

### 1. Product and Company Identification

**Material name** S-1000  
**Version #** 01  
**Issue date** 6-28-13  
**Revision date** 6-28-13  
**Supersedes date** 12-07-11  
**Chemical name** Weak Mineral Acid  
**Chemical description** Inorganic Sealant  
**CAS #** Mixture  
**Product code** 800-0006  
**Product use** Industrial Leak Sealant.  
**Manufacturer information**  
**Manufacturer/Supplier** Team Industrial Services, Inc.  
**Address** 200 Hermann Drive, Alvin, Texas 77511, US  
**Emergency telephone number** CHEMTREC - 24 HOURS  
 USA: CHEMTREC: 800-424-9300  
 International: 703-527-3887 (Collect)

### 2. Hazards Identification

**Physical state** Solid.  
**Appearance** White paste.  
**Emergency overview** DANGER  
 May cause skin, eye and digestive tract burns. Harmful if swallowed.  
**OSHA regulatory status** This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).  
**Potential health effects**  
**Routes of exposure** Inhalation. Ingestion. Skin contact. Eye contact.  
**Eyes** May cause eye burns.  
**Skin** May cause skin burns.  
**Inhalation** May cause respiratory tract irritation.  
**Ingestion** Harmful if swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.  
**Target organs** Eyes. Lungs. Skin. Reproductive system. Respiratory tract.  
**Chronic effects** Possible reproductive hazard. May damage fertility or the unborn child.  
**Signs and symptoms** May cause redness and pain. Exposed individuals may experience eye tearing, redness, and discomfort. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. Overexposure to mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.  
**Potential environmental effects** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. Composition / Information on Ingredients

Components	CAS #	Percent
Borax decahydrate	1303-96-4	25 - 50
Water	7732-18-5	25-50
Phosphoric acid	7664-38-2	10-25
Aluminum oxide	1333-84-2	5 - 10
Zinc oxide	1314-13-2	1 - 5

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First Aid Measures

### First aid procedures

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Skin contact** Take off contaminated clothing and wash before reuse. Immediately flush with plenty of water for at least 15 minutes. Chemical burns must be treated by a physician. Get medical attention immediately.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

**Ingestion** Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to physician** Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

**General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

## 5. Fire Fighting Measures

**Flammable properties** No unusual fire or explosion hazards noted.

### Extinguishing media

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

### Protection of firefighters

**Protective equipment and precautions for firefighters** Wear suitable protective equipment. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk.

**Specific methods** Cool containers exposed to flames with water until well after the fire is out.

## 6. Accidental Release Measures

**Personal precautions** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate personal protective equipment. Ventilate closed spaces before entering them. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Environmental manager must be informed of all releases.

**Methods for containment** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up. Dike far ahead of spill for later disposal. Ventilate the contaminated area. Should not be released into the environment. Following product recovery, flush area with water. Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

## 7. Handling and Storage

**Handling** Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid inhalation of vapors/dust and contact with skin and eyes. Provide adequate general and local exhaust ventilation. Wear suitable protective clothing, gloves and eye/face protection. See Section 8 of the MSDS for Personal Protective Equipment. Pregnant women should not work with the product, if there is the least risk of exposure. Avoid release to the environment. Observe good industrial hygiene practices.

**Storage** Keep containers tightly closed in a cool, well-ventilated place. Keep locked up. Store away from incompatible materials (See Section 10).

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Borax decahydrate (CAS 1303-96-4)	STEL	6 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>	
	TWA	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable fraction.
	TWA	2 mg/m <sup>3</sup>	Respirable fraction.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.
Phosphoric acid (CAS 7664-38-2)	PEL	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		5 mg/m <sup>3</sup>	Fume.
		15 mg/m <sup>3</sup>	Total dust.

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	10 mg/m <sup>3</sup>	
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>	
	TWA	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable.
	TWA	2 mg/m <sup>3</sup>	Respirable.

