

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

1.1. Product identifier

Product form : Mixture
 Trade name : Valsure® Enzymatic Cleaner
 Product code : 1C52

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only.
 Use of the substance/mixture : Enzymatic Cleaner

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

STERIS Corporation
 P. O. Box 147, St. Louis, MO 63166, US
 Telephone Number for Information: 1-800-548-4873 (Customer Service - Healthcare Products)
 US Emergency Telephone No. 1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

Supplier:

STERIS Ireland Limited
 IDA Business and Technology Park
 Tullamore
 County Offaly
 R35 X865
 Ireland.
 Product/Technical Information Phone No: +44 (0) 116 276 8636
 Email: asksteris_msds@steris.com

1.4. Emergency telephone number

Emergency number : +44 (0) 1895 622 639

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Corr. 2 H315
 Eye Irrit. 2A H319
 Resp. Sens. 1 H334
 Full text of H-phrases: see section 16.

Adverse physicochemical, human health and environmental effects

No additional information available.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP) :

P261 - Avoid breathing vapors, mist, spray.
 P264 - Wash hands and exposed areas thoroughly after handling.
 P280 - Wear eye protection, protective gloves, protective clothing.
 P284 - [In case of inadequate ventilation] wear respiratory protection.
 P302+P352 - IF ON SKIN: Wash with plenty of water.
 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.

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P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: 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

Contains a small amount of substances that are combustible dusts. If dried and allowed to accumulate may form combustible dust concentrations in air that could ignite and cause an explosion.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,2-Propylene glycol	(CAS No) 57-55-6 (REACH No) 01-2119456809-23-0168	20 -30	Not classified
Ethanolamine	(CAS No) 141-43-5 (REACH No) 01-2119486455-28-0038	1 - 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Citric acid	(CAS No) 77-92-9 (REACH No) 01-2119457026-42-0067	1 - 5	Comb. Dust Eye Irrit. 2A, H319
Alcohols, C9-11, ethoxylated	(CAS No) 68439-46-3	0.5 – 1.5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Subtilisins (proteolytic enzymes)	(CAS No) 9014-01-1	0.1 - 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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	: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

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

Symptoms/injuries	: Causes irritation. May cause an allergic reaction in sensitive individuals.
Symptoms/injuries after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms	: None expected under normal conditions of use.

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

If medical advice is needed, have product container or label at hand.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for primary source of 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. Contains a small amount of substances that are combustible dusts. If dried and allowed to accumulate may form combustible dust concentrations in air that could ignite and cause an explosion.

Reactivity : Hazardous reactions will not occur under normal conditions.

5.3. Advice for firefighters

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

Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water sources. Do not breathe fumes from fires or vapors from decomposition.

Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

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

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.

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. Use appropriate personal protection equipment (PPE).

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

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 and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, spray. Wear recommended personal protective equipment.

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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep container closed when not in use.

Incompatible materials : Strong acids. Strong bases. Strong oxidizers. Alkalines. Halogens. Isocyanates.

7.3. Specific end use(s)

Manual/pre-cleaning including use in ultrasonics, and for use in hospital washer/disinfectors and other similar equipment. This liquid cleaner is designed to clean surgical instruments and other medical devices. For professional use only.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Ethanolamine (141-43-5)		
United Kingdom	WEL TWA (mg/m ³)	2,5 mg/m ³
United Kingdom	WEL TWA (ppm)	1 ppm
United Kingdom	WEL STEL (mg/m ³)	7,6 mg/m ³
United Kingdom	WEL STEL (ppm)	3 ppm
USA ACGIH	ACGIH TWA (ppm)	3 ppm
USA ACGIH	ACGIH STEL (ppm)	6 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	6 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	3 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	8 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	3 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	15 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	6 ppm
USA IDLH	US IDLH (ppm)	30 ppm
Subtilisins (proteolytic enzymes) (9014-01-1)		
United Kingdom	WEL TWA (mg/m ³)	0,00004 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	0,00012 mg/m ³ (calculated)
USA - ACGIH	ACGIH Ceiling (mg/m ³)	0,00006 mg/m ³
USA - NIOSH	NIOSH REL (STEL) (mg/m ³)	0,00006 mg/m ³

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 : Gloves. Protective goggles. 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.

