

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Ammonium Hydroxide, 0.1M**

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

**Product name:** Ammonium Hydroxide, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMAH1085-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Toxic**

Serious eye damage, category 1  
Skin irritation, category 2  
Skin corrosion or irritation (Category 2).  
Serious eye damage or irritation (Category 1).

**Signal word:** Danger

**Hazard statements:**

Causes skin irritation.  
Causes serious eye damage.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wash skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Immediately call a POISON CENTER or doctor/physician.  
Specific treatment (see supplemental first aid instructions on this label).  
Take off contaminated clothing and wash before reuse.  
IF ON SKIN: Wash with soap and water.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.

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If skin irritation occurs: Get medical advice/attention.  
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:**

<b>Ingredients:</b>		
CAS 1336-21-6	Ammonium Hydroxide, ACS	0.59 %
CAS 7732-18-5	Deionized Water	99.41 %
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. Seek medical advice if discomfort or irritation persists. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists. Flush for 15 minutes.

**After eye contact:**

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Immediately flush exposed eye(s) gently using water for 15-20 minutes. Immediately get medical assistance if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Get medical assistance if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician. Notes to Physician: Treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

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**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Avoid contact with skin, eyes, and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Ventilate area of spill. Cover spill.....drain with excess water. Dispose of remaining....

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. Wash hands after handling. Avoid contact with eyes, skin, and clothing. Empty containers may be hazardous because....

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Store below 25C. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Protect from freezing and physical damage.

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



**Control parameters:**

1336-21-6, Ammonium Hydroxide, ACGIH TLV: 17 mg/m<sup>3</sup>, OSHA PEL: 35mg/m<sup>3</sup>.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. Local/general exhaust is recommended, if the TLV is exceeded.

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<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	0 Vol % 0 Vol %
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	2.3 kPa (@ 20°C) or 23 hPa (17 mm Hg) at 20 °C (68 °F)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.62 (Air = 1)
<b>pH-value:</b>	7 [Neutral] (1% soln/water)	<b>Relative density:</b>	1 (Water = 1)
<b>Melting/Freezing point:</b>	0 °C (32 °F)	<b>Solubilities:</b>	Infinite solubility.
<b>Boiling point/Boiling range:</b>	100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: 0.952 mPas at 20 °C (68 °F)
<b>Density at 20°C:</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases, and excess heat.

**Incompatible materials:**

Strong oxidizers, strong acids, strong bases, gold, mercury, halogens, silver, and calcium.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

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**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:**

Irritation: Mildly irritating

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Ecotoxicity, Very toxic to aquatic life.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Ventilate area of spill. Cover spill with.....of remaining solid as normal refuse.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

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**Comments:** None

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

1336-21-6 Ammonium Hydroxide 1000 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 1-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

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**Abbreviations and Acronyms:**

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

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**Zinc Strip 2"x1/4"**

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

**Product name:** Zinc Strip 2"x1/4"

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** ZN-5012-S

**Recommended uses of the product and restrictions on use:** Laboratory

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

AquaPhoenix Scientific, Inc  
9 Barnhart Drive, Hanover, PA 17331  
(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:** Not classified for physical or health hazards under GHS.  
Combustible dust.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Read label before use.  
Do not eat, drink or smoke when using this product.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7440-66-6	Zinc Metal	100 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**



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Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat,

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drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

No applicable occupational exposure limits.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Gray solid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	Material is insoluble in water.
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined

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<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** None

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and

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local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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**

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

All ingredients are 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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

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**Effective date :** 01.08.2015

**Sodium Thiocyanate, 0.1M**

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

**Product name:** Sodium Thiocyanate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMST5310-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 7732-18-5	Water	99.978 %
CAS 540-72-7	Sodium Thiocyanate	0.81 %
CAS 26628-22-8	Sodium Azide	0.02 %
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. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

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**Sodium Thiocyanate, 0.1M**

**After skin contact:**

Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:** None

**Advice for firefighters:**

**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Ensure adequate ventilation. Stop the spill, if possible.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect liquid and dilute with water and release to drain. For larger spills, absorb with suitable material.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

**Conditions for safe storage, including any incompatibilities:**

Provide ventilation for containers. Store away from foodstuffs. Store in cool, dry conditions in well sealed containers. Store with like hazards.

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according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

**Sodium Thiocyanate, 0.1M**

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



<b>Control parameters:</b>	No applicable occupational exposure limits.
<b>Appropriate engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Normal ventilation is adequate.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Slight ammonia odor	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Approx 1
<b>Melting/Freezing point:</b>	Approx 0 C	<b>Solubilities:</b>	Infinite solubility in water.
<b>Boiling point/Boiling range:</b>	Approx 100C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

No decomposition if used and stored according to specifications.



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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Sodium Thiocyanate, 0.1M**

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases. Incompatible Materials.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Nitrogen oxides (NOx). Carbon oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**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). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

**Limited Quantity Exception:**

None

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Sodium Thiocyanate, 0.1M**

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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

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according to 29CFR1910/1200 and GHS Rev. 3

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**Sodium Thiocyanate, 0.1M**

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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Sulfate, 0.1M**

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

**Product name:** Sodium Sulfate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSS6390-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 7732-18-5	Deionized Water	98.58 %
CAS 7757-82-6	Sodium Sulfate, Anhydrous	1.42 %
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. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Sulfate, 0.1M**

Wash affected area with soap and water. Seek medical advice if discomfort or irritation persists. Flush skin with plenty of soap and water for at least 15 minutes.

**After eye contact:**

Protect unexposed eye. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Immediately get medical assistance.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Shortness of breath. Irritation. Nausea. Headache.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Irritating and toxic gases may be generated by thermal decomposition and combustion.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Normal ventilation is adequate.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

Refer to Section 8. Wear protective eyewear, gloves, and clothing. Always obey local regulations. Dispose of empty containers as unused product. Refer to Section 13. Small amounts may be flushed with excess water to sewer. Absorb with suitable material and treat as normal refuse.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Wash hands after handling. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

**Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a cool, dry, well-ventilated area. Protect from freezing and physical damage.

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Sulfate, 0.1M**

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



<b>Control parameters:</b>	No applicable occupational exposure limits.
<b>Appropriate engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate.
<b>Respiratory protection:</b>	Not required under normal conditions of use.
<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	Wash hands before breaks and immediately after handling the product. Perform routine housekeeping to prevent dust generation. Before wearing again wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b>	Non Explosive
		<b>Explosion limit upper:</b>	Non Explosive
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Approx 1
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approx 0°C	<b>Solubilities:</b>	Soluble in Water
<b>Boiling point/Boiling range:</b>	Approx 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

None under normal processing.

**Chemical stability:**

Stable under normal conditions. Light sensitive.

**Possible hazardous reactions:**

Not Determined.

**Conditions to avoid:**

Incompatible Materials.

**Incompatible materials:**

Strong oxidizing agents. Strong reducing agents. Metal nitrates, lead, mercury, silver salts, acids, iodine,

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 01.06.2015

**Sodium Sulfate, 0.1M**

sodium nitrate.

**Hazardous decomposition products:**

Borane oxides. Boron oxides. Sodium oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:**

**Dermal:**

LD50 Rabbit: 10,000 mg/kg 1303-96-4.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Fish LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h, 1303-96-4.

Invertebrates EC50 - Daphnia magna (Water flea) - 1,085 - 1,402 mg/l - 48 h, 1303-96-4.

Algae IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96 h, 1303-96-4.

**Persistence and degradability:**

Readily biodegradable.

**Bioaccumulative potential:**

Not expected to bio accumulate.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Dilute with water and flush to sewer. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

**Limited Quantity Exception:**

None

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Sulfate, 0.1M**

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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



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**Sodium Sulfate, 0.1M**

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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Oxalate, 0.2N**

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

**Product name:** Sodium Oxalate, 0.2N

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSO3355-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7732-18-5	Deionized water	98.66 %
CAS 62-76-0	Sodium Oxalate	1.34 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Oxalate, 0.2N**

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

**After skin contact:**

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort, or vomiting persists. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Headache. Nausea. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:**

**Protective equipment:**

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

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

Wear protective eyewear, gloves, and clothing. Always obey local regulations. Containerize for disposal. Refer to Section 13. Refer to Section 8. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials.

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Oxalate, 0.2N**

Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly closed. Store away from incompatible materials.

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



**Control parameters:**

No applicable occupational exposure limits.

**Appropriate engineering controls:**

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

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	soluble
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Oxalate, 0.2N**

<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials.

**Incompatible materials:** None

**Hazardous decomposition products:** None

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Oxalate, 0.2N**

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are listed.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Sodium Oxalate, 0.2N**

**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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.31.2015

**Silver Nitrate, 0.1M**

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

**Product name:** Silver Nitrate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSN3480-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Eye irritation, category 2A  
Skin irritation, category 2

Aquatic Acute 3.  
Aquatic Chronic 3.  
Eye Irrit. 2A.  
Skin Irrit. 2.

**Signal word:** Warning

**Hazard statements:**

Causes skin irritation.  
Causes serious eye irritation.  
Harmful to aquatic life with long lasting effects.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash skin thoroughly after handling.  
Avoid release to the environment.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
If eye irritation persists get medical advice/attention.  
IF ON SKIN: Wash with soap and water.



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**Effective date :** 01.31.2015

**Silver Nitrate, 0.1M**

Specific treatment (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
Dispose of contents and container to an approved waste disposal plant.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7732-18-5	Deionized Water	98.322 %
CAS 7761-88-8	Silver Nitrate	1.678 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms appear.

**After skin contact:**

Wash hands and exposed skin with soap and plenty of water. Seek medical attention if irritation persists or if concerned. Seek immediate medical assistance.

**After eye contact:**

Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Seek immediate medical assistance.

**After swallowing:**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if irritation, discomfort, or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Shortness of breath. Headache. Nausea. Dizziness. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors. nitrogen oxides (NOx), Silver/silver

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**Effective date :** 01.31.2015

**Silver Nitrate, 0.1M**

oxides.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational. Avoid contact with eyes, skin, and clothing.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials. Protect from light. Recommended storage temperature: 2 - 8 °C.

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



**Control parameters:**

7761-88-8, Silver nitrate, ACGIH TLV TWA 0.01 mg/m<sup>3</sup>.  
7761-88-8, Silver nitrate, OSHA REL TWA 0.01 mg/m<sup>3</sup>.

**Appropriate engineering controls:**

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

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

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**Silver Nitrate, 0.1M**

- Protection of skin:** Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.
- Eye protection:** Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.
- General hygienic measures:** Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	14mmHg @ 20C
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.7
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Approx. 1
<b>Melting/Freezing point:</b>	Approx 0°C	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Approx. 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	>1	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: n b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials. Excess heat. Light.

