes:** May cause slight irritation.

**Skin:** May cause slight irritation.

**Ingestion:** May cause gastrointestinal pain.

**Inhalation:** May cause irritation of the upper respiratory tract, coughing, shortness of breath.

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

IARC – Potassium Chromate is a carcinogen to humans.

**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

Potassium Chromate, CAS# 7789-00-6, 5% w/v

Water, purified, CAS# 7732-18-5, 95% 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:** No information available.

## Section 5 – Fire Fighting Measures

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

**Explosion Limits Upper:** Not Applicable                      **Lower:** Not Applicable

**Extinguishing Media:** Use water, water spray, carbon dioxide, dry chemicals or appropriate foam. If using water, do not allow runoff to enter sewer.

**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 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** Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Do not allow run off into sewer.

## **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**

Potassium Chromate, CAS# 7789-00-6, ACGIH TLV: 0.05 mg/m<sup>3</sup> 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, yellow liquid

**Odor:** Odorless

**Boiling Point:** Approx 100C

**Melting Point:** Approx 0C

**Vapor Density:** 0.7

**Evaporation Rate:** > 1

**pH:** No Information Available

**Flammability:** No Information Available

**Solubility:** Soluble in water available

**Relative Density:** No Information Available

**% Volatility:** No Information Available

**Specific Gravity:** Approx 1.03

**Vapor Pressure:** 14mm Hg

**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:** Acids.

**Conditions to Avoid:** None available.

**Hazardous Decomposition Products:** Fumes of Chromium trioxide.

**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: 180mg/kg (Potassium Chromate)

LC50 inhalation-rat: NA

**Irritation:** No Information Available

**Toxicologically Synergistic:** No Information Available

**Chronic Exposure**

**Carcinogenicity** Potassium Chromate is a know carcinogen 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:** 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:** Do not flush to sewer. Absorb with suitable material and containerize for disposal.

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# 7732-18-5 and 7789-00-6 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:** Non-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: QCPH1605-A, QCPH1605-B, QCPH1605-C, QCPH1605-D, QCPH1605-P,  
QCPH1605-Q, QCPH1605-G, QCPH1605-T  
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): Chemtel (800) 255-3924

**Issue Date:** 12/27/06  
**Revision Date:** 07/07/08, 04/15/10, 10/06/10, 02/19/12, 08/20/12, 01/07/13

## Section 2 – Hazard Identification

**Emergency Overview:** Flammable. May irritate eyes and skin. Wash areas of contact with water. 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. Prolonged 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

Isopropanol, CAS# 67-63-0, 25% v/v  
Ethanol, CAS# 64-17-5, 12.5% v/v  
Methanol, CAS# 67-56-1, 12.5% v/v  
Phenolphthalein, CAS# 77-09-8, 0.5% w/v  
Water, purified, CAS# 7732-18-5, 50% 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   **Autoignition Temperature** Approximately 398C



**Explosion Limits Upper** 12.7% vol      **Lower** 2.0% vol

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

**Unsuitable Extinguishing Media:** Water may be ineffective. Do not use a solid water stream as it may scatter and spread fire.

**Fire & Explosion Hazards:** Containers may explode when heated. May form explosive peroxides. Vapors can flow to distant ignition sources and flashback. Thermal decomposition can lead to release of irritating gases and vapors.

**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. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

**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. Empty containers may be hazardous since they retain product residue.

### **Section 8 – Exposure Controls, Personal Protection**

Isopropanol, CAS# 67-63-0, ACGIH TLV: 983mg/m<sup>3</sup>, OSHA PEL: 980mg/m<sup>3</sup>

Ethanol, CAS# 64-17-5, ACGIH TLV: 1880mg/m<sup>3</sup>, OSHA PEL: 1900mg/m<sup>3</sup>

Methanol, CAS# 67-56-1, ACGIH TLV: 200ppm OSHA PEL: 200ppm

Phenolphthalein, CAS# 77-09-8, 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 to slight pink 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:** 33mm Hg at 20C

**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 Applicable

## **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), 5840 mg/kg (Isopropanol), 7060mg/kg (Ethanol), 5628mg/kg (Methanol) LC50 inhalation-rat: 72.6 mg/L (Isopropanol), 83.2 mg/L (Methanol)

**Irritation:** No Information Available

**Toxicologically Synergistic:** No Information Available

### **Chronic Exposure**

**Carcinogenicity:** Phenolphthalein is a known carcinogen 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:** Do not empty into drains.

