

**MATERIAL SAFETY DATA SHEET**

MSDS

**Sun Super Quest**

**Date-Issued:**03/17/2003  
**MSDS Ref. No:**ASUN23728b  
**Date-Revised:**03/21/2003  
**Revision No:**New MSDS

**1. PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** Sun Super Quest  
**GENERAL USE:** Prevents scale build-up.  
**CHEMICAL FAMILY:** Phosphonates

**MANUFACTURER**

Asepsis, Inc.  
 Sun  
 P.O. Box 1788  
 Suwanee, GA 30024-0973  
**Customer SERVICE:** (800)959-7946

**24 HR. EMERGENCY TELEPHONE NUMBERS**

**CHEMTREC (Transportation)** (800) 424-9300  
**Poison Control Center (Medical)** (877)800-5553

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Chemical Name</u>	<u>CAS#</u>	<u>Wt.%</u>
1-Hydroxyethylidene-1,1-diphosphonic acid	2809-21-4	58 - 62
Phosphonic Acid	13598-36-2	<4

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Clear, colorless liquid.

**IMMEDIATE CONCERNS:** DANGER: Corrosive. Causes eye burns. Causes respiratory tract irritation. Do not taste or swallow. Avoid contact with eyes, skin or clothing. Wear goggles or safety glasses and rubber gloves when handling this product. Avoid breathing mist and vapor. If product gets on clothing, remove and wash before reuse. Do not mix with other chemicals.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Causes eye burns. Do not get in eyes.

**SKIN:** No more than slightly irritating to skin.

**INGESTION:** No more than slightly toxic if swallowed.

**INHALATION:** Irritating to respiratory tract. Avoid breathing mist and vapor.

**CHRONIC:** There are no known chronic hazards.

**ROUTES OF ENTRY:** Skin Contact, Inhalation, Ingestion, Eye Contact.

**4. FIRST AID MEASURES**

**EYES:** If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Get medical attention immediately.

**SKIN:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention if irritation develops and persists.

**INGESTION:** If swallowed: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**INHALATION:** If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call poison control center or doctor for treatment advice.

## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** Not Flammable

**GENERAL HAZARD:** There are no unusual fire and explosion hazards known.

**EXTINGUISHING MEDIA:** Water spray, carbon dioxide, dry chemical, or foam.

**FIRE FIGHTING EQUIPMENT:** Firefighters should wear full protective clothing and self contained breathing apparatus (SCBA). Thoroughly decontaminate fire fighting equipment including all fire fighting wearing apparel after the incident.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of phosphorous, carbon and nitrogen may be formed.

## 6. ACCIDENTAL RELEASE MEASURES

**GENERAL PROCEDURES: STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Utilizing appropriate clothing and safety equipment, contain spill material. Keep spilled material out of drains or water courses. Cover the liquid with an inert absorbent. Using clean, dedicated equipment, sweep and scoop all spilled material, contaminated soil, and other contaminated material and place into clean dry plastic containers for disposal. Dispose of according to local, state and federal regulations. Neutralize washings with soda ash or lime. Flush spill area with waer.

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Avoid contact with eyes, skin or clothing. Avoid breathing mists or vapors.

**HANDLING:** Do not mix with other chemicals.

**STORAGE:** Keep this product in tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Do not reuse empty container, but place in trash collection.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

#### OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

		<u>EXPOSURE LIMITS</u>					
		<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>SUPPLIER OEL</u>	
		<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>	<u>ppm</u>	<u>mg/m<sup>3</sup></u>
1-Hydroxyethylidene-1,1-diphosphonic acid	<b>TWA</b>	N/E <sup>[1]</sup>		N/E			
Phosphonic Acid	<b>TWA</b>	[2]					

#### OSHA TABLE COMMENTS:

1. N/E = Not Established
2. Not Established

**ENGINEERING CONTROLS:** General room ventilation plus local exhaust should be used to minimize exposure to vapors.

#### PERSONAL PROTECTIVE EQUIPMENT:

**EYES AND FACE:** Wear goggles or safety glasses with side shields when handling this product.

**SKIN:** Wear rubber gloves when handling this product. Avoid contact with skin.

**RESPIRATORY:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**WORK HYGIENIC PRACTICES:** Wash thoroughly after handling. Remove and wash contaminated clothing before reuse.

---

**OTHER USE PRECAUTIONS:** Facilities storing or utilizing this material should be equipped with an eyewash and safety shower.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**ODOR:** Odorless

**APPEARANCE:** Clear

**COLOR:** Colorless

**pH:** <2.010 g/l @ 25C

**VAPOR PRESSURE:** Not Established

**VAPOR DENSITY:** Not Established

**BOILING POINT:** Not Established

**FREEZING POINT:** -25°C

**SOLUBILITY IN WATER:** Miscible in Water

**SPECIFIC GRAVITY:** 1.45 g/ml at 20°C

**VISCOSITY:** 46.0 mPa @ 20C; 20.2 mPa @ 40C; 10.3 mPa @ 60C; 5.0 mPa @ 90C

---

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** High temperature. Poor ventilation. Contamination.

