

**MATERIAL SAFETY DATA SHEET****PC - 7 Liquid****Section I. Chemical Product and Company Information**

<b>TRADE NAME</b>	Perfect Combo - 7 Liquid	<b>MSDS NUMBER</b>	128-2
<b>SYNONYM</b>	PC-7; sulfuric acid solution	<b>ISSUE DATE</b>	1/21/2011
<b>CHEMICAL NAME</b>	aminoacetic dihydrogensulfate	<b>24 HOUR EMERGENCY TELEPHONE NUMBER</b>	
<b>CHEMICAL FAMILY</b>	inorganic and organic acid	CHEMTREC: 1-800-424-9300	
<b>MATERIAL USES</b>	water treatment product, water acidifier.	Nonemergency: 1-888-302-0065	
<b>MANUFACTURER</b>	Prescription Agronomics, LLC. P.O. Box 366 Ipswich, SD 57451		
<b>DISTRIBUTOR</b>	Essential Water Solutions, Inc. 327 Hillcrest Drive Story City, IA 50248		

**Section II. Composition and Information on Ingredients**

<u>Ingredient</u>	<u>CAS No.</u>	<u>% by weight</u>	<u>Hazardous</u>
Sulfuric acid	7664-93-9	10 - 40 %	Yes
Glycine	56-40-6	1 - 5 %	No
Water	7732-18-5	50 - 80 %	No

**Section III. Hazards Identification**

<b>NFPA RATINGS</b>	Health: <b>3</b> Flammability: <b>0</b> Reactivity: <b>2</b> Special Hazard: <b>ACID</b>
<b>POTENTIAL ACUTE HEALTH EFFECTS</b>	Corrosive. May cause severe burns. May be harmful if inhaled or swallowed. Severe eye irritant. Contact may result in severe irritation or eye burns resulting in permanent damage. Contact with skin can cause redness, pain, and severe burn. Overexposure by inhalation may cause irritation and burning of the nose, throat, and respiratory tract. Corrosive if swallowed. May cause severe irritation or burns to the mouth, throat, and digestive tract. May aggravate existing skin or respiratory disorders.
<b>POTENTIAL CHRONIC HEALTH EFFECTS</b>	Prolonged or repeated overexposures by inhalation or skin or eye contact may result in severe irritation or corrosive effects. The mucous membranes, respiratory and the digestive systems are subject to irritation and corrosive effects from chronic exposures. Changes in pulmonary functions may occur, along with chronic bronchitis and emphysema. Erosion of dental enamel has been reported with chronic exposure of sulfuric acid concentrations of 12 to 35 mg/m <sup>3</sup> . Conjunctivitis is also a common finding from chronic exposures. Strong inorganic acid mists containing sulfuric acid can cause cancer. Risk of cancer depends on the duration and level of exposure.

**Section IV. First Aid Measures**

<b>INHALATION</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
<b>INGESTION</b>	DO NOT INDUCE VOMITTING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.
<b>SKIN CONTACT</b>	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 baking soda. Call a physician immediately.
<b>EYE CONTACT</b>	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.

**Section V. Fire Fighting Measures**

<b>FIRE</b>	Not flammable.
<b>EXPLOSION</b>	Not combustible. May react with incompatible metals to generate highly flammable and explosive hydrogen gas.
<b>FIRE FIGHTING MEDIA</b>	Use extinguishing media suitable for surrounding materials. Fire fighters should wear full protective clothing and NIOSH-approved self contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.
<b>SPECIAL REMARKS</b>	Container rupture may occur under fire conditions. Water spray may be used to keep fire exposed containers cool. Stay away from sealed containers. During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Dike and collect water used to fight fire for later treatment and disposal.

