

**STERIS**

Liqui-Jet™ 2 Instrument Detergent

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)
Date of issue: 10/18/2019

Version: 1.0

SECTION 1: Identification

1.1. Product Identifier

Product Form: Mixture
Product Name: Liqui-Jet™ 2 Instrument Detergent
Product Code: 1037

1.2. Intended Use of the Product

Use of the substance/mixture: Instrument Detergent.
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)

Met. Corr. 1 H290
Skin Corr. 1B H314
Eye Dam. 1 H318
STOT RE 2 H373
Full text of H-phrases: see section 16

2.2. Label Elements

GHS Labeling

Hazard Pictograms (GHS)



GHS05



GHS08

Signal Word (GHS)

Hazard Statements (GHS)

Precautionary Statements (GHS)

: Danger
: H290 - May be corrosive to metals.
: H314 - Causes severe skin burns and eye damage.
: H318 - Causes serious eye damage.
: H373 - May cause damage to organs through prolonged or repeated exposure.
: P260 - Do not breathe vapors, mist, spray.
: P264 - Wash hands thoroughly after handling.
: P280 - Wear protective gloves, protective clothing, eye protection, face protection.
: 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.
: P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS)

3.63 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral, Dermal, Inhalation (Dust/Mist))

SECTION 3: Composition/Information On Ingredients

3.1. Substance

Not applicable

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3.2. Mixture

Name	Product identifier	%	Classification (GHS)
Tetrasodium EDTA	(CAS No) 64-02-8	10 - 30	Comb. Dust, H232 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Dam. 1, H318 STOT RE 2, H373
Sodium silicate	(CAS No) 1344-09-8	1 - 5	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Sodium hydroxide	(CAS No) 1310-73-2	1 - 5	Met. Corr. 1, H290 Skin Corr. 1A, 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.
First-aid Measures After Inhalation: When symptoms occur, go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First-aid Measures After Skin Contact: Remove contaminated clothing. 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 (inhalation, ingestion or skin contact) to substance may be delayed.
Symptoms/Injuries After Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.
Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.
Symptoms/Injuries After Eye Contact: Corrosive. Causes burns.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

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: Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Product is not flammable.
Explosion Hazard: Product is not explosive.
Reactivity: Contact with metals may evolve flammable hydrogen gas.

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: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Carbon oxides (CO, CO₂). Sodium oxides. Nitrogen oxides.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist, or spray. Do not allow product to spread into the environment.

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.

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Methods for Cleaning Up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Neutralize spill carefully with any weak acid and flush remainder with plenty of water. Collect spillage. Store away from other materials. 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.

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 vapors, mist, spray. Avoid contact with eyes, skin and clothing.

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. In cold weather, this product may form layers and freeze. This does not damage the product. If freezing occurs, thaw and remix thoroughly before using. Frozen material may be thawed in a warm room. Avoid localized overheating and vent drums while heating.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store in original container or corrosive resistant and/or lined container.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Reducing agents. Chlorine.

Storage Temperature: 46 °C (115 °F)

7.3. Specific End Use(s)

Instrument Detergent. For professional use only.

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.

Sodium hydroxide (1310-73-2)		
USA ACGIH	ACGIH Ceiling (mg/m³)	2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	2 mg/m³
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	2 mg/m³
USA IDLH	US IDLH (mg/m³)	10 mg/m³
Alberta	OEL Ceiling (mg/m³)	2 mg/m³
British Columbia	OEL Ceiling (mg/m³)	2 mg/m³
Manitoba	OEL Ceiling (mg/m³)	2 mg/m³
New Brunswick	OEL Ceiling (mg/m³)	2 mg/m³
Newfoundland & Labrador	OEL Ceiling (mg/m³)	2 mg/m³
Nova Scotia	OEL Ceiling (mg/m³)	2 mg/m³
Nunavut	OEL Ceiling (mg/m³)	2 mg/m³
Northwest Territories	OEL Ceiling (mg/m³)	2 mg/m³
Ontario	OEL Ceiling (mg/m³)	2 mg/m³
Prince Edward Island	OEL Ceiling (mg/m³)	2 mg/m³
Québec	PLAFOND (mg/m³)	2 mg/m³
Saskatchewan	OEL Ceiling (mg/m³)	2 mg/m³
Yukon	OEL Ceiling (mg/m³)	2 mg/m³

