



Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 04/17/2015 Date of issue: 04/17/2015

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: Stain and Scale

1.2. Intended Use of the Product

Prevents scale, staining, and calcium build-up on surfaces.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Phoenix Products Company
55 Container Drive
Terryville, CT 06786
860-589-7502

1.4. Emergency Telephone Number

Emergency Number : 1-800-633-8253 (U.S. PERS)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Met. Corr. 1 H290

Eye Dam. 1 H318

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)

:



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H290 - May be corrosive to metals.

H318 - Causes serious eye damage.

Precautionary Statements (GHS-US)

: P234 - Keep only in original container.

P280 - Wear protective gloves, protective clothing, and eye 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.

P390 - Absorb spillage to prevent material damage.

P406 - Store in corrosive resistant container with a resistant inner liner.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If involved in a fire or if decomposition occurs: corrosive, toxic, and acrid vapors may be released.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Water	(CAS No) 7732-18-5	55 - 98	Not classified
1-Hydroxyethane-1,1-diphosphonic acid	(CAS No) 2809-21-4	2 - 5 or 10 - 25 or 45	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

Full text of H-phrases: see section 16

A range of concentration as prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

Skin Contact: Remove contaminated clothing. Flush with plenty of water for at least 15 minutes. Seek medical advice if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Do not induce vomiting. Rinse mouth. Seek medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye damage.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva. Symptoms may include redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Not explosive, but may release hydrogen gas on contact with some metals.

Reactivity: May be corrosive to metals. May produce explosive hydrogen gas on contact with incompatibilities or upon thermal decomposition.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Do not breathe fumes from fires or vapors from decomposition. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Explosive hydrogen gas. Toxic and corrosive gases/vapors. Phosphorus oxides.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapor, mist, or spray. Avoid all contact with skin, eyes, or clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Cautiously neutralize spilled liquid. Ventilate area. Collect absorbed material and place into a sealed, labelled container for proper disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals. May release corrosive vapors.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ensure adequate ventilation. May be corrosive to metals.

Storage Conditions: Store in corrosive resistant container with a resistant inner liner. Storage areas should be periodically checked for corrosion and integrity. Store in a cool, dry, well-ventilated place. Keep container closed when not in use. Do not store this product near heat or flame. Do not store with oxidizers. Do not store this product in unlabeled containers. Do not puncture or incinerate containers. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product. Keep/Store away from direct sunlight, extremely high or low temperatures, and incompatible materials.

Incompatible Materials: Strong oxidizers. Alkalis. Metals. Caustic products.

7.3. Specific End Use(s)

Prevents scale, staining, and calcium build-up on surfaces.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when flammable gases or vapors may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical safety goggles. Face shield.

Skin and Body Protection: Wear appropriate personal protective equipment.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Consumer Exposure Controls: Do not eat, drink, or smoke during use

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Pale Yellow
Odor	: Characteristic
Odor Threshold	: Not available
pH	: < 2
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: 92.22 - 92.78 °C (198 - 199 °F)
Boiling Point	: 578.8 °C (1073.8 °F) at 760 mm Hg
Flash Point	: 303.8 °C (578.8 °F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: 8.34 E-16 mm Hg at 25 °C
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 1.43 - 1.46
Solubility	: Soluble in cold or hot water
Partition Coefficient: N-Octanol/Water	: log Pow: -3.49
Viscosity	: 64 cP
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** May be corrosive to metals. May produce explosive gas on contact with incompatibilities or upon thermal decomposition.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Incompatible materials.
- 10.5. Incompatible Materials:** Strong oxidizers. Alkalis. Metals. Caustic products.
- 10.6. Hazardous Decomposition Products:** Explosive hydrogen gas. Thermal decomposition generates: Toxic and corrosive gases/vapors. Phosphorus oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data:

Stain and Scale	
LD50 Oral Rat	2,610 mg/kg
LD50 Dermal Rabbit	8,630 mg/kg
LC50 Inhalation	Not available

Skin Corrosion/Irritation: Not classified (Draize Test (Rabbit) showed no skin irritation.)

pH: < 2

Serious Eye Damage/Irritation: Causes serious eye damage

pH: < 2

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause respiratory irritation

Symptoms/Injuries After Skin Contact: May cause skin irritation

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva . Symptoms may include redness, pain, swelling, itching, burning, tearing, and blurred vision

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
LD50 Oral Rat	1878 mg/kg
LD50 Dermal Rabbit	> 7940 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
LC50 Fish 1	868 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	527 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	360 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC (acute)	1000 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])

12.2. Persistence and Degradability

Stain and Scale	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Stain and Scale	
Bioaccumulative Potential	Not established.

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
BCF Fish 1	< 50
Log Pow	3.49

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Limited Quantities: Upon meeting all requirements set forth in the 49 CFR 173.154 Exceptions of Class 8 (Corrosive Materials): Corrosive materials in Packing Group III with inner packagings not over 5.0 L (1.3 gallons) net capacity each for liquids packed in a strong outer packaging are excepted from labeling requirements unless the material is offered for transportation or transported by aircraft.

Consumer Commodity: Upon meeting all requirements set forth the 49 CFR 173.154, packagings not over 5.0 L (1.3 gallons) may be classed as ORM-D CONSUMER COMMODITY.

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethane-1,1-diphosphonic acid)
Hazard Class : 8
Identification Number : UN3265
Label Codes : 8
Packing Group : III
ERG Number : 153



14.2. In Accordance with IMDG

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethane-1,1-diphosphonic acid)
Hazard Class : 8
Identification Number : UN3265
Packing Group : III
Label Codes : 8
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B



14.3. In Accordance with IATA

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethane-1,1-diphosphonic acid)
Packing Group : III
Identification Number : UN3265
Hazard Class : 8
Label Codes : 8
ERG Code (IATA) : 8L



14.4. In Accordance with TDG

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethane-1,1-diphosphonic acid)
Packing Group : III
Hazard Class : 8
Identification Number : UN3265
Label Codes : 8



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Stain and Scale	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. US State Regulations

Neither this product nor its chemical components appear on any US state lists.

15.3. Canadian Regulations

Stain and Scale	
WHMIS Classification	Class E - Corrosive Material
Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Stain and Scale

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

1-Hydroxyethane-1,1-diphosphonic acid (2809-21-4)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class E - Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 04/17/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
H290	May be corrosive to metals
H302	Harmful if swallowed
H318	Causes serious eye damage

Party Responsible for the Preparation of This Document

Phoenix Products Company
860-589-7502

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

North America GHS US 2012 & WHMIS 2