



STERIS®

Liquid Descaler Acid-Based Scale Remover

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision Date: 03/18/2016

Version: 1.0

SECTION 1: Identification

1.1. Product Identifier

Product Form: Mixture
Product Name: Liquid Descaler
Acid-Based Scale Remover
Product Code: 1051

1.2. Intended Use of the Product

Use of the substance/mixture: Acid-Based Liquid Descaler. For professional use only.

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

Company
STERIS Corporation
Official Mailing Address:
P.O. Box 147
St. Louis, MO 63166 USA

Street Address:
7501 Page Avenue
St. Louis, MO 63133 USA

Telephone Number for Information: 1-800-548-4873 (Customer Service-Healthcare Products)
web: www.steris.com
email: asksteris_msds@steris.com

1.4. Emergency Telephone Number

Emergency Number : 1-314-535-1395 or CHEMTREC: 1-800-424-9300

SECTION 2: Hazards Identification

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Met. Corr. 1 H290
Skin Corr. 1B H314
Eye Dam. 1 H318

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS05

Signal Word (GHS-US) : Danger
Hazard Statements (GHS-US) :

H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
Precautionary Statements (GHS-US) : P260 - Do not breathe mist, spray, vapors.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
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.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Other Hazards: May be corrosive to respiratory tract.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: Composition/information On Ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
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Phosphoric acid	(CAS No) 7664-38-2	30 - 60	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318
Hydroxyacetic acid	(CAS No) 79-14-1	1 - 5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318

Full text of H-phrases: see section 16

SECTION 4: First Aid Measures

4.1. Description of First Aid Measures

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

First-aid Measures After Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Obtain medical attention.

First-aid Measures After Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes severe skin burns and eye damage. Effects of exposure to substance may be delayed.

Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Causes severe skin burns. Absorbed through the skin.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: None expected under normal conditions of use.

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. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive, however in contact with incompatibilities may release explosive hydrogen gas. Not explosive, but may release hydrogen gas on contact with some metals.

Reactivity: In contact with metals, emits flammable/explosive gas. Corrosive to metals. May react violently with alkalis.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Exercise caution when fighting any chemical fire. Do not breathe fumes from fires or vapours from decomposition. Do not get water inside containers. Do not apply water stream directly at source of leak. Do not allow run-off from fire fighting to enter drains or water sources.

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

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Phosphorus oxides.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

6.1.1. For Non-emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and 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. Absorb spillage to prevent material damage. Cautiously neutralize spilled liquid. Collect absorbed material and place into a sealed, labelled container for proper disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See section 8: Exposure Controls and Personal Protection. See section 13: Disposal Considerations.

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SECTION 7: Handling And Storage

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals.

Precautions for Safe Handling: Do not breathe mist, spray, vapours. Use appropriate personal protective equipment when handling and observe good personal hygiene measures after handling.

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 again when leaving work. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Storage areas should be periodically checked for corrosion and integrity.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Decomposes on contact with alcohols, aldehydes, cyanides, ketones, phenols, esters, sulfides or halogenated organics. Not compatible with aluminum, galvanized metals, and mild steel. This product is compatible with stainless steel, copper, monel, brass, PVC, nylon, polyethylene, neoprene, and polypropylene, when used in the recommended concentration.

Packaging materials: Store in original container or corrosive resistant and/or lined container.

7.3. Specific End Use(s)

Acid-Based Liquid Descaler. For professional use only.

SECTION 8: Exposure Controls/personal Protection

8.1. Control Parameters

Phosphoric acid (7664-38-2)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA ACGIH	ACGIH STEL (mg/m ³)	3 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	3 mg/m ³
USA IDLH	US IDLH (mg/m ³)	1000 mg/m ³
Alberta	OEL STEL (mg/m ³)	3 mg/m ³
Alberta	OEL TWA (mg/m ³)	1 mg/m ³
British Columbia	OEL STEL (mg/m ³)	3 mg/m ³
British Columbia	OEL TWA (mg/m ³)	1 mg/m ³
Manitoba	OEL STEL (mg/m ³)	3 mg/m ³
Manitoba	OEL TWA (mg/m ³)	1 mg/m ³
New Brunswick	OEL STEL (mg/m ³)	3 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	1 mg/m ³
Newfoundland & Labrador	OEL STEL (mg/m ³)	3 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1 mg/m ³
Nova Scotia	OEL STEL (mg/m ³)	3 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	1 mg/m ³
Nunavut	OEL STEL (mg/m ³)	3 mg/m ³
Nunavut	OEL TWA (mg/m ³)	1 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	3 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	1 mg/m ³
Ontario	OEL STEL (mg/m ³)	3 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³
Prince Edward Island	OEL STEL (mg/m ³)	3 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	1 mg/m ³
Québec	VECD (mg/m ³)	3 mg/m ³
Québec	VEMP (mg/m ³)	1 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	3 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	1 mg/m ³
Yukon	OEL STEL (mg/m ³)	3 mg/m ³
Yukon	OEL TWA (mg/m ³)	1 mg/m ³

8.2. Exposure Controls

Appropriate Engineering Controls

: Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits.