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Safety glasses. Face shield. Corrosion-proof clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

Hand Protection

Eye Protection

Skin and Body Protection

Respiratory Protection

Other Information

- : Chemically resistant materials and fabrics.
- : Wear chemically resistant protective gloves.
- : Chemical safety goggles. A full face shield is recommended.
- : Wear suitable protective clothing. Wash contaminated clothing before reuse.
- : If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.
- : When using, do not eat, drink or smoke.

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SECTION 9: Physical And Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear, light yellow
Odor	: Bland
Odor Threshold	: No data available
pH	: 10.7 - 11.3 (1% Solution)
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	: No data available
Specific Gravity	: 1.13 g/ml
Solubility	: Soluble 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:

Contact with metals may evolve flammable hydrogen gas.

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.

10.5 Incompatible Materials:

Strong acids. Strong bases. Strong oxidizers. Reducing agents. Chlorine. Metals. May be corrosive to metals.

10.6 Hazardous Decomposition Products:

Thermal decomposition generates corrosive vapors. Carbon oxides (CO, CO₂). Sodium oxides. Nitrogen oxides.

SECTION 11: Toxicological Information

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Sodium silicate (1344-09-8)	
LD50 Oral Rat	3400 mg/kg
Tetrasodium EDTA (64-02-8)	
LD50 Oral Rat	1780 mg/kg
ATE (Gases)	4,500.00 ppmV/4h
ATE (Vapors)	11.00 mg/l/4h
ATE (Dust/Mist)	1.50 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage. [pH: 10.7 - 11.3 (1% Solution)]

Serious Eye Damage/Irritation: Causes serious eye damage. [pH: 10.7 - 11.3 (1% Solution)]

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Corrosive. Causes burns.

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

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure.

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SECTION 12: Ecological Information

12.1. Toxicity

Sodium hydroxide (1310-73-2)	
LC50 Fish 1	45.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	40 mg/l
Sodium silicate (1344-09-8)	
LC50 Fish 1	301 - 478 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
LC 50 Fish 2	3185 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
Tetrasodium EDTA (64-02-8)	
LC50 Fish 1	486 (Exposure time: 96h - Species: Lepomis macrochirus)
EC50 Daphnia 1	625 mg/l (Exposure time: 24 h - Species: Daphnia magna)
ErC50 (algae)	3 mg/l (exposure time: 96 h - Species: Green Algae)

12.2. Persistence and Degradability

Not established.

12.3. Bioaccumulative Potential

Sodium silicate (1344-09-8)	
BCF fish 1	(no bioaccumulation expected)
Tetrasodium EDTA (64-02-8)	
Log Pow	5.01 (calculated)

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 of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Ecology – Waste Materials: Keep out of sewers and waterways.

SECTION 14: Transport Information

14.1 In Accordance with DOT

NON-HAZARDOUS

14.2 In Accordance with IMDG

NON-HAZARDOUS

14.3 In Accordance with IATA

NON-HAZARDOUS

14.4 In Accordance with TDG

NON-HAZARDOUS

SECTION 15: Regulatory Information

15.1 US Federal Regulations

Liqui-Jet™ 2 Instrument Detergent	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Sodium hydroxide (1310-73-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Sodium silicate (1344-09-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Tetrasodium EDTA (64-02-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

Sodium hydroxide (1310-73-2)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	

15.3. Canadian Regulations

Sodium hydroxide (1310-73-2)	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	

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Sodium silicate (1344-09-8)

Listed on the Canadian DSL (Domestic Substances List)

Tetrasodium EDTA (64-02-8)

Listed on the Canadian DSL (Domestic Substances List)

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

Revision Date : 10/18/2019

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
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H232	May form combustible dust concentrations in air
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
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

NFPA Health Hazard : 2 - Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury
 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.



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, WHMIS, Mex GHS