

Material Safety Data Sheet

Kit Cover Page

ASIN: B08JSHTSQR

LISTING TITLE: U.S. Pool Supply 6 Bottle Refill Solution Pack for Premium 5-Way Swimming Pool & Spa Test Kit - Replacement Indicator Bottles, Test Water for pH, Chlorine, Bromine, Alkalinity, Acid Demand - Chemicals

LISTING BRAND NAME: U.S. Pool Supply

COMPONENTS FOR REVIEW BRAND NAME: U.S. Pool Supply

KIT COMPONENTS:

- 1) ALK-10 (Sodium thiosulfate pentahydrate - Pages 2-8
- 2) ALK-20 (Bromophenol Blue) – Pages 9-15
- 3) ALK-30 (Sulfuric Acid) – Pages 16-24
- 4) AD-40 (Sulfuric Acid) – Pages 25-34
- 5) Phenol-Red (Phenol Red) – Pages 35-42
- 6) OTO-50 (o-tolidine solution) – Pages 43-49

Material Safety Data Sheet

Sodium thiosulfate pentahydrate, FREE ACID MSDS

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co., Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

1. Product Identification

Synonyms: Sodium thiosulfate, pentahydrate; thiosulfuric acid, disodium salt, pentahydrate

CAS No.: 7772-98-7 (Anhydrous) 10102-17-7 (Pentahydrate)

Molecular Weight: 248.17

Chemical Formula: Na₂S₂O₃·5H₂O

Product Codes:

J.T. Baker: 3945, 3946, 3951

Mallinckrodt: 7763, 7802, 8100

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Thiosulfate	7772-98-7	5%	
Water	7732-18-5	95%	

3. Hazards Identification

Emergency Overview

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION

TO SKIN, EYES, AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 0 - None
Reactivity Rating: 1 - Slight
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:
May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.
Ingestion:
Low level of toxicity by ingestion. Diarrhea may occur by ingestion of large quantities.
Skin Contact:
Irritation may occur from prolonged skin contact.
Eye Contact:
Contact may cause mechanical irritation.
Chronic Exposure:
Chronic exposure may cause skin effects.
Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.
Ingestion:
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
Skin Contact:
Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Monoclinic, colorless crystals.

Odor:

Odorless.

Solubility:

79g/100 ml water @ 4C (39F)

Density:

1.75

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

> 100C (> 212F)

Melting Point:

48C (118F) Loses water @ 100C (212F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Stability limited in solution.

Hazardous Decomposition Products:
Oxides of sulfur and hydrogen sulfide.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Sodium nitrate, halogens, and oxidizing agents. Reacts with acids to release sulfur dioxide.

Conditions to Avoid:
Incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Thi osulfate (7772-98-7)	No	No	None

12. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Sodium Thi osulfate (7772-98-7)              Yes  Yes   Yes    Yes
  
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-----\Chemical Inventory Status - Part 2\-----
                                     --Canada--
Ingredient                               Korea  DSL   NDSL  Phi l .
-----
Sodium Thi osulfate (7772-98-7)         Yes   Yes   No    Yes
  
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-----\Federal, State & International Regulations - Part 1\-----
                                     -SARA 302-  -----SARA 313-----
Ingredient                               RQ    TPQ    List  Chemical Catg.
-----
Sodium Thi osulfate (7772-98-7)         No    No     No    No
  
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-----\Federal, State & International Regulations - Part 2\-----
                                     -RCRA-      -TSCA-
Ingredient                               CERCLA      261.33      8(d)
-----
Sodium Thi osulfate (7772-98-7)         No          No          No
  
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Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0

Label Hazard Warning:

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Label First Aid:

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

Material Safety Data Sheet

Bromophenol Blue, FREE ACID MSDS

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co., Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

1. Product Identification

Synonyms: Bromophenol Blue;

CAS No. : 115-39-9

Molecular Weight: 669.96

Chemical Formula: $C_{19}H_9Br_4NaO_5S$

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Bromophenol Blue, Free Acid	115-39-9	0.1%	
Water	7732-18-5	99.9%	

3. Hazards Identification

Emergency Overview

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion:

Effects not determined. Large oral doses may cause irritation to the gastrointestinal tract.

Skin Contact:

May cause irritation with redness and pain.

