

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Nital Solution**Manufacturer/Supplier Article number:** NI2010SS**Recommended uses of the product and restrictions on use:** Laboratory chemicals**Manufacturer Details:**

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

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

+1(800)255-3924

+1(813)248-0585 (International)

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

Oxidizing liquids, category 3

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

Flammable liquids, category 2

Ox. liq. 3.

Skin corrosion/irritation - Skin Corr. 1B.

Eye Damage 1.

Flam. Liq. 2: H225.

Signal word: Danger**Hazard statements:**

May intensify fire; oxidizer.

Highly flammable liquid and vapour.

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 container tightly closed.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution**

Wear protective gloves/protective clothing/eye protection/face protection.
 Use explosion-proof electrical/ventilating/light/equipment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Do not breathe dust/fume/gas/mist/vapors/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.
 Wash skin thoroughly after handling.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 In case of fire, use agents recommended in section 5 for extinction.
 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.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 Store locked up.
 Store in a well ventilated place. Keep cool.
 Dispose of contents and container as instructed in Section 13.

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

Ingredients:		
CAS 7697-37-2	Nitric Acid	17.536 %
CAS 64-17-5	Ethanol	82.464 %
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.

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution****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. DO NOT use mouth-to-mouth resuscitation without a barrier device to prevent responder from receiving burns.

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

If in laboratory setting, follow laboratory fire suppression procedures. Suitable agents for Class B fire (flammable gases/liquids) include carbon dioxide (CO₂), dry chemical, or foam. Water, if immiscible with burning liquid and floats on its surface to prevent escape of vapor to atmosphere. Water, if flammable substance is soluble in water, as it acts to reduce rate of vaporization of flammable component. Alcohol-resistant aqueous film-forming foam for polar solvents.

Unsuitable extinguishing agents:

Water.

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Nitrogen oxides (NO_x). Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Vapors may form explosive mixtures with air. Moderate explosion hazard. Dangerous fire hazard when exposed to heat, sparks and open flames.

Advice for firefighters:**Protective equipment:**

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

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. Keep away from heat, sparks, open flame, hot surfaces, or ignition sources. Use non-sparking equipment/tools. Ground/bond containers. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. 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. Use non-sparking equipment/tools. Stop the spill, if possible.

Reference to other sections: None**SECTION 7: Handling and storage****Precautions for safe handling:**

Prevent formation of aerosols. Nital (nitric acid and alcohols) should be used in concentrations no greater than 10% nitric acid by volume. Follow good hygiene procedures when handling chemical materials. Do not eat,

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution**

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. Use non-sparking equipment/tools. Ground/bond containers.

Conditions for safe storage, including any incompatibilities:

Store in a cool location. Store locked up. Store in Flammables cabinet or designated area without combustible materials (cardboard, cloth, paper, etc.). Storage area should be vented or well-ventilated. Nitric acid and alcohol solution can generate fumes while sitting. Keep from freezing or physical damage. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. 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**Control parameters:**

7697-37-2, Nitric Acid, ACGIH TLV: 5.2 mg/m³.
 7697-37-2, Nitric acid, OSHA PEL: 5 mg/m³.
 7697-37-2, Nitric Acid, NIOSH 4 ppm STEL; 10 mg/m³ STEL.
 7697-37-2, Nitric Acid, NIOSH 2 ppm TWA; 5 mg/m³ TWA.
 7697-37-2, Nitric Acid, ACGIH 4 ppm STEL.
 7697-37-2, Nitric Acid, ACGIH 2 ppm TWA.
 64-17-5, Ethanol, ACGIH: 1000 ppm STEL.
 64-17-5, Ethanol, NIOSH: 1000 ppm TWA; 1900 mg/m³ TWA.
 64-17-5, Ethanol, NIOSH: 3300 ppm IDLH (10% LEL).

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 fume hood designed for hazardous chemicals with an average face velocity of 100 feet per minute or greater. Local/general exhaust is recommended.

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. Wear protective clothing. Wear a face shield to protect the face and eyes.

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015

Nital Solution			
Appearance (physical state, color):	Clear, colorless liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined
Odor:	Alcohol	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	0.8 - 0.9
Melting/Freezing point:	- 110 C	Solubilities:	Soluble.
Boiling point/Boiling range:	82 C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	>1	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		

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

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.

Possible hazardous reactions:

Oxidizer. When nitric acid is combined with flammable solvents such as alcohols in a concentration greater than 10%, a highly explosive mixture forms, due to the rapid formation of nitrogen dioxide gas (NO₂). If a (10%) nitric acid solution sits for a long time, the alcohol can evaporate over time, thus increasing the nitric acid to a critical concentration. Contact with combustible materials may cause fire.

Conditions to avoid:

excess heat. combustible materials. Incompatible Materials. Lengthy storage. Ignition source, or Flame.

Incompatible materials:

Strong oxidizers, heat, sparks, open flames, platinum, sodium, bromine pentafluoride, potassium dioxide, acetyl bromide, acetyl chloride, metallic powder, hydrogen sulfide, turpentines, carbides, and combustible organics.

Hazardous decomposition products:

Oxides of carbon, acrid and irritating fumes. Toxic fumes of nitrogen oxides and hydrogen nitrates.

SECTION 11: Toxicological information**Acute Toxicity:****Dermal:**

LD-50 15800 mg/kg (rabbit).

Chronic Toxicity: No additional information.

Skin corrosion/irritation:

Rabbit: Corrosive.

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution****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:**

Freshwater Fish, 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L.

Freshwater Fish, 96-Hr LC50 Pimephales promelas: > 100 mg/L.

Freshwater Fish, 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L.

Water Flea., 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L.

Water Flea., 48 Hr EC50 Daphnia magna: 2 mg/L.

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. For disposal, dilute nitric acid-alcohol solution with 2 L of water per 500 ml of nitric acid-alcohol solution and store in an appropriate waste container. Be prompt about arranging for waste pickup of nitric acid solutions.

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

ADR, ADN, DOT, IMDG, IATA

2924

Limited Quantity Exception:

None

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution****Bulk:****RQ (if applicable):** None**Proper shipping Name:** Flammable liquids, corrosive, n.o.s. (Ethanol, [Synasol], nitric acid).**Hazard Class:** 3, 8**Packing Group:** I.**Marine Pollutant (if applicable):** No additional information.**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Flammable liquids, corrosive, n.o.s. (Ethanol, [Synasol], nitric acid).**Hazard Class:** 3, 8**Packing Group:** I.**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, Fire, Reactive

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:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

64-17-5 Ethanol.

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

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.21.2015**Nital Solution**

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: 2-0-2**HMIS:** 2-0-2**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).