PURITAN PRODUCTS

Effective Date: 04/01/15
Replaces Revision: 01/01/13

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: PURE STRIP™ / Sulfuric Acid – Peroxymonosulfuric Acid Blend
Synonyms: None
Chemical Formula: Not applicable to mixtures
Recommended Use of the Chemical and Restrictions On Use: Industrial Reagent
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture:
Oxidizing liquids (Category 1)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 5)
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 3)

Risk and Safety Phrases:
R5: Heating may cause an explosion.
R8: Contact with combustible material may cause fire.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R35: Causes severe burns.
R36/37/38: Irritating to eyes, respiratory system and skin.
R49: May cause cancer by inhalation.

Label Elements:

Trade Name: PURE STRIP™

Signal Word: Danger

Hazard Statements:
H271: May cause fire or explosion; strong oxidizer.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H333: May be harmful if inhaled.
H402: Harmful to aquatic life.

Precautionary Statements:
P220: Keep / Store away from clothing / combustible materials.
P280: Wear protective gloves / protective clothing / eye protection/ face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor / physician.

3. Composition / Information on Ingredients

CAS Number: Not applicable to mixtures
EC Number: Not applicable to mixtures
Index Number: Not applicable to mixtures
Molecular Weight: Not applicable to mixtures

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Sulfuric Acid	7664-93-9	231-639-5	85 - 95%	Yes	Substance
Peroxymonosulfuric Acid	7722-86-3	231-766-6	4 - 5%	Yes	Substance
Hydrogen Peroxide	7722-84-1	231-765-0	< 1%	Yes	Substance
Water	7732-18-5	231-791-2	1 - 5%	No	Mixture

4. First-aid Measures

In all cases, immediately call a POISON CENTER or doctor/ physician.

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 plenty 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 face piece 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

Personal Precautions, Protective Equipment and Emergency Procedures: 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.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Contain and recover liquid when possible. Do not let product enter drains. 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.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool (< 25C), 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 (7664-93-9):
OSHA Permissible Exposure Limit (PEL) - 1 mg/m3 (TWA)
ACGIH Threshold Limit Value (TLV) - 0.2 mg/m3(T) (TWA)
A2 Suspected Human Carcinogen for sulfuric acid contained in strong inorganic mists
For Peroxymonosulfuric Acid (7722-86-3):
OSHA Permissible Exposure Limit (PEL) - 1 mg/m3 (TWA)
For Hydrogen Peroxide (7722-84-1):
OSHA Permissible Exposure Limit (PEL) - 1 ppm (TWA)

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 face piece 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 face piece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in Oxygen-deficient atmospheres.

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
Odor Threshold: Not determined
pH: 1.8
% Volatiles by volume @ 21C (70F): Not determined
Melting Point: No information found
Boiling Point / Boiling Range: ~ 290C (ca. 554F) (decomposes at 340C)
Flash Point: Not determined
Evaporation Rate (BuAC=1): Not determined
Flammability: Not determined
Upper / Lower Flammability or Explosive Limits: Not determined
Vapor Pressure (mm Hg): ~1 @ 145.8C (295F)
Vapor Density (Air=1): ~ 3.4
Relative Density: Not determined
Solubility: Miscible with water, liberates much heat.
Partition Coefficient: n-octanol / water: No data available
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage. Solutions react violently with water, spattering and liberating heat.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, moisture, incompatibles.

Incompatible Materials: 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.

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.

11. Toxicological Information

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.

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 disease may be more susceptible to the effects of this substance.

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.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Sulfuric Acid (7664-93-9)	No	No	None
Peroxymonosulfuric Acid (7722-86-3)	No	No	None
Hydrogen Peroxide (7722-84-1)	No	No	3
Water (7732-18-5)	No	No	None

Acute Toxicity:
Sulfuric Acid (7664-93-9):
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 effecter.
Peroxymonosulfuric Acid (7722-86-3): Similar toxicity expected as for Sulfuric Acid
Hydrogen Peroxide (7722-84-1): Oral LC50: 1518 mg/kg (rat)

12. Ecological Information

Ecotoxicity: This material is expected to be toxic to aquatic life.
Sulfuric Acid (7664-93-9):
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.

Persistence and Degradability: Expected to readily biodegrade. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Bioaccumulative Potential: No further relevant information available.

Mobility in Soil: When released into the soil, this material may leach into groundwater.

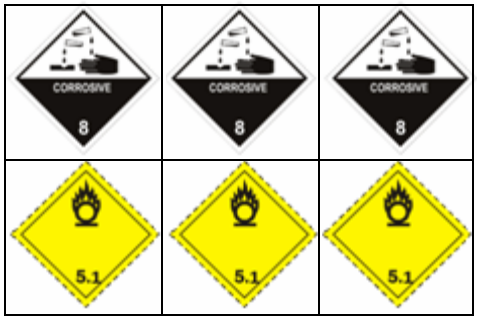
Other adverse effects: US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to 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

UN Number: UN3093
UN Proper Shipping Name: CORROSIVE LIQUIDS, OXIDIZING N.O.S. (Sulfuric Acid and Peroxymonosulfuric Acid)
Packing Group: II



DOT **IMDG** **IATA**

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 8, 5.1
Transport Hazard Class(es): 8, (5.1)

Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 8, (5.1)
Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 8, (5.1)

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Special Precautions for User: Warning: Corrosive Substances

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Sulfuric Acid (7664-93-9)	Yes	Yes	Yes	Yes
Peroxymonosulfuric Acid (7722-86-3)	Yes	Yes	Yes	Yes
Hydrogen Peroxide (7722-84-1)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Sulfuric Acid (7664-93-9)	Yes	Yes	No	Yes
Peroxymonosulfuric Acid (7722-86-3)	Yes	Yes	No	Yes
Hydrogen Peroxide (7722-84-1)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
Sulfuric Acid (7664-93-9)	1000	1000	Yes	No
Peroxymonosulfuric Acid (7722-86-3)	Yes	Yes	No	Yes
Hydrogen Peroxide (7722-84-1)	No	No	No	No
Water (7732-18-5)	No	No	No	No

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	**CERCLA**	**261.33**	**8(d)**
Sulfuric Acid (7664-93-9)	1000	No	No
Peroxymonosulfuric Acid (7722-86-3)	Yes	Yes	No
Hydrogen Peroxide (7722-84-1)	No	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**: Yes
Reactivity: Yes		Mixture / Liquid		

Australian Hazchem Code: 2P

Poison Schedule: None allocated

16. Other Information

Effective Date: 04/01/15 – Changed GHS02 symbol GHS03
Replaces Revision: 01/01/13 – GHS Compliant, 07/29/11– Initial Release

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