**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 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 – UN1993, Flammable Liquids, N.O.S., (Isopropanol), 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.

**California Prop. 65:** WARNING: This product contains chemicals known to the State of California to cause cancer.

**WHMIS:** B3: Flammable and Combustible material. Combustible Liquid.D-2B: Poisonous and infectious material. Materials causing other toxic effects - Toxic 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: QCSA1555-A, QCSA1555-B, QCSA1555-C, QCSA1555-D, QCSA1555-P,  
QCSA1555-Q, QCSA1555-G, QCSA1555-T

Product Identity: Sulfuric Acid 0.12N, Alkalinity Titrant Low

**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): Chemtel (800) 255-3924

**Issue Date:** 12/28/06

**Revision Date:** 07/09/08, 04/14/10, 02/19/12

## 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, 0.3% v/v

Water, purified, CAS# 7732-18-5, >99% 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:** 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/m<sup>3</sup>, OSHA PEL: 1mg/m<sup>3</sup>

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/m<sup>3</sup>/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.

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: QCSN3410-A, QCSN3410-B, QCSN3410-C, QCSN3410-D, QCSN3410-P,  
QCSN3410-Q, QCSN3410-G, QCSN3410-T

Product Identity: Silver Nitrate Reagent, Chloride Titrant

**Chemical Family:** Not Applicable

**Synonyms:** Nitric acid, silver salt solution (Certified)

**Recommended Use:** Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291  
Emergency Contact Number (24hr): Chemtel (800) 255-3924

Issue Date: 12/29/06

Revision Date: 02/04/10, 04/14/10, 02/19/12

## Section 2 – Hazard Identification

### **Emergency Overview**

May cause eye, skin, and respiratory tract irritation. The toxicological properties have not been fully investigated. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Appearance:** Clear, colorless liquid                      **Odor:** Odorless

**Target Organs:** nasal septum, eyes, skin.

**Potential Health Effects/ Routes of Exposure:**

**Eyes:** May cause slight irritation.

**Skin:** May cause slight irritation and temporary discoloration.

**Ingestion:** Large quantities may cause upset stomach. At higher concentrations considered a poison.

**Inhalation:** Not likely to be a hazard by inhalation.

**Chronic Effect / Carcinogenicity:** Tumorigenic effects have been reported in experimental animals. Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects. May cause adverse kidney effects. (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

Silver Nitrate, CAS# 7761-88-8, < 4% w/v

Water, purified, CAS# 7732-18-5, >96% 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 water or water spray.

**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. Poisonous 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:** 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 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** 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. Protect from light.

### **Section 8 – Exposure Controls, Personal Protection**

Silver Nitrate, CAS# 7761-88-8, ACGIH TLV: 0.1mg/m<sup>3</sup>, OSHA PEL: 0.1mg/m<sup>3</sup>

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:** 0.7

**Evaporation Rate:** > 1

**pH:** No Information Available

**Flammability:** No Information Available

**Solubility:** Soluble in water available

**Relative Density:** No Information Available

**% Volatility:** No Information Available

**Specific Gravity:** Approx 1

**Vapor Pressure:** 14mmHg @ 20C

**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:** Ammonium Hydroxide, organic materials, sulfides, charcoal, acetylene, ethanol, reducing agents, calcium carbide, alkalis, antimony salts, carbonates, bromides, arsenites, chlorides, ferrous salts, thiocyanates, Iodides, tartrates, tannic acid and phosphates.

**Conditions to Avoid:** Excess heat.

**Hazardous Decomposition Products:** Oxides of Nitrogen.

**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: 1173mg/kg (Silver Nitrate)                      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 experimental animals.

**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** Tumorigenic effects have been reported in experimental animals.

**Endocrine Disruptor Information** No information available

**Section 12 – Ecological Information**

**Ecotoxicity:** Toxicity of Silver to aquatic life depends on hardness: the higher the concentration of hardness, the higher the concentration of silver needed to be considered toxic. Has high chronic toxicity to aquatic life which can cause shorten life span, reproductive problems, lower fertility, and changes in appearances and behavior.