**Section VI. Accidental Release Measures**

Corrosive liquid. Observe protective equipment requirements. Stop leak if possible to do so without risk. Isolate area. Keep unnecessary and unprotected personnel from entering. Contain spill with dry earth or sand. Prevent

*continued on next page*

from entering sewage or drainage systems and bodies of water. Use appropriate equipment to recover as much spilled material as possible for use or disposal. Neutralize with alkaline material (soda ash, lime), then absorb with inert material (vermiculite, sand, earth), and place in a chemical waste container. U.S. regulations require reporting spills and releases to soil, water, and air in excess of reportable quantities. Ensure disposal complies with federal, state, and local regulations.

## Section VII. Handling and Storage

<b>HANDLING PRECAUTIONS</b>	Personnel handling this material should be well trained in the use of personal protective equipment, safe handling techniques, potential hazards, and first aid requirements. Do not breathe fumes or mists. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Keep away from incompatible materials. Wear chemical resistant gloves, a chemical resistant suit or apron, rubber boots, and chemical safety goggles plus a face shield. When using, do not eat, drink, or smoke. Ensure that an eyewash station and safety shower is near the place of use.
<b>STORAGE</b>	Will corrode incompatible metals. Polyethylene and polypropylene are acceptable materials of construction. Secondary containment is recommended where practical or required by law. Store in a cool, dry, ventilated area. Keep out of direct sunlight, away from heat and incompatible materials. Observe all warnings and precautions listed for the product.

## Section VIII. Exposure Controls/Personal Protection

<b>EXPOSURE LIMITS</b>	Airborne Exposure Limits for Sulfuric Acid - OSHA Permissible Exposure Limit 1 mg/m <sup>3</sup> - 8 hr TWA 3 mg/m <sup>3</sup> STEL - (15 min max / 8 hr shift)
<b>VENTILATION SYSTEM</b>	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 to contain emissions.
<b>PERSONAL PROTECTION</b>	Appropriate protective clothing should be chosen that will prevent any possibility of body contact. Use acid resistant rubber gloves, boots, and a chemical protective suit or apron. Eye and face protection ( safety goggles and a face shield ) should be worn. An emergency shower and eyewash should be provided. Wash off all contaminated chemical protective clothing with water. A NIOSH/MSHA approved dust and mist respirator may be used under conditions where airborne concentrations may exceed occupational exposure limits. A respiratory protection program that meets OSHA 29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant a respirator's use. For emergencies or instances where the exposure levels are not known, use a full face-piece positive-pressure air supplied respirator.

## Section IX. Physical and Chemical Properties

<b>APPEARANCE</b>	clear liquid	<b>MOLECULAR WEIGHT</b>	N/A
<b>ODOR</b>	faint acrid odor	<b>FLASH POINT</b>	N/A
<b>SOLUBILITY</b>	completely soluble in water	<b>FLAMMABILITY</b>	Non flammable
<b>SPECIFIC GRAVITY</b>	1.140 - 1.145 ( 9.53 lbs/gal )	<b>VAPOR PRESSURE</b>	N/A
<b>pH (1:1 solution)</b>	1 ( acidic )	<b>VAPOR DENSITY</b>	N/A
<b>BOILING POINT</b>	> 212 deg F		
<b>MELTING POINT</b>	15 deg F		

## Section X. Stability and Reactivity Data

<b>CONDITIONS TO AVOID</b>	Heat, moisture, and incompatibles. Prevent smoking, fires and other source of ignition because of a possible presence of hydrogen gas. Do not allow product to mix with any material unless the material is known to be compatible.
<b>INCOMPATIBLE MATERIALS</b>	Steam, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals (yields hydrogen gas), strong oxidising or reducing agents.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	Toxic fumes of oxides or sulfur when heated to decomposition. Will react with water or steam to produce toxic or corrosive fumes. Reacts with carbonates to generate carbon dioxide gas and with cyanides and sulfides to produce poisonous hydrogen cyanide and hydrogen sulfide respectively.