Personal Protective Equipment

: Protective goggles. Gloves. Corrosionproof clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

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Hand Protection	: Wear chemically resistant protective gloves.
Eye Protection	: Chemical safety goggles and face shield.
Skin and Body Protection	: Wear suitable protective clothing.
Respiratory Protection	: When effective engineering controls are not feasible, appropriate respirators shall be used. Personal Protective Equipment must be selected by trained personnel, taking into account the type of hazardous materials it should protect from, the nature of the work, the expected exposure, and the facial characteristics of the wearers; proper fit is of paramount importance. Ensure the respiratory protection program meets the requirements of OSHA 29 CFR 1910.134.
Other Information	: When using, do not eat, drink or smoke.

SECTION 9: Physical And Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear violet liquid.
Odor	: No data available
Odor Threshold	: No data available
pH	: 1.85
Evaporation rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density / Specific Gravity	: 1.38 g/ml
Solubility	: Complete in water.
Partition coefficient: n-octanol/water	: No data available
Viscosity	: No data available
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.

9.2. Other Information

No additional information available

SECTION 10: Stability And Reactivity

10.1 Reactivity:

In contact with metals, emits flammable/explosive gas. Corrosive to metals. May react violently with alkalis.

10.2 Chemical Stability:

Stable under normal conditions.

10.3 Possibility of Hazardous Reactions:

Violently polymerizes under the influence of azo compounds and epoxides.

10.4 Conditions to Avoid:

Direct sunlight. Extremely high or low temperatures. Incompatible materials.

10.5 Incompatible Materials:

Strong acids. Strong bases. Strong oxidizers. Decomposes on contact with alcohols, aldehydes, cyanides, ketones, phenols, esters, sulfides or halogenated organics. Not compatible with aluminum, galvanized metals, and mild steel. This product is compatible with stainless steel, copper, monel, brass, PVC, nylon, polyethylene, neoprene, and polypropylene, when used in the recommended concentration.

10.6 Hazardous Decomposition Products:

Corrosive vapors. Carbon oxides (CO, CO₂).

SECTION 11: Toxicological Information

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Hydroxyacetic acid (79-14-1)	
LC50 Inhalation Rat	3.6 mg/l/4h
Phosphoric acid (7664-38-2)	
LD50 Oral Rat	1530 mg/kg
LD50 Dermal Rabbit	2740 mg/kg
LC50 Inhalation Rat	> 850 mg/m ³ (Exposure time: 1 h)

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Skin Corrosion/Irritation: Causes severe skin burns and eye damage. (pH: 1.85)
Serious Eye Damage/Irritation: Causes serious eye damage. (pH: 1.85)
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: No data available
Carcinogenicity: Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: May be corrosive to the respiratory tract.
Symptoms/Injuries After Skin Contact: Causes severe skin burns.
Symptoms/Injuries After Eye Contact: Causes serious eye damage.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.
Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: Ecological Information

12.1. Toxicity

Hydroxyacetic acid (79-14-1)

LC50 Fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
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12.2. Persistence and Degradability

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Persistence and Degradability	Not established.
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12.3. Bioaccumulative Potential

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Bioaccumulative Potential	Not established.
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Hydroxyacetic acid (79-14-1)

Log Pow	-1.11 (at 19 °C)
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12.4. Mobility in Soil

No additional information 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 flush into surface water or sewer system.

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

Additional Information: RCRA Waste Code: D002 (Corrosive Material).

SECTION 14: Transport Information

In Accordance With ICAO/IATA/IMDG/DOT

14.1. UN Number

UN-No.(DOT)	: 1805
DOT NA no.	UN1805

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Phosphoric acid solution
Department of Transportation (DOT) Hazard Classes	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard Labels (DOT)	: 8 - Corrosive



Packing Group (DOT)	: III - Minor Danger
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14.3. Additional Information

Emergency Response Guide (ERG) Number	: 154
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Transport by Sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No	: 154

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Air Transport

4 x 1 gallon package restricted from air shipment

SECTION 15: Regulatory Information

15.1 US Federal Regulations

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SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

Hydroxyacetic acid (79-14-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Phosphoric acid (7664-38-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations

Phosphoric acid (7664-38-2)

RTK - U.S. - Massachusetts - Right To Know List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Hydroxyacetic acid (79-14-1)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

Phosphoric acid (7664-38-2)

Listed on the Canadian DSL (Domestic Substances List)

Listed on the Canadian IDL (Ingredient Disclosure List)

IDL Concentration 1 %

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

SECTION 16: Other Information, Including Date Of Preparation Or Last Revision

Revision Date:

03/18/2016

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:

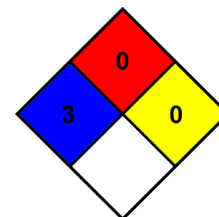
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H332	Harmful if inhaled

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NFPA Health Hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
NFPA Fire Hazard : 0 - Materials that will not burn.
NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Party Responsible for the Preparation of This Document
STERIS Corporation

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.

SDS NA,Mex GHS