**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 suitable material and containerize for disposal.

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# 7732-18-5 & 7761-88-8 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:** Silver Nitrate – 1000 lbs

**WHMIS:** Non-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: QCED2070-A, QCED2070-B, QCED2070-C, QCED2070-D, QCED2070-P, QCED2070-Q, QCED2070-G, QCED2070-T

Product Identity: EDTA Hardness Reagent, Hardness Titrant High

**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): Chemtel (800) 255-3924

Issue Date: 12/28/06

Revision Date: 07/03/08, 04/14/10, 12/29/10, 02/19/12

## 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: QCHA7405-A, QCHA7405-B, QCHA7405-C, QCHA7405-D, QCHA7405-P,  
QCHA7405-Q, QCHA7405-G, QCHA7405-T  
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): Chemtel (800) 255-3924

**Issue Date:** 12/29/06  
**Revision Date:** 07/03/08, 04/12/10, 10/06/10, 02/19/12

## 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/m<sup>3</sup>, OSHA PEL: 35mg/m<sup>3</sup>.  
Ammonium Chloride, CAS# 12125-02-9, ACGIH TLV: 10mg/m<sup>3</sup>, 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      **% 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:** No Information Available      **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, 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.







**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:** Keep away from heat source.

**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** Small Amounts may be flush to sewer

**Methods for Containment and Clean Up** Small amounts may be flushed with large quantities of water.

## **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 in a cool, dry area. Protect from freezing and physical damage.

## **Section 8 – Exposure Controls, Personal Protection**

Sucrose, CAS# 57-50-1, ACGIH TLV: NA, OSHA PEL: NA

Eriochrome Black T, CAS# 1787-61-7, 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:** purplish colored powder

**Odor:** Odorless

**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:** 12 g/100mL

available

**Relative Density:** No Information Available

**% Volatility:** No Information Available

**Specific Gravity:** Approx 2

**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:** Under normal conditions product is stable.

**Incompatible Materials:** Strong oxidizers

**Conditions to Avoid:** Avoid dust.

**Hazardous Decomposition Products:** Oxides of hydrogen, sulfur, nitrogen, and potassium.

**Hazardous Polymerization:** Does not occur

**Hazardous Reactions:** None under normal conditions

## **Section 11 – Toxicological Information**

**Routes of Exposure/Symptoms/Corrosiveness** – See Section 2

LD50 orl-rat: 29700mg/kg (Sucrose), 17590 mg/kg (Eriochrome Black T)

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:** No information Available  
**Persistence and Degradability:** No Information Available      **Mobility:** -3.67 log Pow (sucrose)  
**Bioaccumulation/ Accumulation:** No Information Available

### **Section 13 – Disposal Considerations**

Small quantities may be flushed to sewer.  
**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:** All ingredients are listed on Canada's DSL list.  
**TSCA:** Not applicable  
**SARA Title III Section 313:** Not Applicable  
**RCRA Status:** Not Applicable  
**CERCLA Reportable Quantity:** Not Applicable  
**WHMIS:** Non-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: QCED2073-A, QCED2073-B, QCED2073-C, QCED2073-D, QCED2073-P, QCED2073-Q, QCED2073-G, QCED2073-T

Product Identity: EDTA Hardness Reagent, Hardness Titrant Low

**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): Chemtel (800) 255-3924

Issue Date: 12/28/06

Revision Date: 07/03/08, 04/14/10, 12/29/10, 02/19/12

## 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, <0.6% w/v

Water, purified, CAS# 7732-18-5, >99.4% 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: QCED2070-A, QCED2070-B, QCED2070-C, QCED2070-D, QCED2070-P, QCED2070-Q, QCED2070-G, QCED2070-T

Product Identity: EDTA Hardness Reagent, Hardness Titrant High

**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): Chemtel (800) 255-3924

Issue Date: 12/28/06

Revision Date: 07/03/08, 04/14/10, 12/29/10, 02/19/12

## 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: QCCA1119-A, QCCA1119-B, QCCA1119-C, QCCA1119-D, QCCA1119-P, QCCA1119-Q, QCCA1119-G, QCCA1119-T

Product Identity: Calcium Buffer

**Chemical Family:** Alkali

**Synonyms:** Not Applicable

**Recommended Use:** Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331  
Emergency Contact Number (24hr): Chemtel (800) 255-3924

Issue Date: 12/29/06

Revision Date: 06/05/08, 03/29/10, 10/06/10, 02/19/12

## Section 2 – Hazard Identification

Emergency Overview: Corrosive. Causes severe burns. May be fatal if ingested. Harmful if inhaled. May cause burns to all areas of contact. Wash areas of contact with water. Get medical attention if irritation develops. If ingested, dilute with water and get medical attention. Do not induce vomiting. Reacts violently with acids.