**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.

**Hazardous decomposition products:** None

**SECTION 11: Toxicological information**

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**Effective date :** 01.31.2015

**Silver Nitrate, 0.1M**

**Acute Toxicity:** No additional information.  
**Chronic Toxicity:** No additional information.  
**Skin corrosion/irritation:** No additional information.  
**Serious eye damage/irritation:** No additional information.  
**Respiratory or skin sensitization:** No additional information.  
**Carcinogenicity:**

**There are no known carcinogenic chemicals in this product.:**

**Germ cell mutagenicity:** No additional information.  
**Reproductive Toxicity:** No additional information.  
**STOT-single and repeated exposure:** No additional information.  
**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.  
**Persistence and degradability:** No additional information.  
**Bioaccumulative potential:** No additional information.  
**Mobility in soil:** No additional information.  
**Other adverse effects:**

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.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.31.2015

**Silver Nitrate, 0.1M**

additional information.

**Comments:** None

additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute,Chronic

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

7761-88-8 Silver nitrate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7761-88-8 Silver nitrate 1000 lb.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

7761-88-8 Silver nitrate : not listed.

7732-18-5 Deionized Water: not 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:** 2-0-0

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 01.31.2015

**Silver Nitrate, 0.1M**

**HMIS:** 2-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:** None

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Iodide, 0.1M**

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

**Product name:** Sodium Iodide, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSI1050-B

**Recommended uses of the product and restrictions on use:** Laboratory

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7732-18-5	Deionized Water	98.5 %
CAS 7681-82-5	Sodium Iodide	1.5 %
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. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Iodide, 0.1M**

Wash affected area with soap and water. Seek medical advice if discomfort or irritation persists. Flush skin with plenty of soap and water for at least 15 minutes.

**After eye contact:**

Protect unexposed eye. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Immediately get medical assistance.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Shortness of breath. Irritation. Nausea. Headache.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Irritating and toxic gases may be generated by thermal decomposition and combustion.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Normal ventilation is adequate.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

Refer to Section 8. Wear protective eyewear, gloves, and clothing. Always obey local regulations. Dispose of empty containers as unused product. Refer to Section 13. Small amounts may be flushed with excess water to sewer. Absorb with suitable material and treat as normal refuse.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Wash hands after handling. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

**Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a cool, dry, well-ventilated area. Protect from freezing and physical damage.



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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Iodide, 0.1M**

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



<b>Control parameters:</b>	No applicable occupational exposure limits.
<b>Appropriate engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate.
<b>Respiratory protection:</b>	Not required under normal conditions of use.
<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	Wash hands before breaks and immediately after handling the product. Perform routine housekeeping to prevent dust generation. Before wearing again wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b>	Non Explosive
		<b>Explosion limit upper:</b>	Non Explosive
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Approx 1
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approx 0°C	<b>Solubilities:</b>	Soluble in Water
<b>Boiling point/Boiling range:</b>	Approx 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

None under normal processing.

**Chemical stability:**

Stable under normal conditions. Light sensitive.

**Possible hazardous reactions:**

Not Determined.

**Conditions to avoid:**

Incompatible Materials.

**Incompatible materials:**

Strong oxidizing agents. Strong reducing agents. Metal nitrates, lead, mercury, silver salts, acids, iodine,

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Iodide, 0.1M**

sodium nitrate.

**Hazardous decomposition products:**

Borane oxides. Boron oxides. Sodium oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:**

**Dermal:**

LD50 Rabbit: 10,000 mg/kg 1303-96-4.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Fish LC50 - Carassius auratus (goldfish) - 178 mg/l - 72 h, 1303-96-4.

Invertebrates EC50 - Daphnia magna (Water flea) - 1,085 - 1,402 mg/l - 48 h, 1303-96-4.

Algae IC50 - Desmodesmus subspicatus (green algae) - 158 mg/l - 96 h, 1303-96-4.

**Persistence and degradability:**

Readily biodegradable.

**Bioaccumulative potential:**

Not expected to bio accumulate.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Dilute with water and flush to sewer. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

**Limited Quantity Exception:**

None

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Iodide, 0.1M**

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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

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**Effective date** : 01.06.2015

**Sodium Iodide, 0.1M**

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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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).

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.14.2014

**Sodium Hydroxide,0.1N**

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

**Product name:** Sodium Hydroxide,0.1N  
**Manufacturer/Supplier Trade name:**  
**Manufacturer/Supplier Article number:** KEMSH6200-B  
**Recommended uses of the product and restrictions on use:** Laboratory chemicals  
**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Corrosive**

Corrosive to metals, category 1



**Irritant**

Skin irritation, category 2  
Eye irritation, category 2A

Skin Irrit. 2.  
Eye Irrit. 2A.  
Metal Corr. 1.

**Signal word:** Warning

**Hazard statements:**

May be corrosive to metals.  
Causes skin irritation.  
Causes serious eye irritation.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Keep only in original container.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Absorb spillage to prevent material damage.  
IF ON SKIN: Wash with soap and water.  
Specific treatment (see supplemental first aid instructions on this label).

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**Sodium Hydroxide,0.1N**

If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
If eye irritation persists get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
Store in a corrosive resistant container with a resistant inner liner.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 1310-73-2	Sodium Hydroxide	0.4 %
CAS 7732-18-5	Deionized Water	99.6 %
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. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

Take off contaminated clothing and shoes immediately. Wash affected area with soap and water. Seek medical attention if irritation, discomfort persist.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Immediately get medical assistance.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

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**Sodium Hydroxide,0.1N**

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Sodium oxides.

**Advice for firefighters:**

**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Transfer to a disposal or recovery container. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. 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.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Absorb spillage to prevent material damage due to corrosiveness to metal. Avoid contact with eyes, skin, and clothing. Wash hands after handling. Do not mix with acids. Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas.

**Conditions for safe storage, including any incompatibilities:**

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Store with Corrosives.

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



**Control parameters:**

1310-73-2, Sodium Hydroxide, OSHA PEL TWA 2 mg/m<sup>3</sup>.  
1310-73-2, Sodium Hydroxide, ACGIH TLV TWA 2 mg/m<sup>3</sup>.

**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 dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

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**Sodium Hydroxide,0.1N**

<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Non Explosive Non Explosive
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	14mmHg @ 20C
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	>1
<b>pH-value:</b>	>12	<b>Relative density:</b>	Approx 1
<b>Melting/Freezing point:</b>	Approx 0°C	<b>Solubilities:</b>	Soluble in Water
<b>Boiling point/Boiling range:</b>	Approx 100°C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Solution attacks metals such as aluminum, tin, lead and zinc. Also generates heat on exposure to acids. Aqueous solutions react violently with acids.

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Incompatible materials, excess heat.

**Incompatible materials:**

acids, Organic materials, Chlorinated solvents, Aluminum, Phosphorus, Tin/tin oxides, Zinc.

**Hazardous decomposition products:**

sodium oxides, hydrogen.



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**Sodium Hydroxide,0.1N**

**SECTION 11: Toxicological information**

**Acute Toxicity:**

**Dermal:**

Dermal LD50 Rabbit 1350 mg/kg 1310-73-2.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Rabbit: Causes Burns. 1310-73-2.

**Serious eye damage/irritation:**

Rabbit: Corrosive to eyes. 1310-73-2.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Fish (acute 1310-73-2): , 96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:**

Not expected to bio accumulate.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Neutralize with dilute acid solutions.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

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**Sodium Hydroxide,0.1N**

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

1310-73-2 Sodium Hydroxide 1000 lb.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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

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**Sodium Hydroxide,0.1N**

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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

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**Sodium Dichromate, 0.1M**

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

**Product name:** Sodium Dichromate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSD0810-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Skin irritation, category 2  
Skin sensitization, category 1



**Health hazard**

Specific target organ toxicity following repeated exposure, category 1  
Carcinogenicity, category 1B  
Germ cell mutagenicity, category 1B  
Reproductive toxicity, category 1B  
Respiratory sensitization, category 1



**Toxic**

Acute toxicity (oral, dermal, inhalation), category 3



**Corrosive**

Serious eye damage, category 1

STOT Repeat Exposure 1.  
Reproductive Toxicity - Repr. 1.  
Acute toxicity - Inhalation - Acute Tox. 3.  
Carcinogenicity - Category 1.  
Germ cell mutagenicity - Category 1.  
Skin sensitizers - Category 1.  
Respiratory sensitizer 1.

**Signal word:** Danger

**Hazard statements:**

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**Sodium Dichromate, 0.1M**

Toxic if swallowed.  
Causes damage to organs through prolonged or repeated exposure.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Harmful in contact with skin.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Toxic if inhaled.  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.  
Use personal protective equipment as required.  
Wash skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear respiratory protection.  
In case of inadequate ventilation wear respiratory protection.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
IF SWALLOWED: 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.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Specific treatment is urgent (see ... on this label).  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
IF exposed or concerned: Get medical advice/attention.  
Get Medical advice/attention if you feel unwell.  
Specific treatment (see supplemental first aid instructions on this label).  
Rinse mouth.  
IF ON SKIN: Wash with soap and water.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
Specific measures (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
Store in a well ventilated place. Keep container tightly closed.  
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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**Sodium Dichromate, 0.1M**

<b>Ingredients:</b>		
CAS 7732-18-5	Deionized Water	97.02 %
CAS 7789-12-0	Sodium Dichromate, ACS	2.98 %
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. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist).

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

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**Sodium Dichromate, 0.1M**

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

10034 - 82 - 9, Sodium chromate tetrahydrate, 0.05 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values (TLV) Upper Respiratory Tract irritation Cancer Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed human carcinogen varies.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

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**Sodium Dichromate, 0.1M**

<b>Appearance (physical state, color):</b>	Clear, yellow liquid	<b>Explosion limit lower:</b>	Non Explosive
		<b>Explosion limit upper:</b>	Non Explosive
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not applicable
<b>Odor threshold:</b>	Not applicable	<b>Vapor density:</b>	Not applicable
<b>pH-value:</b>	Alkaline	<b>Relative density:</b>	Not applicable
<b>Melting/Freezing point:</b>	Not applicable	<b>Solubilities:</b>	Infinite.
<b>Boiling point/Boiling range:</b>	Not applicable	<b>Partition coefficient (n-octanol/water):</b>	Not applicable
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not applicable
<b>Evaporation rate:</b>	Not applicable	<b>Decomposition temperature:</b>	Not applicable
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not applicable b. Dynamic: Not applicable
<b>Density at 20°C:</b>	Not applicable		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>). Sodium oxides. Chromic oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Classified as Skin Irritant. Section 2.

**Serious eye damage/irritation:**

Classified as causing serious eye damage. Section 2.

**Respiratory or skin sensitization:**

Classified as a skin sensitizer.

Classified as Respiratory sensitizer.

**Carcinogenicity:**

**GHS:** Classified as carcinogen

**NTP (National Toxicology Program) -:** Evidence of Carcinogenicity - Male Rat - Clear Evidence; Female Rat - Clear Evidence; Male Mice - Clear Evidence; Female Mice - Clear Evidence (TR-546) [Sodium dichromate dihydrate 7789-12-0]



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**Sodium Dichromate, 0.1M**

**Germ cell mutagenicity:**

Classified as germ cell mutagen.

