



STERIS®

S-Klenz®

Scale Remover
Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 09/21/2022

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : S-Klenz® Scale Remover
Product code : 1J81

1.2. Relevant identified uses of the substance or mixture and uses advised against

Industrial/Professional use spec : For industrial and institutional use only. Not for home use.
Use of the substance/mixture : Scale remover

1.3. Details of the supplier of the safety data sheet

STERIS Corporation
P. O. Box 147, St. Louis, MO 63166, US
Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)

1.4. Emergency telephone number

Emergency number : US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

May be corrosive to metals H290
Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
Eye Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary statements (GHS-US) :

P234 - Keep only in original container.
P261 - Avoid breathing fume, spray, mist
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection, protective clothing, protective gloves
P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P330 - If swallowed, rinse mouth
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients**3.1. Substance**

Not applicable.

Full text of H-phrases: see section 16.

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Phosphoric acid	(CAS No) 7664-38-2	15 - 40	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318

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	: Remove patient to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention.
First-aid measures after skin contact	: Immediately flush skin with plenty of water for at least 15 minutes. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention.
First-aid measures after eye contact	: In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately get medical attention.
First-aid measures after ingestion	: If victim completely conscious/alert. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Give water or milk if the person is fully conscious.

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

Symptoms/injuries	: Symptoms may be delayed. Corrosive to eyes and skin. Causes severe skin burns and eye damage.
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/injuries after skin contact	: Corrosive to eyes and skin.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Irritating to the respiratory system, may cause throat pain and cough.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Sand.
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5.2. Special hazards arising from the substance or mixture

No additional information available.

5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protective equipment for firefighters	: Use self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Very flammable gas (hydrogen) may be formed on contact with metals.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

General measures : Do not breathe fumes, vapors. Avoid contact with skin, eyes and clothes.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective gloves and eye/face protection. For further information refer to section 8: Exposure-controls/personal protection.

Emergency procedures : Stop leak if safe to do so. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : 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

Methods for cleaning up : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Leftovers: Neutralize with sodium bicarbonate. Neutralize with dry sodium carbonate. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Absorb spillage to prevent material damage. Collect spillage. Store away from other materials. Comply with applicable local and national regulations.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Additional hazards when processed : May be corrosive to metals

Precautions for safe handling : Product for industrial use only. Read label before use. Provide good ventilation in process area to prevent formation of vapour. Avoid all eye and skin contact and do not breathe vapour and mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Take care for general good hygiene and housekeeping. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

Storage conditions : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Incompatible materials : Strong oxidizing agents. Strong bases. Aluminium.

Storage area : Store in dry, cool, well-ventilated area.

Special rules on packaging : Correctly labelled.

7.3. Specific end use(s)

No additional information available.

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

8.2. Exposure controls

- Appropriate engineering controls : Provide adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation to minimize vapour concentrations.
- Personal protective equipment : Avoid all unnecessary exposure. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Protective clothing. Gloves. Protective goggles.



- Hand protection : Wear rubber gloves.
- Eye protection : Wear chemical splash goggle.
- Skin and body protection : Wear suitable protective clothing. Wear long sleeves. Rubber apron, boots.
- Respiratory protection : Work in well-ventilated zones or use proper respiratory protection. Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

- Physical state : Liquid
- Appearance : Clear
- Colour : Colorless
- Odour : Mild chemical odor
- Odour threshold : No data available
- pH : No data available
- pH solution : Approximately 1.8 - 2.5 (1% solution)
- Relative evaporation rate (butyl acetate=1) : 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
- Vapour pressure : No data available
- Relative vapour density at 20 °C : No data available
- Relative density : No data available
- Density : ca. 1.25 g/ml Specific Gravity
- Solubility : Water: completely soluble
- Log Pow : No data available
- Log Kow : No data available
- Viscosity, kinematic : No data available
- Viscosity, dynamic : No data available
- Explosive properties : No data available
- Oxidising properties : No data available
- Explosive limits : No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No additional information available.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Contact with some metals can generate hydrogen gas.

10.5. Incompatible materials

Strong oxidizers. Caustic products. Aluminium. On contact with ordinary metals (steel, galvanized, aluminium) corrosion may occur and generate flammable hydrogen gas.

10.6. Hazardous decomposition products

Thermal decomposition generates: Phosphoric acid. Fume. Phosphorous oxide. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Acute toxicity : Corrosive to eyes and skin.

S-Klenz® Scale Remover	
ATE (oral)	500.000 mg/kg bodyweight
ATE (dust,mist)	1.500 mg/l/4h

Phosphoric acid (7664-38-2)	
LD50 oral rat	1530 mg/kg
LD50 dermal rabbit	2730 mg/kg
LC50 inhalation rat (mg/l)	> 0.85 mg/l (Exposure time: 1 h)
ATE (oral)	1530.000 mg/kg bodyweight
ATE (dermal)	2730.000 mg/kg bodyweight
ATE (dust,mist)	0.850 mg/l/4h

Skin corrosion/irritation	: Corrosive to skin pH: < 1.8
Serious eye damage/irritation	: Causes serious eye damage pH: < 1.8
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information**12.1. Toxicity**

Phosphoric acid (7664-38-2)	
LC50 fishes 1	3 - 3.5 mg/l (Exposure time: 96 h - Species: Gambusia affinis)
EC50 Daphnia 1	4.6 mg/l (Exposure time: 12 h - Species: Daphnia magna)

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

S-Klenz® Scale Remover	
Bioaccumulative potential	Not established.

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**

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not re-use empty containers. Empty containers should be rinsed and discarded in a waste container or offered for recycling if possible. Small spills may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation. Ensure all national/local regulations are observed.

Additional information : Unused product: Hazardous waste (corrosive) based on pH.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1805, Phosphoric Acid Liquid Mixture, 8, Corrosive, PG III

UN-No.(DOT) : 1805

DOT NA no. : UN1805

DOT Proper Shipping Name : Phosphoric Acid Liquid Mixture, LTD QTY

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

Additional information**Transport by sea**

IMDG Class : UN1805, Phosphoric Acid Liquid Mixture, 8, Corrosive, PG III

Air transport

ICAO/IATA Class : UN1805, Phosphoric Acid Liquid Mixture, 8, Corrosive, PG III

SECTION 15: Regulatory information**15.1. US Federal regulations****S-Klenz® Scale Remover**

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	5000 lb Phosphoric acid
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Phosphoric acid (7664-38-2)

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

15.2. US California State regulations

Not applicable.

SECTION 16: Other information

Revision Date : 09/21/2022

Other information : The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to provide general knowledge as to health and safety based upon our knowledge of handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.

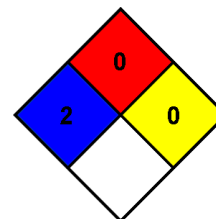
Full text of H-phrases:

Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
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
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
H331	Toxic if inhaled

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is 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.



SDS US (GHS HazCom 2012)

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