## Section XI. Toxicological Information

<b>TOXICOLOGICAL DATA</b>	Oral rat LD50: 2140 mg/kg; inhalation rat LC50: 510 mg/m <sup>3</sup> /2hr; standard Draize, eye rabbit, 250 ug (severe); investigated as a tumorigen, mutagen, reproductive effector.
<b>AQUATIC TOXICITY</b>	48 hr TLM in flounder is 100-300 ppm.
<b>ROUTES OF ENTRY</b>	Skin contact, inhalation, ingestion.

continued on next page

<b>ACUTE TOXICITY</b>	Exposure to high concentration mist causes irritation of eyes, respiratory tract, and skin. It may also cause teeth erosion, mouth soreness, or breathing difficulties. Direct contact may irritate the skin and mucous membranes and may cause irreparable corneal damage and blindness as well as permanent scarring of skin.		
<b>CHRONIC TOXICITY</b>	Repeated or prolonged exposure may cause skin irritation. Repeated prolonged exposure to mist may erode teeth, cause dermatitis, chronic irritation of eyes, mouth, and stomach and chronic inflammation of the nose, throat, and bronchial tubes.		
<b>CARCINOGENICITY</b>	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 misting sulfuric acid and not to sulfuric acid or sulfuric acid solutions. Inorganic acid mist is not generated under normal use of this product.		
	<u>Ingredient</u>	<u>NTP Carcinogen</u>	<u>IARC Category</u>
	Sulfuric Acid (7664-93-9)	No	None
	Glycine (56-40-6)	No	None
	Water (7732-18-5)	No	None

## Section XII. Ecological Information

<b>AQUATIC TOXICITY</b>	This material may be toxic to aquatic life: fish, daphnia, algae.
<b>BIODEGRADABILITY</b>	When released into the soil, this material may leach into the ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet and dry deposition.
<b>BIOACCUMULATION</b>	Not available
<b>MOBILITY</b>	Not available

## Section XIII. Disposal Considerations

<b>WASTE DISPOSAL OR RECYCLING</b>	Recover and place material in a suitable container for intended use or disposal. Ensure disposal complies with government requirements and local regulations. Container contents should be completely used and the containers rinsed prior to discarding. Rinsate should be treated as a corrosive material.
------------------------------------	--

## Section XIV. Transport Information

<b>SHIPPING NAME</b>	<b>Sulfuric acid</b> , with not more than 51% acid, solution
<b>HAZARD CLASS</b>	CLASS 8: Corrosive Liquid
<b>UN/NA ID</b>	UN 2796
<b>PACKING GROUP</b>	PG II

## Section XV. Other Regulatory Information

<b>OTHER REGULATIONS</b>	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)	
<b>OTHER CLASSIFICATIONS</b>	HCS (U.S.A.)	HCS CLASS: Corrosive liquid.
	DSCL (EEC)	R35 - Causes severe burns. Corrosive.
	WHMIS (Canada)	CLASS E: Corrosive liquid.

## Section XVI. Other Information

<b>NFPA RATINGS:</b>	Health: <b>3</b> Flammability: <b>0</b> Reactivity: <b>2</b> Specific Hazard: <b>ACID</b>
<b>LABEL HAZARD WARNING</b>	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. Cancer hazard. Strong inorganic mists containing sulfuric acid can cause cancer.
<b>LABEL PRECAUTIONS</b>	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. Keep locked up and out of reach of children.
<b>LABEL FIRST AID</b>	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 reuse. Excess acid on skin can be neutralized with a 2% baking soda solution. If swallowed, DO NOT INDUCE VOMITTING. 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.
<b>NOTICE TO READER</b>	Prescription Agronomics, LLC. provides the information in this MSDS in good faith. However, Prescription Agronomics, LLC. makes no representation as to its comprehensiveness or accuracy. This MSDS is intended, as a guide, for the appropriate precautionary handling of the material by a trained person using it. Individuals receiving this information must exercise their independent judgement in determining its appropriateness for a particular process. Prescription Agronomics, LLC. will not accept responsibility for damages resulting from use or reliance upon this information.