**Reproductive Toxicity:**

Classified as causing reproductive toxicity.

**STOT-single and repeated exposure:**

Classified as STOT RE 1.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

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**Sodium Dichromate, 0.1M**

**SECTION 15: Regulatory information**

**United States (USA)**

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

Reactive, Acute, Chronic

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

10034 - 82 - 9 Sodium chromate tetrahydrate.

**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) :**

All ingredients are 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:** 2-0-0

**HMIS:** 3-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.16.2014

**Sodium Dichromate, 0.1M**

IMDG International Maritime Code for Dangerous Goods.  
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).

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.15.2014

**Sodium Chromate Indicator, 0.1M**

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

**Product name:** Sodium Chromate Indicator, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSC4230-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Acute toxicity (oral, dermal, inhalation), category 4  
Skin sensitization, category 1



**Environmentally Damaging**

Acute hazards to the aquatic environment, category 2  
Chronic hazards to the aquatic environment, category 2



**Health hazard**

Reproductive toxicity, category 1B  
Specific target organ toxicity following single exposure, category 2  
Respiratory sensitization, category 1  
Germ cell mutagenicity, category 1B  
Carcinogenicity, category 1B

Reproductive toxicity ( Category 1B ).

Acute aquatic toxicity ( Category 1 ).

Chronic aquatic toxicity ( Category 1 ).

Eye Irritant Category 2A.

Skin Irritant Category 2.

Acute toxicity , Oral ( Category 4).

Acute toxicity , Inhalation (Category 4).

Specific target organ toxicity - repeated exposure ( Category 2 ).

Acute toxicity , Dermal ( Category 4 ).

Respiratory sensitisation ( Category 1 ).

Skin sensitisation ( Category 1 ).

Germ cell mutagenicity ( Category 1B ).

Carcinogenicity ( Category 1B ).

**Signal word:** Danger

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**Sodium Chromate Indicator, 0.1M**

**Hazard statements:**

Causes damage to organs through prolonged or repeated exposure.  
Harmful if swallowed.  
Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
Harmful in contact with skin.  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
Toxic to aquatic life with long lasting effects.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Obtain special instructions before use.  
Wear respiratory protection.  
Do not eat, drink or smoke when using this product.  
Wash skin thoroughly after handling.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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.  
If skin irritation or a rash occurs: Get medical advice/attention.  
Wash contaminated clothing before reuse.  
Store in a well ventilated place. Keep container tightly closed.  
Store locked up.  
Dispose of contents and container to an approved waste disposal plant.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 10034-82-9	Sodium Chromate, Tetrahydrate	2.34 %
CAS 7732-18-5	Deionized Water	97.66 %

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**Sodium Chromate Indicator, 0.1M**

Percentages are by weight

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Do not use mouth - to mouth resuscitation. Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

Flush with water for 15 minutes. Get medical assistance if irritation develops. Wash affected area with soap and water. Rinse thoroughly.

**After eye contact:**

Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistanc. Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing.

**After swallowing:**

DO NOT induce vomiting. Get medical assistance. Call Poison Control Center. Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath. delayed effects are described in section 2 of this label.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Advice for firefighters:**

**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Transfer to a disposal or recovery container. Use spark-proof tools and explosion-

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**Sodium Chromate Indicator, 0.1M**

proof equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

**Environmental precautions:**

Should not be released into the environment. Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Avoid dispersal of dust in the air.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with eyes, skin, and clothing. Wash hands after handling. Do not ingest or inhale. Do not ingest or inhale. Use only in a chemical fume hood. Use only in a chemical fume hood. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid generation of dust or fine particulate.

**Conditions for safe storage, including any incompatibilities:**

Do not store near combustible materials. Store in a tightly closed container. Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Store in a cool, dry place.

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



**Control parameters:**

7775-11-3, Sodium Chromate, ACGIH TLV: 0.05 mg/m<sup>3</sup> TWA, OSHA PEL: 5 æg/m<sup>3</sup> TWA , NIOSH 0.001 mg/m<sup>3</sup> TWA.

**Appropriate engineering controls:**

Normal ventilation is adequate. Ensure eyewash and safety shower are available. 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 dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

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<b>Respiratory protection:</b>	Normal ventilation is adequate. Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	Chemical resistant gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety Glasses or goggles. Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, yellow liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Alkaline	<b>Relative density:</b>	1.0 - 1.2
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	Soluble in Water
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

Hygroscopic: absorbs moisture or water from the air. No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials, dust generation, combustible materials, exposure to moist air or water. Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong oxidizing agents, strong reducing agents. Strong acids. Strong bases.

**Hazardous decomposition products:**

Toxic fumes of sodium oxide, toxic chromium oxide fumes. Carbon oxides (CO, CO<sub>2</sub>).



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**SECTION 11: Toxicological information**

**Acute Toxicity:** None

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:**

No information available.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:**

No information available.

**Reproductive Toxicity:**

No information available.

**STOT-single and repeated exposure:**

No data available

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Do not flush to sewer. Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. 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**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated

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**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute,Chronic

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

10034-82-9 Sodium Chromate,Tetrahydrate -- TSCA Not Listed: not listed.

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

10034-82-9 Sodium Chromate Tetrahydrate 10 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

10034-82-9 Sodium Sulfate, Decahydrate -- Not Listed: not 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

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**Sodium Chromate Indicator, 0.1M**

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:** 4-0-0

**HMIS:** 4-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

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**Effective date :** 10.24.2014

**Sodium Chloride, 0.1M**

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

**Product name:** Sodium Chloride, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSC3799-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 7732-18-5	Deionized Water	99.4156 %
CAS 7647-14-5	Sodium Chloride, ACS	0.5844 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Chloride, 0.1M**

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

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**Sodium Chloride, 0.1M**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

No applicable occupational exposure limits.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	0 Vol % 0 Vol %
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	2.3 kPa (@ 20°C) or 23 hPa (17 mm Hg) at 20 °C (68 °F)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.62 (Air = 1)
<b>pH-value:</b>	7 [Neutral] (1% soln/water)	<b>Relative density:</b>	1 (Water = 1)
<b>Melting/Freezing point:</b>	0 °C (32 °F)	<b>Solubilities:</b>	Infinite.
<b>Boiling point/Boiling range:</b>	100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined

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**Sodium Chloride, 0.1M**

<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: 0.952 mPas at 20 °C (68 °F)
<b>Density at 20°C:</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Sodium Chloride, 0.1M**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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:**



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Sodium Chloride, 0.1M**

None of the ingredients are listed.

**Canada**

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

All ingredients are 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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

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

**Product name:** Sodium Carbonate,0.1M(0.2N)

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSC3110-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:** None

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7732-18-5	Deionized Water	98.994 %
CAS 497-19-8	Sodium Carbonate	1.006 %
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. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

**After skin contact:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

Wash affected area with soap and water. Seek medical advice if discomfort or irritation persists. Flush skin with plenty of soap and water for at least 15 minutes.

**After eye contact:**

Protect unexposed eye. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Immediately get medical assistance.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Shortness of breath. Irritation. Nausea. Headache.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Irritating and toxic gases may be generated by thermal decomposition and combustion.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Normal ventilation is adequate.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

Refer to Section 8. Wear protective eyewear, gloves, and clothing. Always obey local regulations. Dispose of empty containers as unused product. Refer to Section 13. Small amounts may be flushed with excess water to sewer. Absorb with suitable material and treat as normal refuse.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Wash hands after handling. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

**Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a cool, dry, well-ventilated area. Protect from freezing and physical damage.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

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



<b>Control parameters:</b>	No applicable occupational exposure limits.
<b>Appropriate engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate.
<b>Respiratory protection:</b>	Not required under normal conditions of use.
<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	Wash hands before breaks and immediately after handling the product. Perform routine housekeeping to prevent dust generation. Before wearing again wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

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

**SECTION 10: Stability and reactivity**

**Reactivity:**

None under normal processing.

**Chemical stability:**

Stable under normal conditions. Light sensitive.

**Possible hazardous reactions:**

Not Determined.

**Conditions to avoid:**

Incompatible Materials.

**Incompatible materials:**

Strong oxidizing agents. Strong reducing agents. Metal nitrates, lead, mercury, silver salts, acids, iodine,

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

sodium nitrate.

**Hazardous decomposition products:**

Borane oxides. Boron oxides. Sodium oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Fish LC50 - Lepomis macrochirus (Bluegill) , 300 mg/l - 96 h.

Daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea), 265 mg/l - 48 h.

**Persistence and degradability:**

Readily biodegradable.

**Bioaccumulative potential:**

Not expected to bio accumulate.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Dilute with water and flush to sewer. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Dangerous Goods.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Hazard Class:** None

**Packing Group:** Not Dangerous Goods.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

497-19-8 Sodium Carbonate: not listed.

7732-18-5 DI Water: not 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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 01.06.2015

**Sodium Carbonate,0.1M(0.2N)**

regulations applicable to this material.

**NFPA:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.05.2014

**Sulfuric Acid, 2.0N**

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

**Product name:** Sulfuric Acid, 2.0N

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMSA1640-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Corrosive**

Corrosive to metals, category 1

Corrosive to metals. 1.

**Signal word:** Warning

**Hazard statements:**

May be corrosive to metals.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Keep only in original container.  
Absorb spillage to prevent material damage.  
Store in a corrosive resistant container with a resistant inner liner.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

**Ingredients:**



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.05.2014

**Sulfuric Acid, 2.0N**

CAS 7664-93-9	Sulfuric Acid	10.304 %
CAS 7732-18-5	water, Purified	89.696 %
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:**

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use dry Chemical, foam, or carbon dioxide to extinguish fire.

**Unsuitable extinguishing agents:**

Do not use water directly on sulfuric acid.

**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors. Poisonous sulfur oxides are combustion products. Aerosols or mist may be produced in a fire. Sulfuric acid may ignite combustibles.

**Advice for firefighters:**

**Protective equipment:**

Use respiratory protective device against the effects of fumes/dust/aerosol. Wear protective equipment for fire and chemical resistance.

**Additional information (precautions):**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.05.2014

**Sulfuric Acid, 2.0N**

Containers may explode.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Neutralize with lime or soda ash. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Always obey local regulations. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Do not use water. Neutralize with lime or soda ash. Add water to form slurry. Decant water to drain with excess water. Dispose of remaining solid as normal refuse.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Do not mix with bases. Wash hands after handling. Avoid contact with eyes, skin, and clothing. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wear protective clothing and equipment. Do not handle with incompatibles (see Section 10). Avoid ingestion and inhalation.

**Conditions for safe storage, including any incompatibilities:**

Protect from freezing. Keep container tightly closed. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Do not store near incompatible materials (see Section 10). Store away from reducing agents.

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



**Control parameters:**

7664-93-9, Sulfuric Acid., OSHA PEL: 1mg/m<sup>3</sup>.  
7664-93-9, Sulfuric Acid., ACGIH TLV: 0.2 mg/m<sup>3</sup>.

**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. Use under a fume hood. Ensure eye wash and safety showers are available.