**Appearance:** Clear, colorless liquid                      **Odor:** Odorless

**Target Organs:** respiratory system, eyes, skin.

**Potential Health Effects/ Routes of Exposure:**

**Eyes:** May cause irritation and burns, and possible impairment of vision or blindness

**Skin:** May cause severe burns

**Ingestion:** May cause burning of the mouth, stomach, and throat, vomiting, bleeding, fall in blood pressure and diarrhea.

**Inhalation:** May cause a range from mild irritation to severe damage of the upper respiratory tract, depending on exposure.

**Chronic Effect / Carcinogenicity:** Prolonged or repeated skin contact may cause dermatitis. (IARC, NTP, OSHA)

**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

Sodium Hydroxide, CAS# 1310-73-2, <25% w/v

Water, purified, CAS# 7732-18-5, >75% 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.  
**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: 3; Flammable: 0; Reactivity: 1

## **Section 6 – Accidental Release Measures**

**Personal Precautions** Use proper personal protective equipment as indicated in Section 8.  
**Environmental Precautions** Do not let this chemical enter the environment.  
**Methods for Containment and Clean Up** Collect liquid and dilute with water. Neutralize with dilute acid solutions. Decant water to drain with excess water. Absorb with suitable material. 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 acids.  
**Storage:** Keep container tightly closed. Store as a corrosive. Protect from freezing and physical damage.

## **Section 8 – Exposure Controls, Personal Protection**

Sodium Hydroxide, CAS# 1310-73-2, ACGIH TLV: 2 mg/m<sup>3</sup>, OSHA PEL: 2mg/m<sup>3</sup>  
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA  
**Engineering Measures/ General Hygiene:** Use under a chemical fume hood. Ensure eyewash and safety showers are available.  
**Personal Protection Equipment: Skin Protection:** Chemical resistant gloves.  
**Eye/Face Protection:** Safety Glasses or goggles. **Respiratory Protection:** Chemical fume hood

## **Section 9 – Physical and Chemical Properties**

<b>Appearance/Physical State:</b> Clear, colorless liquid	
<b>Odor:</b> Odorless	<b>% Volatility:</b> No Information Available
<b>Boiling Point:</b> Approx 100C	<b>Specific Gravity:</b> Approx 1
<b>Melting Point:</b> Approx 0C	<b>Vapor Pressure:</b> Not Applicable
<b>Vapor Density:</b> >1	<b>Flash Point:</b> Not Applicable
<b>Evaporation Rate:</b> Not available	<b>Coefficient of water/oil distribution:</b> Not Available
<b>pH:</b> >12	<b>Odor Threshold:</b> Not Available
<b>Flammability:</b> No Information Available	<b>Decomposition Temperature:</b> No Information Available
<b>Solubility:</b> Infinite	<b>Partition Coefficient n-octanol/water:</b> No data
available	
<b>Relative Density:</b> No Information Available	<b>Molecular Weight:</b> Not available

## **Section 10 – Stability and Reactivity**

**Chemical Stability:** Stable under normal conditions of use and storage.  
**Incompatible Materials:** Acids, organic halogen compounds, metals such as aluminum, tin and zinc.  
**Conditions to Avoid:** Incompatible materials, excess heat  
**Hazardous Decomposition Products:** Oxides of sodium, decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.  
**Hazardous Polymerization:** Does not occur  
**Hazardous Reactions:** Not Available

## **Section 11 – Toxicological Information**

**Routes of Exposure/Symptoms/Corrosiveness** – See Section 2

LD50 orl-rat: 500 mg/24 H (skin), 50ug/24 H (eye) LC50 inhalation-rat: NA

**Irritation:** See Section 2

**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:** Sodium Hydroxide has high acute and chronic toxicity to aquatic life, influenced by hardness and alkalinity of the receiving water. Do not empty into drains.

