Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064 (800) 955-1177
Emergency Number: (800) 255-3924

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: S25363A
Product Identity: Universal Indicator Solution

Chemical Family: Not Applicable
Synonyms: Universal pH Indicator.
Recommended Use: Laboratory chemicals

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

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Section 2 – Hazard Identification

Emergency Overview: Warning! Flammable vapor and liquid. May cause irritation of the respiratory tract. Repeated/prolonged exposure may cause defatting of the skin with irritation, dryness and cracking. May cause kidney damage. May form explosive peroxides. May cause severe eye irritation and injury. May cause digestive tract irritation.
Appearance: Clear green liquid **Odor:** Alcohol-like
Target Organs: Kidneys, heart, central nervous system, liver.
Potential Health Effects/ Routes of Exposure:
Eye: Produces irritation. Vapors may cause irritation.
Skin: May cause skin sensitization. Repeated/prolonged exposure may cause defatting of the skin with irritation, dryness and cracking.
Ingestion: May cause central nervous system depression, kidney damage, and liver damage. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation.
Chronic Effect / Carcinogenicity: May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

Section 3 – Composition, Information on Ingredients

Ethyl Alcohol CAS# 64-17-5, 60%
Methyl Orange Na Salt, CAS# 547-58-0, <0.06%
Phenolphthalein, disodium salt CAS# 518-51-4, <0.2% w/v
Methyl Red, Sodium Salt, CAS# 845-10-3<0.1% w/v
Bromothymol Blue, Sodium Salt, CAS# 34722-90-2, <0.2% w/v
Water, purified, CAS# 7732-18-5, >40% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically. Urine acetone test may be helpful.

Section 5 – Fire Fighting Measures

Flash Point: 23.89 deg C **Autoignition Temperature** Not available
Explosion Limits Upper 12.0 vol % **Lower** 2.0 vol %
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.
Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: Containers can build up pressure if exposed to heat and/or fire. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.
Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water to keep surrounding containers cool.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge May be ignited by sparks.
Specific Hazards Arising from the Chemical: No information available
NFPA Rating: (estimated) Health: 2; Flammable: 3; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.
Environmental Precautions Not relevant considering the small amounts used.
Methods for Containment and Clean Up Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 – Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep away from heat and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

Section 8 – Exposure Controls, Personal Protection

Ethyl Alcohol CAS# 64-17-5, ACGIH TLV: 1900 mg/m3, OSHA PEL: 1900 mg/m3
Methyl Orange Na Salt, CAS# 547-58-0ACGIH TLV: NA OSHA PEL: NA
Phenolphthalein, disodium salt, CAS# 518-51-4, CGIH TLV: NA, OSHA PEL: NA

Methyl Red, Sodium Salt, CAS# 845-10-3, ACGIH TLV: NA, OSHA PEL: NA
Bromothymol Blue, Sodium Salt, CAS# 34722-90-2, ACGIH TLV: NA, OSHA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA

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

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear green liquid
Odor: Alcohol-like
Boiling Point: 80C
Melting Point: No information available
Vapor Density: 1.3
Evaporation Rate: >1 (ether=1)
pH: Not available
Flammability: No Information Available
Solubility: Soluble in water
Relative Density: No Information Available
% Volatility: No Information Available
Specific Gravity: 0.93
Vapor Pressure: No information available
Flash Point: Not Applicable
Coefficient of water/oil distribution: Not Available
Odor Threshold: Not Available
Decomposition Temperature: No Information Available
Partition Coefficient n-octanol/water: No data available
Molecular Weight: No information available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: Strong oxidizing agents, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat, oxidizers.
Hazardous Decomposition Products: Oxides of carbon irritating and toxic fumes and gases..
Hazardous Polymerization: Does not occur
Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2
LD50 orl-rat: 7060mg/kg (ethyl alcohol) LC50 inhalation-rat: 20000 ppm/10H (ethyl alcohol)
Irritation: No Information Available
Toxicologically Synergistic: No Information Available
Chronic Exposure
Carcinogenicity Phenolphthalein is in California.
Sensitization No information available.
Mutagenic Effects CAS# 64-17-5: DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).
Reproductive Effects CAS# 64-17-5: Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).
Developmental Effects (Immediate/Delayed) Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".
Teratogenicity CAS# 64-17-5: Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.
Other Adverse Effects No Information Available.

Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3□CFish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified)Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test CAS# 64-17-5: When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.
Persistence and Degradability: CAS# 64-17-5: When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant. **Mobility:** No Information Available
Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14 – Transport Information

DOT – UN1170, Ethanol Solution, 3, II

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

OSHA Status: This chemical is not considered hazardous by OSHA.
Canada DSL: This chemical is on Canada's DSL.
TSCA: The components of this solution are not listed on the TSCA Inventory
SARA Title III Section 313: No chemicals are reportable.
RCRA Status: Not Applicable
CERCLA Reportable Quantity: Not applicable,
WHMIS: Not available.
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

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