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	1 mg/m <sup>3</sup>	Respirable.
Borax decahydrate (CAS 1303-96-4)	STEL	6 mg/m <sup>3</sup>	Inhalable
	TWA	2 mg/m <sup>3</sup>	Inhalable
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>	
	TWA	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable.
	TWA	2 mg/m <sup>3</sup>	Respirable.

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.
Borax decahydrate (CAS 1303-96-4)	STEL	6 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>	
	TWA	1 mg/m <sup>3</sup>	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable fraction.

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

Components	Type	Value	Form
	TWA	2 mg/m3	Respirable fraction.

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	10 mg/m3	Total dust.
Borax decahydrate (CAS 1303-96-4)	TWA	5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	Fume.
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		10 mg/m3	Total dust.

**Mexico. Occupational Exposure Limit Values**

Components	Type	Value	Form
Aluminum oxide (CAS 1333-84-2)	TWA	10 mg/m3	
Borax decahydrate (CAS 1303-96-4)	TWA	5 mg/m3	
Phosphoric acid (CAS 7664-38-2)	STEL	3 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	1 mg/m3	
	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		10 mg/m3	Dust.

**Engineering controls** Observe Occupational Exposure Limits and minimize the risk of inhalation. Eye wash facilities and emergency shower must be available when handling this product.

**Personal protective equipment**

<b>Eye / face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 1910.134.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical & Chemical Properties**

<b>Appearance</b>	White paste.
<b>Physical state</b>	Solid.
<b>Form</b>	Solid. Paste.
<b>Color</b>	White. <b>Odor</b> Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Vapor pressure</b>	0.03 mm Hg (20°C/ 68°F)
<b>Vapor density</b>	Not available.
<b>Boiling point</b>	110 °F (43.33 °C) Estimated
<b>Melting point/Freezing point</b>	Not available.
<b>Solubility (water)</b>	Slightly soluble in water.

<b>Specific gravity</b>	Not available.
<b>Flash point</b>	> 302.0 °F (> 150.0 °C) Closed Cup
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong bases. Strong oxidizing agents. Corrosive to metals.
<b>Hazardous decomposition products</b>	Thermal decomposition can lead to release of irritating gases and vapors.

## 11. Toxicological Information

### Toxicological data

Components	Species	Test Results
Borax decahydrate (CAS 1303-96-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 10000 mg/kg
Phosphoric acid (CAS 7664-38-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Oral</i>		
LD50	Rat	1530 mg/kg
<b>Sensitization</b>	Not available.	
<b>Acute effects</b>	Ingestion may cause irritation and malaise. However, ingestion is not likely to be a primary route of occupational exposure.	
<b>Local effects</b>	Causes skin and eye burns. Causes respiratory tract irritation.	
<b>Chronic effects</b>	Possible adverse reproductive and developmental effects.	
<b>Carcinogenicity</b>		
<b>ACGIH Carcinogens</b>		
Aluminum oxide (CAS 1333-84-2)	A4 Not classifiable as a human carcinogen.	
Borax decahydrate (CAS 1303-96-4)	A4 Not classifiable as a human carcinogen.	
<b>Symptoms and target organs</b>	May cause redness and pain. Exposed individuals may experience eye tearing, redness, and discomfort. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. Overexposure to mists/vapors of this product may cause headache, dizziness, nausea, and respiratory tract irritation.	

## 12. Ecological Information

### Ecotoxicological data

Components	Species	Test Results
Phosphoric acid (CAS 7664-38-2)		
<b>Aquatic</b>		
Fish	LC50 Mosquitofish (Gambusia)	138 mg/l, 96 h
Zinc oxide (CAS 1314-13-2)		
<b>Aquatic</b>		
Crustacea	LC50 Water flea (Daphnia magna)	0.098 mg/l, 48 Hours
<b>Ecotoxicity</b>	Components of this product are hazardous to aquatic life.	
<b>Environmental effects</b>	Toxic to aquatic life with long lasting effects.	