**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 acid solutions.

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 – UN1824, Sodium Hydroxide Solution, 8, II

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

**OSHA Status:** These chemicals are considered hazardous by OSHA.

**Canada DSL:** CAS# 7732-18-5 & 1310-73-2 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:** Sodium Hydroxide – 1000lbs.

**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: QCCA1100-H, QCCA1100-E, QCCA1100-I, QCCA1100-J, QCCA1100-K, QCCA1100-M

Product Identity: Calcium Hardness Indicator Powder

**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): Chemtel (800) 255-3924

Issue Date: 01/02/07

Revision Date: 06/05/08, 04/20/10, 02/19/12

## Section 2 – Hazard Identification

### **Emergency Overview**

May cause irritation to the eyes and skin. Wash areas of contact. Get medical attention if irritation develops. If ingested, dilute with water and get medical attention.

**Appearance:** Purplish colored powder **Odor:** Odorless

**Target Organs:** respiratory system, eyes, and skin,.

**Potential Health Effects/ Routes of Exposure:**

**Eyes:** May cause irritation.

**Skin:** May cause irritation.

**Ingestion:** May cause headache, vomiting, or nausea.

**Inhalation:** May cause irritation of respiratory tract.

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

**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

Calcon, CAS# 2538-85-4, 0.2% w/w

Potassium Chloride, CAS# 7447-70-7, 99.8% w/w

## 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.

**Unsuitable Extinguishing Media:** No information available

**Fire & Explosion Hazards:** No information available.

**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:** Keep away from heat source.

**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** Small Amounts may be flush to sewer

**Methods for Containment and Clean Up** Small amounts may be flushed with large quantities of water.

## **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 in a cool, dry area. Protect from freezing and physical damage.

## **Section 8 – Exposure Controls, Personal Protection**

Calcon, CAS# 2538-85-4, ACGIH TLV: NA, OSHA PEL: NA

Potassium Chloride, CAS# 7447-70-7, 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:** purplish colored powder

**Odor:** Odorless

**Boiling Point:** No information available

**Melting Point:** No Information Available

**Vapor Density:** Not Applicable

**Evaporation Rate:** Not Applicable

**pH:** No Information Available

**Flammability:** No Information Available

**Solubility:** No Information Available  
available

**Relative Density:** No Information Available

**% Volatility:** No Information Available

**Specific Gravity:** Not Applicable

**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:** Under normal conditions product is stable.

**Incompatible Materials:** Strong oxidizers

**Conditions to Avoid:** Avoid dust.

**Hazardous Decomposition Products:** Oxides of hydrogen, sulfur, nitrogen, and potassium.

**Hazardous Polymerization:** Does not occur

**Hazardous Reactions:** None under normal conditions

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

### **Section 13 – Disposal Considerations**

Small quantities may be flushed to sewer.  
**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:** All ingredients 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:** Non-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: QCFE3144-A, QCFE3144-B, QCFE3144-C, QCFE3144-D, QCFE3144-P, QCFE3144-Q, QCFE3144-G, QCFE3144-T

Product Identity: Ferroun Indicator

**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): Chemtel (800) 255-3924

Issue Date: 12/28/06

Revision Date: 07/03/08, 04/19/10, 02/19/12

## Section 2 – Hazard Identification

### **Emergency Overview**

Warning. May be harmful if swallowed. Handle with care. If ingested, dilute with water and induce vomiting. Wash areas of contact with water. Get medical attention.

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

**Target Organs:** Eyes, skin, liver.

### **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

1,10-Phenanthroline Monohydrate, CAS# 5144-89-8, 0.7% w/v

Ferrous Sulfate Heptahydrate, CAS# 7782-63-0, <0.4% 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** Soak up with inert absorbent material

### 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

1,10-Phenanthroline Monohydrate, CAS# 5144-89-8, ACGIH TLV: NA, OSHA PEL: NA  
Ferrous Sulfate Heptahydrate, CAS# 7782-63-0, ACGIH TLV 1 mg/m<sup>3</sup>, 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, dark red liquid  
**Odor:** Odorless  
**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:** 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:** Alkalis, oxidizing agent.  
**Conditions to Avoid:** No information Available  
**Hazardous Decomposition Products:** Oxides of sulfur, carbon, and 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: 319 mg/kg (Ferrous Sulfate) LC50 inhalation-rat: Not available  
**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**

Dilute with water.