**Respiratory protection:**

Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. Use under a fume hood. Respirator with acid gas cartridges.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.05.2014

**Sulfuric Acid, 2.0N**

<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. Wear protective equipment to prevent contact with skin, eyes, or hair.
<b>Eye protection:</b>	Safety glasses with side shields or goggles. Face shield.
<b>General hygienic measures:</b>	Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	<3	<b>Relative density:</b>	1.04 - 1.06
<b>Melting/Freezing point:</b>	Below 0	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Approx 100C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Reacts violently with water with evolution of heat. Corrosive to metals.

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**

Reacts violently or explosively with incompatibles. Reacts with most metals to produce hydrogen gas, which may form explosive mixtures with air.

**Conditions to avoid:**

Store away from incompatible substances. excess heat.

**Incompatible materials:**

Organics. Metals. Strong acids. Strong bases. Alcohols. Chlorine. halogenated compounds. Combustible materials. Chlorates. Alkalines. Carbides. Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents.

**Hazardous decomposition products:**

Oxides of sulfur. Carcinogenic mists/aerosols. Oxygen.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.05.2014

**Sulfuric Acid, 2.0N**

**Skin corrosion/irritation:**

Rabbit - Extremely corrosive and destructive to tissue. 7664-93-9.

**Serious eye damage/irritation:**

Rabbit - Corrosive to eyes. 7664-93-9.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:**

**Strong inorganic acid mists containing sulfuric acid.:** IARC Group 1

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

7664-93-9, EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h.

7664-93-9, LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h.

**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, as a result of the presence of the acid. Small quantities will be neutralized by natural alkalinity.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

2796

**Limited Quantity Exception:**

None

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.05.2014

**Sulfuric Acid, 2.0N**

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Sulfuric Acid Solution.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Sulfuric Acid Solution.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None



**SECTION 15: Regulatory information**

**United States (USA)**

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

Reactive, Acute, Chronic

**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) :**

All ingredients are listed.

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

7664-93-9 sulfuric acid 1000 lb.

**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) :**

All ingredients are listed.

**SECTION 16: Other information**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.05.2014

**Sulfuric Acid, 2.0N**

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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Nickel Nitrate 0.1M**

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

**Product name:** Nickel Nitrate 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMNN1050-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Skin irritation, category 2  
Skin sensitization, category 1



**Health hazard**

Respiratory sensitization, category 1  
Germ cell mutagenicity, category 2  
Carcinogenicity, category 1A  
Reproductive toxicity, category 1B

Chronic hazards to the aquatic environment, category 3

Acute hazards to the aquatic environment, category 3

Eye Irritant 2A.

Aquatic Acute 3.

Chronic aquatic 3.

Skin Irrit. 2.

Muta. 2.

Carc. 1A.

Repr. 1B.

**Signal word:** Danger

**Hazard statements:**

Causes skin irritation.

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Suspected of causing genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

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Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
 Keep out of reach of children.  
 Read label before use.  
 Wash skin thoroughly after handling.  
 Use personal protective equipment as required.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Avoid release to the environment.  
 Do not eat, drink or smoke when using this product.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Use only outdoors or in a well-ventilated area.  
 In case of inadequate ventilation wear respiratory protection.  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Specific treatment (see supplemental first aid instructions on this label).  
 IF exposed or concerned: Get medical advice/attention.  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
 Continue rinsing.  
 If eye irritation persists get medical advice/attention.  
 IF ON SKIN: Wash with soap and water.  
 If skin irritation occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 Call a POISON CENTER or doctor/physician.  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 Store locked up.  
 Store in a well ventilated place. Keep container tightly closed.  
 Dispose of contents and container to an approved waste disposal plant.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 13478-00-7	Nickel Nitrate Hexahydrate	2.908 %
CAS 7732-18-5	Deionized water	97.092 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other



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symptoms appear.

**After skin contact:**

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Consult a physician. Show this safety data sheet to the doctor in attendance.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Hydrogen chloride gas, Nickel/nickel oxides. Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:**

**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Ensure that air-handling systems are operational. Ensure adequate ventilation.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Should not be released into environment.

**Methods and material for containment and cleaning up:**

Keep in suitable closed containers for disposal. Wear protective eyewear, gloves, and clothing. Always obey local regulations. Collect solids in powder form using vacuum with HEPA filter. Evacuate personnel to safe areas. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Minimize dust generation and accumulation. Follow good hygiene procedures when handling chemical

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materials. Refer to Section 8. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with eyes, skin, and clothing.

**Conditions for safe storage, including any incompatibilities:**

Store away from incompatible materials. Protect from freezing and physical damage. Keep away from food and beverages. Provide ventilation for containers. Store in cool, dry conditions in well sealed containers. Store with like hazards.

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



**Control parameters:**

13478-00-7, Nickel Nitrate, ACGIH TLV: 0.1mg/m<sup>3</sup>.  
13478-00-7, Nickel Nitrate, OSHA PEL: 1mg/m<sup>3</sup>.

**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 dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use under a fume hood.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, blue-green liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined

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<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	soluble
<b>Boiling point/Boiling range:</b>	Approx 100C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Approx 0C	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Approx 1.0-1.2		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible Materials.

**Incompatible materials:**

Oxidizing agents. Peroxides.

**Hazardous decomposition products:**

Hydrogen chloride gas, Nickel/nickel oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:**

**Nickel Chloride Hexahydrate:** IARC: 1 - Group 1: Carcinogenic to humans

**Nickel Chloride Hexahydrate:** NTP: Known to be human carcinogen.

**Germ cell mutagenicity:**

In vitro tests showed mutagenic effects.

Human HeLa cell DNA damage.

Hamster fibroblast Sister chromatid exchange.

Mouse mammary gland Mutation in mammalian somatic cells.

Mouse mammary gland Cytogenetic analysis

Rat DNA damage

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

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**Nickel Nitrate 0.1M**

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute, Chronic

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

N495 Nickel Compounds.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 1-0-1

**HMIS:** 3-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

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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).

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**Nitric Acid, 1.0N**

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

**Product name:** Nitric Acid, 1.0N  
**Manufacturer/Supplier Trade name:**  
**Manufacturer/Supplier Article number:** KEMNA7041-B  
**Recommended uses of the product and restrictions on use:** Laboratory chemicals  
**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Oxidizing**  
Oxidizing liquids, category 3



**Corrosive**  
Serious eye damage, category 1  
Skin corrosion, category 1B

Ox. liq. 3.  
Skin corrosion/irritation - Skin Corr. 1B.  
Eye Damage 1.

**Signal word:** Danger

**Hazard statements:**

May intensify fire; oxidizer.  
Causes severe skin burns and eye damage.  
Causes serious eye damage.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Do not eat, drink or smoke when using this product.  
Take any precaution to avoid mixing with combustibles.  
Keep/Store away from clothing/combustible materials.

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**Nitric Acid, 1.0N**

Wash skin thoroughly after handling.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

In case of fire, use agents recommended in section 5 for extinction.

Store locked up.

Dispose of contents/container.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7697-37-2	Nitric Acid	9.217 %
CAS 7732-18-5	Deionized Water	90.78 %
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. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse or flush skin/hair gently with water for at least 30 minutes. Seek immediate medical attention.

**After eye contact:**

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist).

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Headache. Shortness of breath. Irritation/burns, all routes of exposure. May cause severe burns, blindness and/or permanent damage. May cause burns, deep penetrating ulcerations of the skin, delayed tissue destruction, redness, pain. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**



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**Nitric Acid, 1.0N**

**Extinguishing media**

**Suitable extinguishing agents:**

Does not burn. If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use extinguishing media appropriate for surrounding fire.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors. Nitrogen oxides (NOx).

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. No smoking. Keep away from heat and sources of ignition.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed. Store with like hazards. Storage class (TRGS 510): Oxidizing hazardous materials.

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



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**Nitric Acid, 1.0N**

<b>Control parameters:</b>	7697-37-2, Nitric Acid, NIOSH 4 ppm STEL; 10 mg/m <sup>3</sup> STEL. 7697-37-2, Nitric Acid, NIOSH 2 ppm TWA; 5 mg/m <sup>3</sup> TWA. 7697-37-2, Nitric Acid, ACGIH 4 ppm STEL. 7697-37-2, Nitric Acid, ACGIH 2 ppm TWA.
<b>Appropriate engineering controls:</b>	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.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	colorless liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Strong acrid	<b>Vapor pressure at 20°C:</b>	49 hPa (37 mmHg) at 50 °C (122 °F)
<b>Odor threshold:</b>	0.29 ppm	<b>Vapor density:</b>	2.5 (Air = 1)
<b>pH-value:</b>	<1.0	<b>Relative density:</b>	1.413 g/cm <sup>3</sup> at 20 °C (68 °F)
<b>Melting/Freezing point:</b>	-41.6°C (-42.9°F)	<b>Solubilities:</b>	Soluble.
<b>Boiling point/Boiling range:</b>	120.5 °C (248.9 °F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	>1	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Oxidizer. Reacts violently with alcohol, organic material, turpene, charcoal. Violent reaction with Nitric acid + Acetone and Sulfuric acid. Nitric Acid will react with water or steam to produce heat and toxic, corrosive and flammable vapors. (Nitric acid, fuming).

**Chemical stability:**

No decomposition if used and stored according to specifications.

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**Nitric Acid, 1.0N**

**Possible hazardous reactions:**

Oxidizer. Contact with combustible materials may cause fire.

**Conditions to avoid:**

excess heat. combustible materials. Incompatible Materials.

**Incompatible materials:**

Highly reactive with alkalis. Reactive with reducing agents. combustible materials. organic materials. metals. Acids. Reducing agents. aldehydes.

**Hazardous decomposition products:**

Nitrogen oxides (NOx).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Rabbit: Corrosive.

Classified as causing severe skin burns and eye damage. Section 2.

**Serious eye damage/irritation:**

Rabbit: Corrosive to eyes.

Classified as causing serious eye damage. Section 2.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:**

Experiments have shown reproductive toxicity effects on laboratory animals.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach

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**Nitric Acid, 1.0N**

sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

2031

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Nitric Acid.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Nitric Acid.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None



**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute, Chronic

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

7697-37-2 Nitric Acid.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7697-37-2 Nitric acid 1000 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.29.2014

**Nitric Acid, 1.0N**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Canada**

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

All ingredients are 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:** 2-0-0

**HMIS:** 2-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

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

**Product name:** Nitric Acid, 0.1M  
**Manufacturer/Supplier Trade name:**  
**Manufacturer/Supplier Article number:** KEMNA7020-B  
**Recommended uses of the product and restrictions on use:** Laboratory chemicals  
**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Skin irritation, category 2

Skin corrosion/irritation - Skin Irritation 2.