Eye Contact:

May cause irritation, redness and pain.

Chronic Exposure:

Not determined.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual*

of *Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Tan to orange, light pink to purple or red crystalline powder.

Odor:

Slightly amine to odorless.

Solubility:

0.4g/100g water @ 20C (68F).

Specific Gravity:

No information found.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

279C (534F)

Melting Point:

273C (523F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Burning may produce bromines, sulfur oxides, carbon dioxide, and carbon monoxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizers.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Investigated as a mutagen.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Bromophenol Blue (115-39-9)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

Bromophenol Blue (115-39-9) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
Ingredient Korea DSL NDSL Phi I .

Bromophenol Blue (115-39-9) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
Ingredient -SARA 302- -SARA 313-
RQ TPQ List Chemical Catg.

Bromophenol Blue (115-39-9) No No No No

-----\Federal, State & International Regulations - Part 2\-----
Ingredient CERCLA -RCRA- -TSCA-
261.33 8(d)

Bromophenol Blue (115-39-9) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

Label Hazard Warning:

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

Material Safety Data Sheet

Sulfuric acid, FREE ACID MSDS

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co., Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

1. Product Identification

Synonyms: Sulfuric acid;

CAS No. : 7664-93-9

Molecular Weight: 98.0734

Chemical Formula: $C_{19}H_9Br_4NaO_5S$

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sulfuric acid, Free Acid	7664-93-9	0.2%	
Water	7732-18-5	99.8%	

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR CONTACTED WITH SKIN. HARMFUL IF INHALED. AFFECTS TEETH. WATER REACTIVE. CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER. Risk of cancer depends on duration and level of exposure.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 4 - Extreme (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:

Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact. Circulatory shock is often the immediate cause of death.

Skin Contact:

Corrosive. Symptoms of redness, pain, and severe burn can occur. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow skin contact or ingestion. Circulatory shock is often the immediate cause of death.

Eye Contact:

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. Can cause blindness.

Chronic Exposure:

Long-term exposure to mist or vapors may cause damage to teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion:

DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda. Call a physician immediately.

Eye Contact:

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

5. Fire Fighting Measures

Fire:

Concentrated material is a strong dehydrating agent. Reacts with organic materials and may cause ignition of finely divided materials on contact.

Explosion:

Contact with most metals causes formation of flammable and explosive hydrogen gas.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Do not use water on material. However, water spray may be used to keep fire exposed containers cool.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving this material. Stay away from sealed containers.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place

in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker NEUTRASORB[®] acid neutralizers are recommended for spills of this product.

7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, always add the acid to water; never add water to the acid. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Sulfuric Acid:

- OSHA Permissible Exposure Limit (PEL) -

1 mg/m³ (TWA)

- ACGIH Threshold Limit Value (TLV) -

0.2 mg/m³(T) (TWA) for sulfuric acid - A2 Suspected Human Carcinogen for sulfuric acid contained in strong inorganic mists.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge and

particulate filter (NIOSH type N100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P particulate filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear oily liquid.

Odor:

Odorless.

Solubility:

Miscible with water, liberates much heat.

Specific Gravity:

1.84 (98%), 1.40 (50%), 1.07 (10%)

pH:

1 N solution (ca. 5% w/w) = 0.3; 0.1 N solution (ca. 0.5% w/w) = 1.2; 0.01 N solution (ca. 0.05% w/w) = 2.1.

% Volatiles by volume @ 21C (70F):

No information found.

Boiling Point:

ca. 290C (ca. 554F) (decomposes at 340C)

Melting Point:

3C (100%), -32C (93%), -38C (78%), -64C (65%).

Vapor Density (Air=1):

3.4

Vapor Pressure (mm Hg):

1 @ 145.8C (295F)
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Concentrated solutions react violently with water, spattering and liberating heat.

Hazardous Decomposition Products:

Toxic fumes of oxides of sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas, and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Water, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals (yields hydrogen gas), strong oxidizing and reducing agents and many other reactive substances.

Conditions to Avoid:

Heat, moisture, incompatibles.

11. Toxicological Information

Toxicological Data:

Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m³/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen, reproductive effector.

Carcinogenicity:

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sulfuric Acid (7664-93-9)	No	No	None
Water (7732-18-5)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity:

LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified.