Skin and body protection : Wear suitable protective clothing.

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

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, colorless to yellow liquid
Odour	: No data available
Odour threshold	: No data available
pH	: 7 - 9
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
Self 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
Specific Gravity	: 1,0357 g/mL
Solubility	: Water: Completely soluble
Partition coefficient: n-octanol/water	: No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: 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

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

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. Dust Formation.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Nitrogen oxides. Nitrous gas. Toxic fumes. Alkalines. Halogens. Isocyanates.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Valsure [®] Enzymatic Cleaner	
LD50 oral rat	> 2000 mg/kg

Ethanolamine (141-43-5)	
LD50 oral rat	1720 mg/kg
LD50 dermal rabbit	2.46 - 2.83 ml/kg
ATE (dermal)	1,100.00 mg/kg body weight
ATE (Gases)	4,500.00 ppmV/4h
ATE (Vapors)	11.00 mg/l/4h
NOAEL (Dust/Mist)	1.50 mg/l/4h

Citric acid (77-92-9)	
LD50 Oral Rat	5400 mg/kg
LD50 Dermal Rat	> 2000 mg/kg

Alcohols, C9-11, ethoxylated (68439-46-3)	
LD50 Oral Rat	1400 mg/kg
LD50 Dermal Rat	> 2 g/kg

Subtilisins (proteolytic enzymes) (9014-01-1)	
LD50 oral rat	1.8 g/kg

Skin corrosion/irritation	: Causes skin irritation pH: 7 - 9
Serious eye damage/irritation	: Causes serious eye irritation pH: 7 - 9
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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

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Symptoms/Injuries After Inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/Injuries After Skin Contact	: Causes skin irritation.
Symptoms/Injuries After Eye Contact	: Causes serious eye irritation.
Symptoms/Injuries After Ingestion	: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms	: None expected under normal conditions of use.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - General : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Ethanolamine (141-43-5)	
LC50 Fish 1	227 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	65 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	3684 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Subtilisins (proteolytic enzymes) (9014-01-1)	
LC50 Fish 1	14.6 mg/l
EC50 Daphnia 1	0.306 mg/l
ErC50 (algae)	0.513 (0.513 - 1.48) mg/l
NOEC chronic fish	2 mg/l

Citric acid (77-92-9)	
LC50 fishes 1	1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [Static])

12.2. Persistence and degradability

Valsure [®] Enzymatic Cleaner	
Persistence and degradability	Not established.

Citric acid (77-92-9)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Valsure [®] Enzymatic Cleaner	
Bioaccumulative potential	Not established.

Ethanolamine (141-43-5)	
Log Pow	-1.91 (at 25 °C)

Citric acid (77-92-9)	
Log Pow	-1.72 (at 20 °C)

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

No additional information available.

12.6. Other adverse effects

Other Information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage Disposal Recommendations	: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.
Waste Disposal Recommendations	: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number	
Not regulated for transport.	

14.2. UN proper shipping name	
Not regulated for transport.	

14.3. Transport hazard class(es)	
Not regulated for transport.	

14.4. Packing group	
Not applicable.	

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14.5. Environmental hazards

Dangerous for the environment : No.
Marine pollutant : No.
Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

Transport category (ADR) : Non-hazardous.

14.6.2. Transport by sea

IMDG Class : Non-hazardous.

14.6.3. Air transport

ICAO/IATA Class : Non-hazardous.

14.6.4. Inland waterway transport

No additional information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Contains no REACH candidate substance.

15.1.2. National regulations

No additional information available.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision Date : 10/15/2018

Other information : None

Full text of H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
Resp. Sens. 1	Respiratory sensitisation Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H227	Combustible liquid
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H400	Very toxic to aquatic life

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H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

SDS EU (REACH Annex II)

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 the 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.