**Signal word:** Warning

**Hazard statements:**

Causes skin irritation.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Specific treatment (see supplemental first aid instructions on this label).  
Take off contaminated clothing and wash before reuse.  
If skin irritation occurs: Get medical advice/attention.  
IF ON SKIN: Wash with soap and water.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

<b>Ingredients:</b>		
CAS 7732-18-5	Deionized Water	90.05 %
CAS 7697-37-2	Nitric Acid, ACS	0.95 %
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. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse or flush skin/hair gently with water for at least 20 minutes. Seek medical attention if irritation persists or if concerned.

**After eye contact:**

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush eye gently with water for at least 15-20 minutes, lifting upper and lower lids. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation- all routes of exposure. Headache. Shortness of breath. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Nitric acid vapors may lead pneumonia or pulmonary edema at prolonged exposure.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Neutralize with calcium carbonate and soda ash.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

7697-37-2, Nitric acid, ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) 4 ppm STEL.  
7697-37-2, Nitric acid, ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) 2 ppm TWA.  
7697-37-2, Nitric acid, NIOSH - STEL 4 ppm; 10 mg/m<sup>3</sup>.  
7697-37-2, Nitric acid, NIOSH - TWA 2 ppm; 5 mg/m<sup>3</sup>.  
7697-37-2, Nitric acid, OSHA - Final PELs - Time Weighted Averages (TWAs) 2 ppm; 5 mg/m<sup>3</sup>.

**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:** Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:** The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:** Safety glasses with side shields or goggles.



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

**General hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	0 Vol % 0 Vol %
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	2.3 kPa (@ 20°C) or 23 hPa (17 mm Hg) at 20 °C (68 °F)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.62 (Air = 1)
<b>pH-value:</b>	7 [Neutral] (1% soln/water)	<b>Relative density:</b>	1 (Water = 1)
<b>Melting/Freezing point:</b>	0 °C (32 °F)	<b>Solubilities:</b>	None
<b>Boiling point/Boiling range:</b>	100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: 0.952 mPas at 20 °C (68 °F)
<b>Density at 20°C:</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong bases. Metallic powder.

**Hazardous decomposition products:**

Nitrogen oxides. Hydrogen nitrate.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Classified as Skin Irritant. Section 2.

**Serious eye damage/irritation:** No additional information.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product. Neutralize with calcium carbonate and soda ash.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Nitric Acid, 0.1M**

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

Acute

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

7697-37-2 Nitric acid 1.0 % de minimis concentration.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7697-37-2 Nitric acid 1000 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 2-0-0

**HMIS:** 2-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.

IATA International Air Transport Association.

GHS Globally Harmonized System of Classification and Labelling of Chemicals.

ACGIH American Conference of Governmental Industrial Hygienists.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Nitric Acid, 0.1M**

CAS Chemical Abstracts Service (division of the American Chemical Society).

NFPA National Fire Protection Association (USA).

HMIS Hazardous Materials Identification System (USA).

WHMIS Workplace Hazardous Materials Information System (Canada).

DNEL Derived No-Effect Level (REACH).

PNEC. Predicted No-Effect Concentration (REACH).

CFR Code of Federal Regulations (USA).

SARA Superfund Amendments and Reauthorization Act (USA).

RCRA. Resource Conservation and Recovery Act (USA).

TSCA. Toxic Substances Control Act (USA).

NPRI National Pollutant Release Inventory (Canada).

DOT US Department of Transportation.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

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

**Product name:** Magnesium Ribbon  
**Manufacturer/Supplier Trade name:**  
**Manufacturer/Supplier Article number:** KEMMG2500  
**Recommended uses of the product and restrictions on use:** Laboratory chemicals  
**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Flammable**

Flammable solids, category 1  
Flammable gases, category 1

Pyrophoric solids. 1.  
Emits Flamm. gas with water contact.

**Signal word:** Danger

**Hazard statements:**

Catches fire spontaneously if exposed to air.  
In contact with water releases flammable gases which may ignite spontaneously.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Do not allow contact with air.  
Keep away from any possible contact with water, because of violent reaction and possible flash fire.  
Handle under inert gas. Protect from moisture.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.  
In case of fire, use agents recommended in section 5 for extinction.  
Store in a dry place. Store in a closed container.  
Dispose of contents and container as instructed in Section 13.

**Other Non-GHS Classification:** None

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7439-95-4	Magnesium	>90 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms appear.

**After skin contact:**

Wash hands and exposed skin with soap and plenty of water. Seek medical attention if irritation persists or if concerned.

**After eye contact:**

Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Seek medical attention if irritation persists or concerned.

**After swallowing:**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if irritation, discomfort, or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Shortness of breath. Headache. Nausea. Dizziness.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Dry powder.

**Unsuitable extinguishing agents:**

Water spray. Carbon dioxide extinguishers.

**Special hazards arising from the substance or mixture:**

Combustible dust formation is a risk. Thermal decomposition can lead to release of irritating gases and vapors. Water cannot extinguish magnesium fires. The hydrogen gas produced only intensifies the fire.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid dust generation. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

Sweep up and shovel. Contain spillage. Collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations. Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Combustible dust formation is a risk. Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store contents under inert gas. Air and moisture sensitive. Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

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



**Control parameters:**

No applicable occupational exposure limits.

**Appropriate engineering controls:**

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

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Face shield and safety glasses are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

**General hygienic measures:** Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Silver White Solid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Not determined	<b>Vapor pressure at 20°C:</b>	1 hPa at 621 °C
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	1.74 g/cm <sup>3</sup> at 25 °C
<b>Melting/Freezing point:</b>	650 °C	<b>Solubilities:</b>	Insoluble in water
<b>Boiling point/Boiling range:</b>	1107 °C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Flammable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		
<b>Additional property</b>	Hygroscopic (absorbs moisture from the air).		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Reacts violently with water.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

Emits flammable gas when in contact with water.

**Conditions to avoid:**

Air and moisture sensitive. Incompatible materials.

**Incompatible materials:**

Strong oxidizing agents, acids, Acid chlorides, Halogens.

**Hazardous decomposition products:**

Magnesium oxide.

**SECTION 11: Toxicological information**

**Acute Toxicity:** None

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

1869

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Magnesium.

**Hazard Class:** 4

**Packing Group:** III.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Magnesium.

**Hazard Class:** 4

**Packing Group:** III.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None



**SECTION 15: Regulatory information**

**United States (USA)**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.11.2015

**Magnesium Ribbon**

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

Reactive, Chronic, Fire

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7439-95-4 Magnesium 10 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 1-0-1

**HMIS:** 1-0-1

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:** None

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.19.2014

**Lead Nitrate, 0.1M**

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

**Product name:** Lead Nitrate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMLN4250-B

**Recommended uses of the product and restrictions on use:** Laboratory

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Corrosive**

Serious eye damage, category 1



**Health hazard**

Specific target organ toxicity following repeated exposure, category 2  
Reproductive toxicity, category 1A



**Environmentally Damaging**

Chronic hazards to the aquatic environment, category 1  
Acute hazards to the aquatic environment, category 1



**Oxidizing**

Oxidizing liquids, category 2

Eye Damage. 1.

Repr Tox. 1A.

Aquatic AcTox. 1.

Aquatic ChrTox. 1.

OxLiq 2.

STOT RE2.

**Signal word:** Danger

**Hazard statements:**

May intensify fire; oxidizer.

Causes serious eye damage.

May cause damage to organs through prolonged or repeated exposure.

May damage fertility or the unborn child.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.19.2014

**Lead Nitrate, 0.1M**

Very toxic to aquatic life with long lasting effects.  
Very toxic to aquatic life.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Read label before use.  
Avoid release to the environment.  
Take any precaution to avoid mixing with combustibles.  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Use personal protective equipment as required.  
Keep/Store away from clothing, combustible materials.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Collect spillage.  
In case of fire, use agents recommended in section 5 for extinction.  
Immediately call a POISON CENTER or doctor/physician.  
Get medical advice/attention if you feel unwell.  
If exposed or concerned: Get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
Store locked up.  
Dispose of contents/container.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 10099-74-8	Lead Nitrate	<4 %
CAS 7732-18-5	Deionized Water	>96 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing as necessary and position individual in a comfortable position. Consult a physician.

**After skin contact:**

Wash off with soap and plenty of water. Consult a physician.

**After eye contact:**

Rinse or flush exposed eye gently using water for 15-20 minutes. Protect unexposed eye. If able remove contact lenses while rinsing. Consult a physician.

**After swallowing:**

Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.19.2014

**Lead Nitrate, 0.1M**

Consult a physician.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. 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:**

Nitrogen oxides. Lead oxides. Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:**

**Protective equipment:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Wear protective eyewear, gloves, and clothing.

**Additional information (precautions):**

Avoid contact with skin, eyes, and clothing. Avoid generating dust. Ensure adequate ventilation.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep product and empty container away from heat and sources of ignition. Use spark-proof tools and explosion-proof equipment. Ensure adequate ventilation.

**Environmental precautions:**

Prevent from reaching drains, sewer, or waterway. Dust deposits should not be allowed to accumulate on surfaces. Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Do not release into the environment. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

Sweep up and containerize for disposal. Avoid generating dust. Always obey local regulations. Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary use trained response staff or contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Use only in well ventilated areas. Wash hands after handling. Follow Chemical Hygiene Plan. Wash hands before breaks and immediately after handling the product. Do not inhale gases, fumes, dust, mist, vapor, and aerosols. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Do not eat, drink, smoke, or use personal products when handling chemical substances.

**Conditions for safe storage, including any incompatibilities:**

Store with like hazards. Store away from food. Keep product and empty container away from heat and sources of ignition. Keep container tightly closed in a cool, dry, well-ventilated area.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.19.2014

**Lead Nitrate, 0.1M**

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



**Control parameters:**

10099-74-8, Lead nitrate., 0.05 mg/m<sup>3</sup> US ACGIH Threshold Limit Values (TLV).

**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 dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Respiratory protection:**

Normal ventilation is adequate. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls.

**Protection of skin:**

Wear protective clothing. Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Wash off with soap and plenty of water. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Complete suit protecting against chemicals. Select protective clothing according to the concentration and amount of the dangerous substance at the specific workplace. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses with side shields or goggles.

**General hygienic measures:**

Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Do not inhale gases, fumes, dust, mist, vapor, and aerosols. Before wearing wash contaminated clothing. Wash hands and exposed skin with soap and plenty of water.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	No information No information
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	14 mm Hg @ 16C
<b>Odor threshold:</b>	Not applicable	<b>Vapor density:</b>	0.7(of water)
<b>pH-value:</b>	3 - 4 (20% aqueous sol.)	<b>Relative density:</b>	1.00g/mL @ 20C
<b>Melting/Freezing point:</b>	Approx 0C	<b>Solubilities:</b>	Material is water soluble.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.19.2014

**Lead Nitrate, 0.1M**

<b>Boiling point/Boiling range:</b>	Approx 100C	<b>Partition coefficient (n-octanol/water):</b>	Not applicable
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not applicable
<b>Evaporation rate:</b>	Not applicable	<b>Decomposition temperature:</b>	470°C
<b>Flammability (solid, gaseous):</b>	No information	<b>Viscosity:</b>	a. Kinematic: Not applicable b. Dynamic: Not applicable
<b>Density at 20°C:</b>	No information		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

Oxidizer. Contact with combustible or organic material may cause fire.