This material may be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: SULFURIC ACID (WITH MORE THAN 51% ACID)

Hazard Class: 8

UN/NA: UN1830

Packing Group: II

Information reported for product/size: 440LB

International (Water, I.M.O.)

Proper Shipping Name: SULFURIC ACID (WITH MORE THAN 51% ACID)

Hazard Class: 8
 UN/NA: UN1830
 Packing Group: II
 Information reported for product/size: 440LB

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Sulfuric Acid (7664-93-9)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phi l.
Sulfuric Acid (7664-93-9)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Sulfuric Acid (7664-93-9)	1000	1000	Yes	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8(d)
Sulfuric Acid (7664-93-9)	1000	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: Yes (Pure / Liquid)

Australian Hazchem Code: 2P
 Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 2 Other: Water reactive

Label Hazard Warning:

POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR CONTACTED WITH SKIN. HARMFUL IF INHALED. AFFECTS TEETH. WATER REACTIVE. CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER. Risk of cancer depends on duration and level of exposure.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe mist.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Do not contact with water.

Label First Aid:

In all cases call a physician immediately. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. Excess acid on skin can be neutralized with a 2% bicarbonate of soda solution. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Material Safety Data Sheet

Sulfuric acid, FREE ACID MSDS

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co., Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

1. Product Identification

Synonyms: Sulfuric acid;

CAS No. : 7664-93-9

Molecular Weight: 98.0734

Chemical Formula: $C_{19}H_9Br_4NaO_5S$

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
-----	-----	
-----	-----	
Sulfuric acid, Free Acid	7664-93-9	0.05%
Water	7732-18-5	99.95%

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR CONTACTED WITH SKIN. HARMFUL IF INHALED. AFFECTS TEETH. WATER REACTIVE. CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER. Risk of cancer

depends on duration and level of exposure.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 4 - Extreme (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:

Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact. Circulatory shock is often the immediate cause of death.

Skin Contact:

Corrosive. Symptoms of redness, pain, and severe burn can occur. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow skin contact or ingestion. Circulatory shock is often the immediate cause of death.

Eye Contact:

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. Can cause blindness.

Chronic Exposure:

Long-term exposure to mist or vapors may cause damage to teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion:

DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda. Call a physician immediately.

Eye Contact:

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

5. Fire Fighting Measures

Fire:

Concentrated material is a strong dehydrating agent. Reacts with organic materials and may cause ignition of finely divided materials on contact.

Explosion:

Contact with most metals causes formation of flammable and explosive hydrogen gas.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Do not use water on material. However, water spray may be used to keep fire exposed containers cool.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving this material. Stay away from sealed containers.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary

and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker NEUTRASORB[®] acid neutralizers are recommended for spills of this product.

7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, always add the acid to water; never add water to the acid. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Sulfuric Acid:

- OSHA Permissible Exposure Limit (PEL) -

1 mg/m³ (TWA)

- ACGIH Threshold Limit Value (TLV) -

0.2 mg/m³(T) (TWA) for sulfuric acid - A2 Suspected Human Carcinogen for sulfuric acid contained in strong inorganic mists.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge and particulate filter (NIOSH type N100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P particulate filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear oily liquid.

Odor:

Odorless.

Solubility:

Miscible with water, liberates much heat.

Specific Gravity:

1.84 (98%), 1.40 (50%), 1.07 (10%)

pH:

1 N solution (ca. 5% w/w) = 0.3; 0.1 N solution (ca. 0.5% w/w) = 1.2; 0.01 N solution (ca. 0.05% w/w) = 2.1.

% Volatiles by volume @ 21C (70F):

No information found.

Boiling Point:

ca. 290C (ca. 554F) (decomposes at 340C)

Melting Point:

3C (100%), -32C (93%), -38C (78%), -64C (65%).

Vapor Density (Air=1):
3.4
Vapor Pressure (mm Hg):
1 @ 145.8C (295F)
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Concentrated solutions react violently with water, spattering and liberating heat.

Hazardous Decomposition Products:

Toxic fumes of oxides of sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas, and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Water, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals (yields hydrogen gas), strong oxidizing and reducing agents and many other reactive substances.

Conditions to Avoid:

Heat, moisture, incompatibles.