**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:** Ferrous Sulfate Heptahydrate – 1000 lbs.

**WHMIS:** -2B: Poisonous and infectious Material: Materials causing other toxic effects – Toxic 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: QCND2270-A, QCND2270-B, QCND2270-C, QCND2270-D, QCND2270-P, QCND2270-Q, QCND2270-G, QCND2270-T

Product Identity: CAN Solution, Nitrite Titrant

**Chemical Family:** Not Available

**Synonyms:** Not Available

**Recommended Use:** Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331  
Emergency Contact Number (24hr): Chemtel (800) 255-3924

Issue Date: 12/29/06

Revision Date: 07/07/08, 05/24/10, 10/06/10, 02/19/12

## Section 2 – Hazard Identification

Emergency Overview: Corrosive liquid. May cause irritation to the skin, and eyes. Avoid contact with skin, eyes, and clothing. Wash areas of contact with water. If ingested, dilute with water and get medical attention. DO NOT induce vomiting.

**Appearance:** Clear, orange colored liquid      **Odor:** Odorless

**Target Organs:** Eyes, skin, respiratory system, and teeth.

**Potential Health Effects/ Routes of Exposure:**

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

**Skin:** May cause irritation, redness, and pain.

**Ingestion:** May cause throat irritation, vomiting, and diarrhea

**Inhalation:** May cause irritation.

**Chronic Effect / Carcinogenicity:** No Information available

**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

Sulfuric Acid, CAS# 7664-93-9, <10% v/v

Ceric Ammonium Sulfate, CAS# 16774-21-3, <12%w/v

Water, purified, CAS# 7732-18-5, >78% 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 dry chemical, alcohol foam, or carbon dioxide for extinguishing surrounding fire.

**Unsuitable Extinguishing Media:** No information available

**Fire & Explosion Hazards:** Contact with most metals causes formation of flammable and explosive 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:** Thermal decomposition can lead to release of irritating gases and vapors

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

## **Section 6 – Accidental Release Measures**

**Personal Precautions** Use proper personal protective equipment as indicated in Section 8.

**Environmental Precautions** No Information Available.

**Methods for Containment and Clean Up** Cover spill with soda ash-slicked lime mixture or calcium carbonate. Mix with water to form slurry. Decant liquid 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:** Protect from freezing and physical damage. Do not mix with bases. Contact with water will generate heat.

## **Section 8 – Exposure Controls, Personal Protection**

Sulfuric Acid, CAS# 7664-93-9, ACGIH TLV: 1 mg/m<sup>3</sup>, OSHA PEL: 1 mg/m<sup>3</sup>

Ceric Ammonium Sulfate, CAS# 16774-21-3, ACGIH TLV: NA, OSHA PEL: NA

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

**Engineering Measures/ General Hygiene:** Use under a chemical fume hood. Ensure eyewash and safety showers are available.

**Personal Protection Equipment: Skin Protection:** Chemical resistant gloves.

**Eye/Face Protection:** Safety Glasses or goggles. **Respiratory Protection:** Chemical fume hood

## **Section 9 – Physical and Chemical Properties**

**Appearance/Physical State:** Clear, orange colored liquid

**Odor:** Odorless

**% Volatility:** No Information Available

**Boiling Point:** Approx 100C

**Specific Gravity:** Approx 1.05

**Melting Point:** Approx 0C

**Vapor Pressure:** Not available

**Vapor Density:** >1

**Flash Point:** Not Applicable

**Evaporation Rate:** Not available

**Coefficient of water/oil distribution:** Not Available

**pH:** < 3

**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:** Organics, chlorates, carbides, fulminates, picrates, alkalines, reducing agents, nitrates, acetic acids, oxidizing agents, metals.

**Conditions to Avoid:** Incompatible materials, excess heat

**Hazardous Decomposition Products:** Oxides of 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: 2140 mg/kg (Sulfuric Acid) LC50 inhalation-rat: 510 mg/kg//2H (Sulfuric Acid)

**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 solution with water. Neutralize with calcium carbonate or soda ash. Wash solution down drain. Treat solid residue as normal refuse. Comply with all local, state, and federal regulations.

## **Section 14 – Transport Information**

**DOT – UN1760, Corrosive Liquids, N.O.S., (Sulfuric 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 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:** Sulfuric 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.