**Possible hazardous reactions:**

Stable under normal conditions.

**Conditions to avoid:**

Dust generation. Excessive heat. Incompatible materials.

**Incompatible materials:**

Strong reducing agents. Organic materials. Powdered metals.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides (NO, NO<sub>2</sub>). Lead oxides. Lead fumes.

**SECTION 11: Toxicological information**

**Acute Toxicity:** None

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:**

**IARC:- Group 2A::** Probably carcinogenic to humans (Lead nitrate).

**Germ cell mutagenicity:**

Mutagenic effects have occurred in humans.

**Reproductive Toxicity:**

Toxicity effects have occurred in lab animals.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Aquatic Tox., LC50 - Oncorhynchus mykiss (rainbow trout) - 1.5 mg/l - 96.0 h.

Aquatic Tox., LC50 - Cyprinus carpio (Carp) - 0.4 - 1.3 mg/l - 96.0 h.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.19.2014

**Lead Nitrate, 0.1M**

Aquatic Tox., EC50 - Daphnia magna (Water flea) - 0.5 - 2.0 mg/l - 48 h.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:**

Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Reactive, Acute, Chronic

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

10099-74-8 Lead nitrate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.19.2014

**Lead Nitrate, 0.1M**

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

10099-74-8 Lead Nitrate 10 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

10099-74-8 Lead Nitrate.

**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) :**

All ingredients are 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:** 2-0-1

**HMIS:** 2-0-1

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.19.2014

**Lead Nitrate, 0.1M**

WHMIS Workplace Hazardous Materials Information System (Canada).  
DNEL Derived No-Effect Level (REACH).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

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

**Product name:** Hydrochloric Acid, 1.0N

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMHA6141-B

**Recommended uses of the product and restrictions on use:** Laboratory chemicals

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Corrosive**

Corrosive to metals, category 1  
Skin corrosion, category 1B  
Serious eye damage, category 1



**Irritant**

Specific target organ toxicity following single exposure, category 3

Corr Metals. 1.  
Skin Corr. 1B.  
Eye Damage. 1.  
Stot SE. 3.

**Signal word:** Danger

**Hazard statements:**

May be corrosive to metals.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.  
Causes serious eye damage.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Keep only in original container.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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.

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

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

Store in a well ventilated place. Keep container tightly closed.

Store locked up.

Store in a corrosive resistant container with a resistant inner liner.

Dispose of contents/container.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7647-01-0	Hydrochloric Acid, ACS	9.75 %
CAS 7732-18-5	Deionized Water	90.25 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Consult a physician.

**After skin contact:**

Rinse hands with water for 20 minutes. Enter emergency shower rinsing while removing contaminated clothing and shoes. Immediately seek medical attention.

**After eye contact:**

Protect unexposed eye. Remove contact lenses, if present and easy to do, and continue rinsing. Continue rinsing eyes during transport to hospital. Immediately seek medical attention.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.

**Most important symptoms and effects, both acute and delayed:**

Headache. Nausea. Shortness of breath. Irritation/burns, all routes of exposure. Spasm, inflammation and edema of the larynx. Inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. ( Hydrochloric acid ).

**Indication of any immediate medical attention and special treatment needed:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Hydrogen chloride gas may be released.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Poisonous gas may be produced in fire. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing. Dust deposits should not be allowed to accumulate on surfaces.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

Wear protective eyewear, gloves, and clothing. Follow advice and precautions. If necessary use trained response staff or contractor. Absorb with suitable absorbent material such as sand or earth and containerize for disposal. Refer to Section 13. Sweep up and containerize for disposal. Avoid generating dust. Refer to Section 8. Refer to Section 5.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Wash hands after handling. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Wear protective equipment. See Section 8. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Store with like hazards. Keep away from open flames, hot surfaces, and sources of ignition. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly closed. Store away from incompatible materials.

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



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

<b>Control parameters:</b>	7647-01-0, Hydrochloric Acid, C 2 ppm USA. ACGIH. 7647-01-0, Hydrochloric Acid, C 5 ppm 7 mg/m <sup>3</sup> USA. NIOSH. 7647-01-0, Hydrochloric Acid, C 5 ppm 7 mg/m <sup>3</sup> USA. OSHA.
<b>Appropriate engineering controls:</b>	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Use under fume hood designed for hazardous chemicals with an average face velocity of 100 feet per minute or greater. Ensure that evacuation/ventilation systems are designed to prevent the escape of dust/mist/aerosols into the work area.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.
<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing. Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Eye protection:</b>	Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Wear tightly fitting safety goggles and a faceshield (8-inch minimum).
<b>General hygienic measures:</b>	Wash hands before breaks and at the end of work. Perform routine housekeeping to prevent dust generation. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Pungent	<b>Vapor pressure at 20°C:</b>	4.0 atm @ 17.8C
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	1.1 (0.1N)	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approx. 0 °C	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Approx. 100 °C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	> 1	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

Stable under normal conditions.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Incompatible materials. Excess heat.

**Incompatible materials:**

Most metals, alkalis, cyanides, sulfides, sulfites, metal oxides, formaldehydes.

**Hazardous decomposition products:**

Fumes of hydrogen chloride and hydrogen in contact with metals. Chloride gas from oxidizers.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Skin - rabbit Result: Causes burns. 7647-01-0.

**Serious eye damage/irritation:**

Eyes - rabbit (Hydrochloric acid) Result: Corrosive to eyes 7647-01-0.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:**

7647-01-0: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. ( Hydrochloric acid )

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid), 7647-01-0.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Treat the solid residue as normal refuse. Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Cover

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.12.2015

**Hydrochloric Acid, 1.0N**

spill with soda ash or calcium carbonate. Mix and add water to form slurry. Decant to drain.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

1789

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Hydrochloric acid.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Hydrochloric acid.

**Hazard Class:** 8

**Packing Group:** II.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None



**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute

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

7647-01-0 Hydrochloric acid.

7647-01-0 Hydrogen Chloride.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7647-01-0 Hydrochloric acid 5000 lb.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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:**



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 01.12.2015

**Hydrochloric Acid, 1.0N**

None of the ingredients are listed.

**Canada**

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

All ingredients are 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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

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

**Product name:** Iron Nitrate, 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMFE3368-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7782-61-8	Ferric Nitrate	2.02 %
CAS 7732-18-5	Deionized Water	97.83 %
		Percentages are by weight

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical attention if irritation or coughing persists.

**After skin contact:**

Wash affected area with soap and water. Immediately remove contaminated clothing and shoes. Rinse thoroughly with plenty of water for at least 15 minutes. Immediately seek medical attention.

**After eye contact:**

Protect unexposed eye. Flush thoroughly with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Continue rinsing eyes during transport to hospital.

**After swallowing:**

Rinse mouth thoroughly. Dilute with water or milk. Get medical assistance. Induce vomiting.

**Most important symptoms and effects, both acute and delayed:**

Inhalation may cause irritation to nose and upper respiratory tract, ulceration, coughing, chest tightness and shortness of breath. Higher concentrations cause tachypnoea, pulmonary oedema and suffocation. Pain, eye ulceration, conjunctival irritation, cataracts and glaucoma may occur following eye exposure. None identified.

**Indication of any immediate medical attention and special treatment needed:**

Provide SDS to Physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use dry chemical, foam, carbon dioxide, or mist to extinguish surrounding fire.

**Unsuitable extinguishing agents:**

None identified.

**Special hazards arising from the substance or mixture:**

None identified. Not considered to be a fire or explosion hazard.

**Advice for firefighters:**

**Protective equipment:**

Use normal procedures. Use protective clothing. Use NIOSH approved breathing equipment.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Soak up with inert absorbent material and dispose of as hazardous waste. Cover spill with suitable absorbing agent. Mix and add water to form slurry. Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Prevent contact with skin, eyes, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Store protected from moisture. Provide ventilation for containers. Keep container tightly closed.

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



**Control parameters:**

7782-61-8, Ferric nitrate nonahydrate , OSHA PEL TWA 1 mg/m<sup>3</sup>.  
7782-61-8 , Ferric nitrate nonahydrate , ACGIH TLV TWA 1 mg/m<sup>3</sup>.

**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of handling. Normal ventilation is adequate.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Tightly fitting safety goggles. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before rewearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, orange-brown liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Non Explosive Non Explosive
<b>Odor:</b>	Odorless to slightly pungent	<b>Vapor pressure at 20°C:</b>	No information available
<b>Odor threshold:</b>	No information available	<b>Vapor density:</b>	No Determined.
<b>pH-value:</b>	No information available	<b>Relative density:</b>	Approx. 1 (Water = 1)
<b>Melting/Freezing point:</b>	No information available	<b>Solubilities:</b>	Soluble.
<b>Boiling point/Boiling range:</b>	No information available	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	No information available	<b>Decomposition temperature:</b>	Not determined

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

<b>Flammability (solid, gaseous):</b>	Not flammable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Approx. 1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		
<b>Hydrochloric Acid</b>	MW is36.46		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Under normal conditions product is stable.

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials.

**Incompatible materials:**

Excess heat.

**Hazardous decomposition products:**

Can emit toxic fumes of hydrogen nitrate or nitrogen oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Irritating to skin 7782-61-8 (Ferric Nitrate).

**Serious eye damage/irritation:**

Irritating to eyes. 7782-61-8 (Ferric Nitrate).

**Respiratory or skin sensitization:**

None identified.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

No Information Available.

**Bioaccumulative potential:**

No Information Available.

**Mobility in soil:**

No Information Available.

**Other adverse effects:**

No Information Available.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Absorb with suitable material and containerize for disposal.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute, Chronic

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

7782-61-8 Ferric nitrate nonahydrate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 01.08.2015

**Iron Nitrate, 0.1M**

7783-85-9 Ferrous Ammonium Sulfate 1000 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

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

**Product name:** EDTA Titrant, 0.10M +/-0.001M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMED2100-B

**Recommended uses of the product and restrictions on use:** Nov 20 2015 12:00AM

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7732-18-5	Deionized Water	91.18 %
CAS 6381-92-6	Disodium EDTA, Dihydrate	7.53 %
CAS 7791-18-6	Magnesium Chloride, Hexahydrate	0.06 %
CAS 1310-73-2	Sodium Hydroxide, ACS	1.14 %
Percentages are by weight		

**SECTION 4: First aid measures**



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

**Description of first aid measures**

**After inhalation:**

Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms appear.

**After skin contact:**

Continue rinsing while removing contaminated clothing and shoes. Immediately seek medical attention. Wash hands and exposed skin with soap and plenty of water. Rinse or flush skin/hair gently with water for at least 30 minutes.

**After eye contact:**

Protect unexposed eye. Remove contact lenses, if present and easy to do, and continue rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist).