<b>Persistence and degradability</b>	Not available.
<b>Bioaccumulation / Accumulation</b>	Not available.
<b>Mobility in environmental media</b>	This product is miscible in water.

### 13. Disposal Considerations

<b>Waste codes</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport Information

#### DOT

##### Basic shipping requirements:

<b>UN number</b>	UN1805
<b>Proper shipping name</b>	Phosphoric acid solution
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Special precautions</b>	Read safety instructions, MSDS and emergency procedures before handling.

##### Additional information:

<b>Special provisions</b>	A7, IB3, N34, T4, TP1
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241

#### IATA

<b>UN number</b>	UN1805
<b>UN proper shipping name</b>	Phosphoric acid, solution
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>Labels required</b>	8
<b>ERG code</b>	8L
<b>Special precautions for user</b>	Read safety instructions, MSDS and emergency procedures before handling.

#### IMDG

<b>UN number</b>	UN1805
<b>UN proper shipping name</b>	PHOSPHORIC ACID SOLUTION
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>Labels required</b>	8
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Read safety instructions, MSDS and emergency procedures before handling.

#### TDG

<b>UN number</b>	UN1805
<b>Proper shipping name</b>	PHOSPHORIC ACID, SOLID
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>Marine pollutant</b>	Yes
<b>Labels required</b>	8

### 15. Regulatory Information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
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**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

Aluminum oxide (CAS 1333-84-2)	1.0 %
Zinc oxide (CAS 1314-13-2)	1.0 % N982

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

Aluminum oxide (CAS 1333-84-2)	Listed.
Zinc oxide (CAS 1314-13-2)	N982 Listed.

**CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)**

Phosphoric acid: 5000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<b>Hazard categories</b>	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - No

<b>Section 302 extremely hazardous substance (40 CFR 355, Appendix A)</b>	No
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<b>SARA 311/312 Hazardous chemical</b>	Yes
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<b>Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)</b>	Not controlled
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<b>WHMIS status</b>	Controlled
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<b>WHMIS classification</b>	D2B - Other Toxic Effects-TOXIC E - Corrosive
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**WHMIS labeling****Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

<b>State regulations</b>	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.
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**US - California Hazardous Substances (Director's): Listed substance**

Aluminum oxide (CAS 1333-84-2)	Listed.
Borax decahydrate (CAS 1303-96-4)	Listed.

Phosphoric acid (CAS 7664-38-2) Listed.

Zinc oxide (CAS 1314-13-2) Listed.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

**US - New Jersey RTK - Substances: Listed substance**

Aluminum oxide (CAS 1333-84-2) Listed.

Borax decahydrate (CAS 1303-96-4) Listed.

Phosphoric acid (CAS 7664-38-2) Listed.

Zinc oxide (CAS 1314-13-2) Listed.

**US. Massachusetts RTK - Substance List**

Aluminum oxide (CAS 1333-84-2) Listed.

Borax decahydrate (CAS 1303-96-4) Listed.

Phosphoric acid (CAS 7664-38-2) Listed.

Zinc oxide (CAS 1314-13-2) Listed.

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminum oxide (CAS 1333-84-2) 500 lbs

Zinc oxide (CAS 1314-13-2) 500 lbs

**US. Pennsylvania RTK - Hazardous Substances**

Aluminum oxide (CAS 1333-84-2) Listed.

Borax decahydrate (CAS 1303-96-4) Listed.

Phosphoric acid (CAS 7664-38-2) Listed.

Zinc oxide (CAS 1314-13-2) Listed.

## 16. Other Information

**Further information**

HMIS® is a registered trade and service mark of the NPCA.

**HMIS® ratings**

Health: 3\*  
Flammability: 1  
Physical hazard: 0  
Personal protection: I

**NFPA ratings**

Health: 3  
Flammability: 1  
Instability: 0

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.