11. Toxicological Information

Toxicological Data:

Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m³/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen, reproductive effector.

Carcinogenicity:

Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

-----\Cancer

Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
----- ----- Sulfuric Acid (7664-93-9)	No	No	
None			
Water (7732-18-5)	No	No	
None			

12. Ecological Information

Environmental Fate:

When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity:

LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified.

This material may be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: SULFURIC ACID (WITH MORE THAN 51% ACID)
 Hazard Class: 8
 UN/NA: UN1830
 Packing Group: II
 Information reported for product/size: 440LB

International (Water, I.M.O.)

Proper Shipping Name: SULFURIC ACID (WITH MORE THAN 51% ACID)
 Hazard Class: 8
 UN/NA: UN1830
 Packing Group: II
 Information reported for product/size: 440LB

15. Regulatory Information

-----\Chemical Inventory Status - Part
 1\-----

Ingredient	TSCA	EC	Japan
Australia			

Sulfuric Acid (7664-93-9)	Yes	Yes	Yes
Yes			
Water (7732-18-5)	Yes	Yes	Yes
Yes			

-----\Chemical Inventory Status - Part
 2\-----

Ingredient	Korea	DSL	NDSL
Phil.			

Sulfuric Acid (7664-93-9)	Yes	Yes	No
Yes			
Water (7732-18-5)	Yes	Yes	No
Yes			

-----\Federal, State & International Regulations - Part
 1\-----

313----- Ingredient Chemical Catg.	-SARA 302-		-----SARA
	RQ	TPQ	List
----- Sulfuric Acid (7664-93-9)	1000	1000	Yes
No			
Water (7732-18-5)	No	No	No
No			

-----\Federal, State & International Regulations - Part
2\-----

	-RCRA-		
-TSCA- Ingredient 8(d)	CERCLA	261.33	
----- Sulfuric Acid (7664-93-9)	1000	No	No
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: Yes (Pure / Liquid)

Australian Hazchem Code: 2P
Poison Schedule: None allocated.
WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 2 Other: Water reactive

Label Hazard Warning:

POISON! DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR CONTACTED WITH SKIN. HARMFUL IF

INHALED. AFFECTS TEETH. WATER REACTIVE. CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER. Risk of cancer depends on duration and level of exposure.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe mist.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Do not contact with water.

Label First Aid:

In all cases call a physician immediately. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. Excess acid on skin can be neutralized with a 2% bicarbonate of soda solution. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Material Safety Data Sheet

PHENOL RED, FREE ACID MSDS

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co., Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

1. Product Identification

Synonyms: Phenol red; phenol sulfonphthal ein; 4, 4; -(3H-2, 1-benzoxathi ol -3-yl idene) bis-phenol , S,S-dioxide.

CAS No.: 143-74-8

Molecular Weight: 354.38

Chemical Formula: C₁₉H₁₄O₅S

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Phenol Red, Free Acid	143-74-8	0.03%	
Water	7732-18-5	99.97%	

3. Hazards Identification

Emergency Overview

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 1 - Slight
Reactivity Rating: 1 - Slight
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT
Storage Color Code: Orange (General Storage)

Potential Health Effects

Information on the human health effects from exposure to this substance is limited.

Inhalation:

May cause irritation to respiratory tract resulting in coughing and sneezing.

Ingestion:

Ingestion effects have not been studied completely but may exhibit symptoms similar to phenolphthalein, such as an itching skin rash. May be a strong laxative.

Skin Contact:

May cause irritation with redness and pain.

Eye Contact:

May cause irritation and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Call a physician if irritation persists.

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Bright red, crystalline powder.

Odor:

Odorless.

Solubility:

Slightly soluble in water.

Specific Gravity:

No information found.

pH: 8.0

No information found.

Boiling Point:

No information found.

Melting Point:

No information found.

Vapor Density (Air=1):

No information found.
Vapor Pressure (mm Hg):
No information found.
Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:
Burning may produce carbon monoxide, carbon dioxide, sulfur oxides.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Strong oxidizers.
Conditions to Avoid:
Incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.
Investigated as a mutagen..