**After swallowing:**

Immediately seek medical attention. Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, pulmonary edema. Vomiting. Irritation. Shortness of breath. Headache. Nausea. Dizziness. Stomach - Irregularities - Based on Human Evidence.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:**

**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

**Methods and material for containment and cleaning up:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

Soak up with inert absorbent material and dispose of as hazardous waste. Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

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



**Control parameters:**

1310-73-2, Sodium hydroxide, ACGIH TLV Ceiling 2 mg/m3.

**Appropriate engineering controls:**

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

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

**Eye protection:**

Face shield and tight fitting goggles are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**General hygienic measures:**

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Not determined	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

<b>pH-value:</b>	<2	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Approximately 0 °C	<b>Solubilities:</b>	Soluble in water.
<b>Boiling point/Boiling range:</b>	Approximately 100 °C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Reacts violently with Cyclopentadiene, Cyclopentanone oxime, Nitroaryl amines, Hexalithium disilicide, Phosphorous(III) oxide, Powdered metals.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible materials.

**Incompatible materials:**

Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts. Permanganates (potassium permanganate), Hydrogen peroxide, Azides, Perchlorates., Nitromethane, Phosphorous. Cyclopentadiene, Cyclopentanone oxime, Nitroaryl amines, Hexalithium disilicide, Phosphorous(III) oxide, Powdered metals.

**Hazardous decomposition products:**

Sulfur oxides.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:**

Skin - Rabbit Result: Extremely corrosive and destructive to tissue 7664-93-9.

**Serious eye damage/irritation:**

Eyes - Rabbit Result: Corrosive to eyes 7664-93-9.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

**SECTION 12: Ecological information**

**Ecotoxicity:**

7664-93-9, LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h.

7664-93-9, EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification. Neutralize with soda ash or calcium carbonate.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 02.18.2015

**EDTA Titrant, 0.10M +/-0.001M**

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

1310-73-2 Sodium Hydroxide 5000 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:** None

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 03.02.2015

**Copper Strip**

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

**Product name:** Copper Strip  
**Manufacturer/Supplier Trade name:**  
**Manufacturer/Supplier Article number:** KEMCU-5012-S  
**Recommended uses of the product and restrictions on use:** Laboratory Chemicals

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Toxic**

Acute toxicity (oral, dermal, inhalation), category 2



**Irritant**

Eye irritation, category 2A  
 Skin sensitization, category 1



**Health hazard**

Germ cell mutagenicity, category 1A  
 Specific target organ toxicity following repeated exposure, category 2

Acute toxicity - Oral - Category 2: H300 Fatal if swallowed.

Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.

Specific target organ toxicity - Repeated exposure - (Oral,Inhalation) - Category 2: H373 May cause damage to digestive system, hematopoietic system, kidneys, nose, respiratory system, and/or skin through prolonged or repeated exposure if inhaled.

Hazards Not Otherwise Classified - Combustible Dust.

Not classified for physical or health hazards under GHS.

Hazards Not Otherwise Classified - Combustible Dust.

Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.

Skin sensitizers - Category 1: H317 May cause allergic skin reaction.

Germ cell mutagenicity - Category 1: H340 May cause genetic defects.

Hazardous to aquatic environment - acute hazard - Category 1: H400 Very toxic to aquatic life.

**Signal word:** Danger

**Hazard statements:**

Fatal if swallowed.

Fatal if inhaled.

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**Copper Strip**

May cause an allergic skin reaction.  
Causes serious eye irritation.  
May cause genetic defects.  
May cause damage to organs through prolonged or repeated exposure.  
Very toxic to aquatic life.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash skin thoroughly after handling.  
Avoid release to the environment.  
Do not eat, drink or smoke when using this product.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Use only outdoors or in a well-ventilated area.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Use personal protective equipment as required.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
Wash contaminated clothing before reuse.  
IF exposed or concerned: Get medical advice/attention.  
Collect spillage.  
Specific treatment (see supplemental first aid instructions on this label).  
Rinse mouth.  
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 IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
If eye irritation persists get medical advice/attention.  
IF ON SKIN: Wash with soap and water.  
If skin irritation or a rash occurs: Get medical advice/attention.  
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:**

Ingredients:		
CAS 7440-50-8	Copper	100 %
Percentages are by weight		

**SECTION 4: First aid measures**

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**Copper Strip**

**Description of first aid measures**

**After inhalation:**

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Get medical assistance if cough or other symptoms appear.

**After skin contact:**

Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:**

None identified.

**Special hazards arising from the substance or mixture:**

Oxides of copper. Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Dust can be an explosion hazard when exposed to heat or flame. Noncombustible solid in bulk form, but powdered form may ignite.

**Advice for firefighters:**

**Protective equipment:**

Use NIOSH-approved respiratory protection/breathing apparatus.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use spark-proof tools and explosion-proof equipment. Ensure that air-handling systems are operational. Ensure adequate ventilation.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.



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**Copper Strip**

Should not be released into environment.

**Methods and material for containment and cleaning up:**

Keep in suitable closed containers for disposal. Wear protective eyewear, gloves, and clothing. Always obey local regulations. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air. Collect solids in powder form using vacuum with HEPA filter. Evacuate personnel to safe areas. Sweep up, then place into a suitable container for disposal. Refer to Section 8.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Minimize dust generation and accumulation. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with eyes, skin, and clothing.

**Conditions for safe storage, including any incompatibilities:**

Store away from incompatible materials. Protect from freezing and physical damage. Keep away from food and beverages. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well sealed containers. Store with like hazards.

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



**Control parameters:**

7440-50-8 , Copper , OSHA PEL TWA (Total Dust) TWA 1 mg/m<sup>3</sup>.  
7440-50-8, Copper, ACGIH TLV: 0.2 mg/m<sup>3</sup> TWA (fume); 1 mg/m<sup>3</sup> TWA (dusts and mists).  
7440-50-8, Copper, OSHA PEL: 0.1 mg/m<sup>3</sup> TWA (fume).

**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 dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use under a fume hood.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

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**Copper Strip**

**Eye protection:** Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

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

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Red to brown solid	<b>Explosion limit lower: Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	1083°C (1981.4°F)	<b>Solubilities:</b>	Insoluble.
<b>Boiling point/Boiling range:</b>	2595°C (4703°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	8.94 (Water = 1)		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Stable at room temperature in closed containers under normal storage and handling conditions.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Incompatible Materials. Dust formation. Moisture. Exposure to air.

**Incompatible materials:**

Liquid copper explodes on contact with water. Reacts violently with ammonium nitrate, bromates, iodates, chlorates, ethylene oxide, hydrazoic acid, potassium oxide, dimethyl sulfoxide. Page 3 of 4. CU4500 +. Trichloroacetic acid, hydrogen peroxide, sodium peroxide, sodium azide, sulfuric acid, hydrogen sulfide + air, and lead azide. Ignites on contact with chlorine, fluorine (above 121C), chlorine trifluoride, and hydrazinium nitrate (above 70C). Incompatible with 1-bromo-2-propyne, potassium dioxide, and acetylenic compounds.

**Hazardous decomposition products:**

Oxides of copper.

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

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**Skin corrosion/irritation:**

Dust is irritating to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. 7440-50-8.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:**

Please refer to RTECS# BO9000000 for specific information.

**Reproductive Toxicity:**

Fertility: Post-implantation mortality, oral-rat TDLo=40mg/kg.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Freshwater fish, 96 Hr LC50 Pimephales promelas: 0.0068 - 0.0156 mg/L; 96 Hr LC50 Pimephales promelas: <0.3 mg/L [static]; 96 Hr LC50 Pimephales promelas: 0.2 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.052 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 1.25 mg/L [static]; 96 Hr LC50 Cyprinus carpio: 0.3 mg/L [semi-static]; 96 Hr LC50 Cyprinus carpio: 0.8 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 0.112 mg/L [flow-through].

Water flea, 48 Hr EC50 Daphnia magna: 0.03 mg/L [Static].

**Persistence and degradability:**

No information available.

**Bioaccumulative potential:**

No information available.

**Mobility in soil:** No additional information.

**Other adverse effects:**

No information available.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

**SECTION 14: Transport information**

**US DOT**

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**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not regulated

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not regulated.

**Hazard Class:** None

**Packing Group:** Not regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute, Chronic, Fire

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7440-50-8 Copper Sulfate 5000 Lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are listed.

**SECTION 16: Other information**

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**Effective date** : 03.02.2015

**Copper Strip**

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:** 2-0-0

**HMIS:** 2-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

IMDG International Maritime Code for Dangerous Goods.  
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).

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Copper Sulfate, 1.0M**

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

**Product name:** Copper Sulfate, 1.0M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMCU2480-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:**



**Irritant**

Skin irritation, category 2  
Eye irritation, category 2B  
Acute toxicity (oral, dermal, inhalation), category 4



**Environmentally Damaging**

Acute hazards to the aquatic environment, category 1

Skin Irritant Category 2.

Eye Irritant Category 2B.

Acute toxicity, Oral Category 4.

Acute aquatic toxicity Category 1.

**Signal word:** Warning

**Hazard statements:**

Causes skin irritation.

Causes serious eye irritation.

Harmful if swallowed.

Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

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

Keep out of reach of children.

Read label before use.

Do not eat, drink or smoke when using this product.

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

Wash skin thoroughly after handling.

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**Copper Sulfate, 1.0M**

IF ON SKIN: Wash with soap and water.  
Specific treatment (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
If eye irritation persists get medical advice/attention.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Rinse mouth.  
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:**

Ingredients:		
CAS 7758-99-8	Cupric Sulfate, Pentahydrate	25 %
CAS 7732-18-5	Deionized Water	75 %
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. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

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**Copper Sulfate, 1.0M**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

No applicable occupational exposure limits.

**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.



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**Copper Sulfate, 1.0M**

<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, blue liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	approx 1.0 - 1.2
<b>Melting/Freezing point:</b>	Approx. 0C	<b>Solubilities:</b>	soluble
<b>Boiling point/Boiling range:</b>	Approx. 100C	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**

None under normal processing.

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Hydroxylamine, phosphates, alkalis, sulfuric acid, hydrazine, finely powdered metals, active metals.

**Hazardous decomposition products:**

Highly toxic fumes of Sulfur oxides.

**SECTION 11: Toxicological information**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Copper Sulfate, 1.0M**

**Acute Toxicity:** No additional information.  
**Chronic Toxicity:** No additional information.  
**Skin corrosion/irritation:** No additional information.  
**Serious eye damage/irritation:** No additional information.  
**Respiratory or skin sensitization:** No additional information.  
**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.  
**Reproductive Toxicity:** No additional information.  
**STOT-single and repeated exposure:** No additional information.  
**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

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**Effective date :** 10.24.2014

**Copper Sulfate, 1.0M**

**SECTION 15: Regulatory information**

**United States (USA)**

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

Acute

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

19004-19-4 N100 Copper Compounds.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

7758-99-8 Cupric sulfate pentahydrate 10 lbs.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are 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:** 2-0-0

**HMIS:** 2-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Copper Sulfate, 1.0M**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cupric Nitrate 0.1M**

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

**Product name:** Cupric Nitrate 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMCU2401-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 19004-19-4	Cupric Nitrate	2.33 %
CAS 7732-18-5	Deionized Water	97.68 %
		Percentages are by weight

**SECTION 4: First aid measures**

**Description of first aid measures**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cupric Nitrate 0.1M**

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Cupric Nitrate 0.1M**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

19004-19-4, Cupric Nitrate, ACGIH TLV: 0.02 mg/m<sup>3</sup> (Cu).

