

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 12.05.2014**Nitrate Titrant 4****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Nitrate Titrant 4**Manufacturer/Supplier Article number:** ND2272SS**Recommended uses of the product and restrictions on use:****Manufacturer Details:**

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

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

+1(800)255-3924

+1(813)248-0585 (International)

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

Skin corrosion, category 1A

Serious eye damage, category 1

Signal word: Danger**Hazard statements:**

Causes severe skin burns and eye damage.

Causes serious eye damage.

Precautionary statements:

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

Wash thoroughly after handling.

Do not breathe dust/fume/gas/mist/vapors/spray.

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

Wash contaminated clothing before reuse.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Immediately call a POISON CENTER or doctor/physician.

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

Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Store locked up.

Dispose of contents and container as instructed in Section 13.

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

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Ingredients:		
CAS 7664-93-9	Sulfuric Acid	<6 %
CAS 7732-18-5	Deionized water	>84 %
CAS 16774-21-3	Ceric Ammonium Nitrate	<10 %
Percentages are by weight		

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

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Provide oxygen if breathing is difficult. Seek immediate medical advice.

After skin contact:

Rinse thoroughly. Rinse/flush exposed area gently using water for at least 30 minutes. Seek immediate medical assistance. Remove contaminated clothing and discard. Neutralize the soaking solution with sodium hydroxide solution.

After eye contact:

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse/flush exposed eye(s) gently using water for at least 30 minutes. Seek immediate medical assistance. Rinse under the eyelids during flushing.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Do not induce vomiting. Seek immediate medical assistance.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath. Burning of eyes or skin. Coughing. Strong inorganic acid mists containing sulfuric acid can cause cancer. Lung damage, chronic bronchitis. Damage to teeth and stomach.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician. Use of soap may assist with neutralization on exposed skin in conjunction with flushing.

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

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

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

Thermal decomposition can lead to release of irritating gases and vapors. May form corrosive mixtures with water.

Advice for firefighters:**Protective equipment:**

Wear protective eye wear, gloves and clothing. Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit. Refer to Section 8.

Additional information (precautions):

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Heating causes a rise in pressure, risk of bursting and combustion. Shut off sources of ignition. Carbon monoxide and carbon dioxide may form upon combustion.

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

Ensure adequate ventilation. Ensure air handling systems are operational. Wear protective eye wear, gloves and clothing.

Environmental precautions:

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

Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders). Dispose of contents / container in accordance with local regulations. Wear protective eye wear, gloves and clothing.

Reference to other sections: None

SECTION 7: Handling and storage**Precautions for safe handling:**

Do not eat, drink, smoke or use personal products when handling chemical substances. Avoid breathing mist or vapor. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area. Store away from foodstuffs. Keep container tightly sealed. Protect from freezing and physical damage.

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

7664-93-9, Sulfuric Acid, ACGIH TLV STEL: 3.0 mg/m³.
 7664-93-9, Sulfuric Acid, NIOSH REL TWA 1.0 mg/m³.
 7664-93-9, Sulfuric Acid, ACGIH TLV: 0.2 mg/m³, thoracic fraction.
 7664-93-9, Sulfuric Acid, OSHA PEL TWA 1.0 mg/m³.

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

Respiratory protection: When necessary, use NIOSH-approved breathing equipment.

Protection of skin: Select glove material impermeable and resistant to the substance.

Eye protection: Safety goggles or glasses, or appropriate eye protection.

General hygienic measures: Wash hands before breaks and at the end of work. Avoid contact with skin, eyes and clothing. Perform routine housekeeping. Wash contaminated clothing before reusing.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, orange colored liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined

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Odor:	Odorless	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	>1
pH-value:	<3	Relative density:	Approx. 1.05
Melting/Freezing point:	Approx. 0°C	Solubilities:	Soluble in water.
Boiling point/Boiling range:	Approx. 100C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		

SECTION 10: Stability and reactivity**Reactivity:**

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possible hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

Incompatible materials, excess heat.

Incompatible materials:

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

Hazardous decomposition products:

Oxides of sulfur.

SECTION 11: Toxicological information**Acute Toxicity:** None**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:**

Causes severe skin burns. Ceric Ammonium Nitrate.

Causes severe skin burns. Sulfuric Acid.

Serious eye damage/irritation:

Causes serious eye damage. Ceric Ammonium Nitrate.

Respiratory or skin sensitization: No additional information.**Carcinogenicity:****Sulfuric Acid :** Strong inorganic acid mists containing sulfuric acid may cause cancer.**Germ cell mutagenicity:** No additional information.

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No additional information.

SECTION 12: Ecological information**Ecotoxicity:** No additional information.**Persistence and degradability:**

Not applicable for test method.

Bioaccumulative potential:

Not expected to bio accumulate.

Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects:

Concentrated sulfuric acid has moderate acute and chronic toxicity to aquatic life, which is driven by the pH of the aquatic environment, because of the presence of the acid. Small quantities will be neutralized by natural alkalinity.

SECTION 13: Disposal considerations**Waste disposal recommendations:**

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11).

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

ADR, ADN, DOT, IMDG, IATA 1760

Limited Quantity Exception:

None

Bulk:**RQ (if applicable):** None**Proper shipping Name:** Corrosive Liquid, N.O.S. (Sulfuric Acid, Ceric Ammonium Nitrate).**Hazard Class:** 8**Packing Group:** II.**Marine Pollutant (if applicable):** No**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Corrosive Liquid, N.O.S. (Sulfuric Acid, Ceric Ammonium Nitrate).**Hazard Class:** 8**Packing Group:** II.**Marine Pollutant (if applicable):** No**Comments:** None**SECTION 15: Regulatory information****United States (USA)**

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Acute

SARA Section 313 (Specific toxic chemical listings):

7664-93-9 Sulfuric acid.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act) :

16774-21-3 Ceric Ammonium Nitrate: listed.

7664-93-9 Sulfuric Acid: listed.

7732-18-5 Water: listed.

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

7664-93-9 Sulfuric Acid.

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

7664-93-9 sulfuric acid.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

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

16774-21-3 Ceric Ammonium Nitrate: listed.

7664-93-9 Sulfuric Acid: listed.

7732-18-5 Water: listed.

SECTION 16: Other information

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

NFPA: 3-0-0**HMIS:** 3-0-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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