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Phenol Red, Free Acid (143-74-8)	No	No	None

12. Ecological Information

Environmental Fate:
When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is not expected to evaporate significantly.
Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Phenol Red, Free Acid (143-74-8)             Yes  Yes  Yes    Yes
  
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-----\Chemical Inventory Status - Part 2\-----
                                     --Canada--
Ingredient                             Korea  DSL  NDSL  Phil.
-----
Phenol Red, Free Acid (143-74-8)       Yes   Yes  No    Yes
  
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-----\Federal, State & International Regulations - Part 1\-----
                                     -SARA 302-  -----SARA 313-----
Ingredient                             RQ    TPQ    List  Chemical Catg.
-----
Phenol Red, Free Acid (143-74-8)       No    No    No    No
  
```

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-----\Federal, State & International Regulations - Part 2\-----
                                     -RCRA-    -TSCA-
Ingredient                             CERCLA    261.33    8(d)
-----
Phenol Red, Free Acid (143-74-8)       No        No        No
  
```

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

Label Hazard Warning:

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

Wash thoroughly after handling.

Avoid contact with eyes, skin and clothing.

Keep container closed.

Use with adequate ventilation.

Avoid breathing dust.

Label First Aid:

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. If irritation develops call a physician.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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S a f e t y D a t a S h e e t
According to Directive 2001/58/CE

172417 o-Tolidine solution 0.095% RE

1. Identification of the substance/preparation and of the company or firm

1.1 Identification of the substance or preparation

Name:

o-Tolidine solution 0,095%

1.2 Use of the substance/preparation:

For laboratory utilisation, analysis, research and fine chemistry.

1.3 Identification of the company or firm:

Brand: U.S. Pool Supply

China Factory: Ningbo EnjoyWater Pool Products Co.,Ltd
6695 Rasha St, San Diego, CA. 92121

TEL: :858-909-2100

E-MAIL: support@tcpglobal.com

2. Component Composition/Information

Hydrochloric solution

o-Tolidine 0.095%

CAS [119-93-7] Formula:

$C_{14}H_{16}N_2$ M. =212, 29

EC number (EINECS): 204-358-0

EC index number: 612-041-00-7

R: 22

Hydrochloric Acid 35% dil. 1-5%

CAS [7647-01-0] Formula: HCl M. =36, 46

EC number (EINECS): 231-595-7

EC index number: 017-002-01-X

R: 34-37

water CAS 7732-18-5 98.9-94.9%

3. Identification of dangers

Harmful if swallowed.

4. First aid

- 4.1 General indications:
Never provide drink or induce vomiting in the event of loss of consciousness.
- 4.2 Inhaling:
Take the person out into the fresh air.
- 4.3 Contact with the skin:
Wash with plenty of water. Remove contaminated clothing.
- 4.4 Eyes:
Wash with plenty of water, keeping eyelids open. In the event of irritation, seek medical assistance.
- 4.5 Swallowing:
Drink large amounts of water. Induce vomiting. Seek immediate medical assistance.

5. Fire-fighting means

- 5.1 Suitable fire-extinguishing means:
As appropriate to the environment.
- 5.2 Fire-fighting means which must NOT be used:

- 5.3 Special risks:
Incombustible.
- 5.4 Protective equipment:

6. Measures to be taken in the event of accidental spillage

- 6.1 Individual precautions:
Do not inhale the fumes.
- 6.2 Precautions for care of the environment:
Do not allow it to enter the drainage system. Avoid

<p>pollution of the soil, water supplies and drains.</p> <p>6.3 Methods for collection/cleaning: Collect up with absorbent materials (Panreac General Absorbent, Kieselquhr, etc.) or, if none available, dry sand or earth, and deposit in waste containers for subsequent elimination in accordance with current legislation. Neutralize with diluted sodium hydroxide.</p>
<p>7. Handling and storage</p> <p>7.1 Handling: No special indications.</p> <p>7.2 Storage: Well sealed containers. In well ventilated premises. Atmospheric temperature. Restricted access, only authorized to technicians. Do not store in metal containers.</p>
<p>8. Staff exposure/protection controls</p> <p>8.1 Technical protective measures: -----</p> <p>8.2 Exposure limit control: VLA-ED: 5 ppm or 7,6 mg/m³ (HCl) VLA-EC: 10 ppm or 15 mg/m³ (HCl)</p> <p>8.3 Respiratory protection: In the event of fumes forming/aerosols, use suitable respiratory protection. Filter E. Filter P.</p> <p>8.4 Hand protection: Use suitable gloves</p> <p>8.5 Eye protection: Use suitable goggles.</p> <p>8.6 Individual hygiene measures: Remove contaminated clothing. Use suitable work clothing. Wash hands and face before breaks and when the job is done.</p> <p>8.7 Environmental exposure controls: Fulfill the commitments under local environmental protection legislation.</p>

The supplier of the protection equipment must specify the type of protection to be worn when handling the substance or preparation, including the type of material and the breakthrough time of the material, with regard to the amount and duration of exposure.