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, blue liquid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	approx 1.0 - 1.2
<b>Melting/Freezing point:</b>	approx 0 °C (32 °F)	<b>Solubilities:</b>	Infinite.
<b>Boiling point/Boiling range:</b>	approx 100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cupric Nitrate 0.1M**

<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong oxidizing agents.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and



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**Cupric Nitrate 0.1M**

local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

19004-19-4 N100 Copper Compounds.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cupric Nitrate 0.1M**

**Canada**

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

All ingredients are 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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cobalt Nitrate 0.1M**

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

**Product name:** Cobalt Nitrate 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMCN8500-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Rinse mouth.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 10026-22-9	Cobalt (II) nitrate hexahydrate	2.91 %
CAS 7732-18-5	Deionized Water	97.09 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cobalt Nitrate 0.1M**

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cobalt Nitrate 0.1M**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

10141-05-6, Cobalt (II) nitrate hexahydrate, ACGIH TLV: 0.02 mg/m<sup>3</sup>.  
10141-05-6, Cobalt (II) nitrate hexahydrate, OSHA PEL: 0.1mg/m<sup>3</sup>.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, pink liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	0 Vol % 0 Vol %
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	2.3 kPa (@ 20°C) or 23 hPa (17 mm Hg) at 20 °C (68 °F)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.62 (Air = 1)
<b>pH-value:</b>	7 [Neutral] (1% soln/water)	<b>Relative density:</b>	1 (Water = 1)
<b>Melting/Freezing point:</b>	0 °C (32 °F)	<b>Solubilities:</b>	Soluble.
<b>Boiling point/Boiling range:</b>	100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cobalt Nitrate 0.1M**

<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: 0.952 mPas at 20 °C (68 °F)
<b>Density at 20°C:</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Cobalt Nitrate 0.1M**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

10026-22-9 Cobalt Nitrate - not listed TSCA: not listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Cobalt Nitrate 0.1M**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Canada**

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

10026-22-9 Cobalt Nitrate - not listed DSL: not 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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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



**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Calcium Nitrate,0.1M**

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

**Product name:** Calcium Nitrate,0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMCN3580-B

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
Hanover, PA 17331  
1-717-632-1291

**Supplier Details:**

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

**Emergency telephone number:**

**ChemTel: (24-hour) (US and Canada)**  
1-(800)-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

<b>Ingredients:</b>		
CAS 13477-34-4	Calcium Nitrate, ACS	2.36 %
CAS 7732-18-5	Deionized Water	97.64 %
Percentages are by weight		

**SECTION 4: First aid measures**

**Description of first aid measures**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Calcium Nitrate,0.1M**

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 10.24.2014

**Calcium Nitrate,0.1M**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



**Control parameters:**

No applicable occupational exposure limits.

**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:**

Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.

**Protection of skin:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	0 Vol % 0 Vol %
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	2.3 kPa (@ 20°C) or 23 hPa (17 mm Hg) at 20 °C (68 °F)
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	0.62 (Air = 1)
<b>pH-value:</b>	7 [Neutral] (1% soln/water)	<b>Relative density:</b>	1 (Water = 1)
<b>Melting/Freezing point:</b>	0 °C (32 °F)	<b>Solubilities:</b>	None
<b>Boiling point/Boiling range:</b>	100°C (212°F)	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Calcium Nitrate,0.1M**

<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: 0.952 mPas at 20 °C (68 °F)
<b>Density at 20°C:</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal) at 20 °C (68 °F)		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** No additional information.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Calcium Nitrate,0.1M**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Calcium Nitrate,0.1M**

None of the ingredients are listed.

**Canada**

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

All ingredients are 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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Aluminum Nitrate 0.1M**

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

**Product name:** Aluminum Nitrate 0.1M

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** KEMAL5250-B

**Recommended uses of the product and restrictions on use:** Laboratory

**Manufacturer Details:**

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

**Supplier Details:**

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

**Emergency telephone number:**

Emergency Telephone No.: 800-255-3924

**SECTION 2: Hazards identification**

**Classification of the substance or mixture:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Do not eat, drink or smoke when using this product.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7784-27-2	Aluminum Nitrate	3.75 %
CAS 7732-18-5	Deionized Water	96.25 %
		Percentages are by weight

**SECTION 4: First aid measures**

**Description of first aid measures**

**After inhalation:**

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Aluminum Nitrate 0.1M**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Irritation. Nausea. Headache. Shortness of breath.

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. 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:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat,



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**Aluminum Nitrate 0.1M**

drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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



<b>Control parameters:</b>	No applicable occupational exposure limits.
<b>Appropriate engineering controls:</b>	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.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	Soluble in cold water.
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not applicable	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Aluminum Nitrate 0.1M**

<b>Flammability (solid, gaseous):</b>	Not applicable	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:** None

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:** None

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases.

**Incompatible materials:**

Strong acids. Strong bases.

**Hazardous decomposition products:**

Carbon oxides (CO, CO<sub>2</sub>).

**SECTION 11: Toxicological information**

**Acute Toxicity:** None

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:** No additional information.

**Persistence and degradability:**

Readily degradable in the environment.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:**

Aqueous solution has high mobility in soil.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and

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**Aluminum Nitrate 0.1M**

local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

None of the ingredients are listed.

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

7784-27-2 Aluminum Nitrate.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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.

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 10.24.2014

**Aluminum Nitrate 0.1M**

**Canada**

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

All ingredients are 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:** 0-0-0

**HMIS:** 0-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.02.2015

**Aluminum Strip**

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

**Product name:** Aluminum Strip

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** AL-5002-S

**Recommended uses of the product and restrictions on use:**

**Manufacturer Details:**

AquaPhoenix Scientific, Inc.  
9 Barnhart Drive  
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:** Not classified for physical or health hazards under GHS.

**Signal word:** None

**Hazard statements:** None

**Precautionary statements:**

Read label before use.

**Other Non-GHS Classification:** None

**SECTION 3: Composition/information on ingredients**

**Ingredients:**

Ingredients:		
CAS 7429-90-5	Aluminum	100 %
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. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse thoroughly. Seek medical attention if irritation, discomfort or vomiting persists.

**After eye contact:**

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according to 29CFR1910/1200 and GHS Rev. 3

**Effective date :** 12.02.2015

**Aluminum Strip**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Seek medical attention if irritation, discomfort or vomiting persists.

**Most important symptoms and effects, both acute and delayed:** None

**Indication of any immediate medical attention and special treatment needed:**

If seeking medical attention, provide SDS document to physician.

**SECTION 5: Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Smother with suitable dry powder for extinction.

**Unsuitable extinguishing agents:**

Do not use water.

**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors.

**Advice for firefighters:**

**Protective equipment:**

Wear self-contained breathing apparatus for firefighting if necessary.

**Additional information (precautions):**

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway.

**Methods and material for containment and cleaning up:**

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.

**Reference to other sections:** None

**SECTION 7: Handling and storage**

**Precautions for safe handling:**

Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. Avoid dust formation.

**Conditions for safe storage, including any incompatibilities:**

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well sealed containers. Keep container tightly closed.

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according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.02.2015

**Aluminum Strip**

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



<b>Control parameters:</b>	7429-90-5, Aluminum, NIOSH REL - TWA 10 mg/m <sup>3</sup> . 7429-90-5, Aluminum, OSHA PEL- TWA: 15 mg/m <sup>3</sup> .
<b>Appropriate engineering controls:</b>	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.
<b>Respiratory protection:</b>	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. For spills, respiratory protection may be advisable.
<b>Protection of skin:</b>	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
<b>Eye protection:</b>	Safety glasses with side shields or goggles.
<b>General hygienic measures:</b>	The usual precautionary measures are to be adhered to when handling chemicals. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Silver-gray solid	<b>Explosion limit lower:</b>	Not determined
		<b>Explosion limit upper:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	2.7 g/cm <sup>3</sup>
<b>Melting/Freezing point:</b>	660°C, 1220°F	<b>Solubilities:</b>	Insoluble in water.
<b>Boiling point/Boiling range:</b>	2327°C, 4221°F	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined
<b>Density at 20°C:</b>	Not determined		

**SECTION 10: Stability and reactivity**

**Reactivity:**

Corrodes in contact with acids and other metals.

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**Aluminum Strip**

**Chemical stability:**

Product is stable.

**Possible hazardous reactions:**

Combustible solid, finely divided dust is easily ignited; may cause explosions.

**Conditions to avoid:**

Store away from oxidizing agents, strong acids or bases. Air and moisture sensitive.

**Incompatible materials:**

Strong acids. Strong oxidizing agents. Halogenated hydrocarbons.

**Hazardous decomposition products:**

Aluminum oxide.

**SECTION 11: Toxicological information**

**Acute Toxicity:**

**Oral:**

LD 50 > 15900 mg/kg (rat) bw.

**Chronic Toxicity:** No additional information.

**Skin corrosion/irritation:** No additional information.

**Serious eye damage/irritation:** No additional information.

**Respiratory or skin sensitization:** No additional information.

**Carcinogenicity:** No additional information.

**Germ cell mutagenicity:** No additional information.

**Reproductive Toxicity:** No additional information.

**STOT-single and repeated exposure:** No additional information.

**Additional toxicological information:** No additional information.

**SECTION 12: Ecological information**

**Ecotoxicity:**

Fish: Ctenopharyngodon idella (Grass carp, white amur), LC 50: 260 ug/L/96hr.

Crustacea: Daphnia magna (Water flea), LC 50: 2.6 mg/L/24hr.

Fish: Oncorhynchus mykiss (Rainbow trout), LC 50: 120 ug/L/96hr; static.

**Persistence and degradability:** No additional information.

**Bioaccumulative potential:** No additional information.

**Mobility in soil:** No additional information.

**Other adverse effects:** No additional information.

**SECTION 13: Disposal considerations**

**Waste disposal recommendations:**

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.



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**SECTION 14: Transport information**

**US DOT**

**UN Number:**

ADR, ADN, DOT, IMDG, IATA

Not Regulated.

**Limited Quantity Exception:**

None

**Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**Non Bulk:**

**RQ (if applicable):** None

**Proper shipping Name:** Not Regulated.

**Hazard Class:** None

**Packing Group:** Not Regulated.

**Marine Pollutant (if applicable):** No additional information.

**Comments:** None

**SECTION 15: Regulatory information**

**United States (USA)**

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

Reactive

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

None of the ingredients are listed.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

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

None of the ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**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) :**

All ingredients are listed.

**Safety Data Sheet**  
according to 29CFR1910/1200 and GHS Rev. 3

**Effective date** : 12.02.2015

**Aluminum Strip**

**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:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:**

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