**STABILITY:** This product is stable under normal conditions.

**POLYMERIZATION:** Hazardous polymerization will not occur under normal conditions.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of phosphorous, carbon, and nitrogen may be produced.

**INCOMPATIBLE MATERIALS:** Avoid direct contact with alkaline materials and reactive metals. Also avoid contact with other swimming pool/spa chemicals in their concentrated forms.

---

## 11. TOXICOLOGICAL INFORMATION

### ACUTE

**DERMAL LD<sub>50</sub>:** >7940 mg/kg of body weight in rabbits.

Toxicological information given is for the active ingredient.

**ORAL LD<sub>50</sub>:** 2400 mg/kg of body weight in rats

Toxicological information given is for the active ingredient.

**EYE EFFECTS:** This product is corrosive to eyes.

**SKIN EFFECTS:** This product is expected to be no more than slightly irritating to skin.

### CARCINOGENICITY:

This product is not listed as a carcinogen by IARC.

This product is not listed as a carcinogen by NTP.

This product is not listed as a carcinogen by OSHA.

**MUTAGENICITY:** Mutagenicity studies were negative.

---

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** This product may be toxic to fish and aquatic organisms. Keep product from entering waterways and watersheds.

### ECOTOXICOLOGICAL INFORMATION: Invertebrates:

Daphnia magna: 48 hour EC50 = 527 mg/l

Fish:

Rainbow Trout: 96 hour LC50 = 368 mg/l  
Bluegill Sunfish: 96 hour LC50 = 868 mg/l

Algae: 96 hour EC50 = 7.2 mg/l (Algal growth inhibition is due to ability of this product to complex materials not to product toxicity per se.)

**CHEMICAL FATE INFORMATION:**

Zahn-Wellens Dissolved Organic Carbon removed = 33% 28 d  
Modified OECD Screening theoretical CO2 evolution = 2% 70 d  
Modified SCAS Dissolved Organic Carbon removed = 90%  
Closed Bottle BOD30/COD = 5%  
Product degrades after acclimatization. Product is not expected to bioaccumulate.

---

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction or fire.

**PRODUCT DISPOSAL:** Disposal of unused, uncontaminated product is regulated according to local, state and federal regulations.

**EMPTY CONTAINER:** Do not reuse container, but place in trash collection. Rinse thoroughly before discarding in trash.

---

**14. TRANSPORT INFORMATION****DOT (DEPARTMENT OF TRANSPORTATION)**

**PROPER SHIPPING NAME:** Corrosive Liquids, Acidic, Organic, N.O.S. (Contains phosphonic acid)

**PRIMARY HAZARD CLASS/DIVISION:** 8

**UN/NA NUMBER:** 3265

**PACKING GROUP:** III

**OTHER SHIPPING INFORMATION:** Limited Quantity

---

**15. REGULATORY INFORMATION****UNITED STATES****SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****311/312 HAZARD CATEGORIES:**

**FIRE:** YES **PRESSURE GENERATING:** NO **REACTIVITY:** YES **ACUTE:** YES **CHRONIC:** NO

**313 REPORTABLE INGREDIENTS:** This product or its components are not listed.

**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**

**CERCLA REGULATORY:** This product or its components are not listed.

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

**TSCA REGULATORY:** This product or its components are not subject to export notification.

**TSCA STATUS:** This product or its components are listed on the TSCA Inventory.

**RCRA STATUS:** This product when discarded is a hazardous waste as that term is defined by 40 CFR 261. US EPA RCRA hazardous waste number: D002

**OSHA HAZARD COMM. RULE:** Product is hazardous by definition of the Hazardous Communication Standard.

**FIFRA (FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT):** This product is not a registered pesticide.

---

**16. OTHER INFORMATION**

**PREPARED BY:** Regulatory Affairs Department

**REVISION SUMMARY** New MSDS

## HMIS RATING

HEALTH:		3
FLAMMABILITY:		1
PHYSICAL HAZARD:		1
PERSONAL PROTECTION:		H

## NFPA RATING

HEALTH:	3
FIRE:	1
REACTIVITY:	1

## Key

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

**MANUFACTURER DISCLAIMER: IMPORTANT:** This information is given without a warranty or guarantee. No suggestions for use are intended or shall be construed as a recommendation to infringe any existing patents or violate any Federal, State or local laws. Safe handling and use is the responsibility of the customer. Read the label before using this product. This information is true and accurate to the best of our knowledge.