9. Physical and chemical properties

Appearance:

Transparent, colourless liquid.

Odour:

Odourless.

pH ~1

Density (20/4): 1,02

Solubility: Miscible with water

10. Stability and reactivity

10.1 Conditions which should be avoided:

10.2 Matter which should be avoided:

Metals. (Hydrogen is formed).

10.3 Hazardous decomposition products:

10.4 Complementary information:

11. Toxicological information

11.1 Acute toxicity:

No reported

11.2 Dangerous effects for health:

The data we have are insufficient for correct toxicological assessment. Based on the physico-chemical properties, the likely dangerous characteristics are:

If fumes inhaled: Irritations to the mucosae, breathing difficulties. Can cause: coughing.

Upon contact with the skin: Irritations.

Through contact with the eyes: Irritations.

If swallowed: Irritations of the mucosae in the mouth, throat, oesophagus and intestinal tract. Due to

absorption: Can cause: methemoglobinemia with headaches.
Other dangerous characteristics are not discarded.
Take the usual precautions for handling chemical products.

12. Environmental information

12.1 Mobility:

12.2 Ecotoxicity:

12.1.1 - EC₅₀ test (mg/l):

12.2.2 - Receptor medium:

Risk for the water environment = ----

Risk for the land environment = ----

12.2.3 - Observations:

Ecotoxic data not available.

12.3 Degradability:

12.3.1 - Test: -----

12.3.2 - Biotic degradation classification:

BOD₅/COD Biodegradability = -----

12.3.3 - Abiotic degradation depending on pH: -----

12.3.4 - Observations:

Data not available.

12.4 Accumulation:

12.4.1 - Test:

12.4.2 - Bioaccumulation:

Risk = -----

12.4.3 - Observations:

Data not available.

12.5 Other possible effects on the environment:

Do not allow it to enter soils or water channels.

Water-pollutant product.

13. Considerations regarding elimination

13.1 Substance or preparation:

In the European Union, there are no homogeneous standards established for elimination of chemical waste, which is waste of a special nature, and treatment and elimination of same is subject to the

domestic legislation in each country. In view of this, in each case, you should contact the competent authority or those companies legally authorized for elimination of waste.

2001/573/EC: Council Decision of 23 July 2001 amending Commission Decision 2000/532/EC as regards the list of wastes.

Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste.

13.2 Contaminated containers:

Contaminated containers and packaging of dangerous substances or preparations must be treated in the same manner as the actual products contained in them.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

14. Information concerning transport

15. Mandatory information

15.1 Labelling as per EC Directive

Symbols:

Danger indications: corrosive

Phrases R: 22 Harmful if swallowed.

Phrases S: 53-26-45 Avoid exposure-obtain special instructions before use. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

15.2 Specific provisions at Community level:

Directive 97/56/EC of the European Parliament and of the Council of 20 October 1997 amending for the 16th time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.

16. Other information

In respect of the previous review, changes have been made to the following sections: 3, 15.

Component Information:

o-Toluidine 0.095%

CAS [119-93-7] $C_{14}H_{16}N_2$ M. =212, 29
204-358-0 612-041-00-7

R22: Harmful if swallowed

Hydrochloric Acid 35% dil. 1-5%

CAS [7647-01-0] HCl M. =36, 46
231-595-7 017-002-01-X



R: 34-37

Causes burns. Irritating to respiratory system.

H₂O 98.9-94.9%

CAS [7732-18-5]

Review number and date: 2 21.12/2019

The information included in this Safety Data Sheet is based on our most up-to-date knowledge, and is solely intended to inform regarding aspects of safety; the properties and characteristics indicated herein are not guaranteed.