

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

#### 1.1. Product identifier

Product form : Mixture  
 Trade name : Prolystica® Restore™ Descaler & Neutralizing Detergent  
 Product code : 1C45

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Product for industrial use only  
 Use of the substance/mixture : Descaler and Neutralizing Detergent

##### 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: 1-800-444-9009 (Customer Service-Scientific Products)  
 US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

Supplier:

STERIS Limited  
 Chancery House, 190 Waterside Road, Hamilton Industrial Park,  
 Leicester, LE5 1QZ, UK  
 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]

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

Full text of H-phrases: see section 16

##### Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R36

Full text of R-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) :



GHS05

Signal word (CLP) : Danger  
 Hazard statements (CLP) : H290 - May be corrosive to metals (Aluminum)  
 H314 - Causes severe skin burns and eye damage  
 Precautionary statements (CLP) : P234 - Keep only in original container  
 P260 - Do not breathe dust, mist, vapours

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P264 - Wash hands thoroughly after handling  
P280 - Wear protective gloves/protective clothing and eye/face protection  
P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water  
P304+P340 - IF INHALED: remove victim 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  
P390 - Absorb spillage to prevent material damage

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Citric acid	(CAS No) 77-92-9 (EC no) 201-069-1	15 - 40	Xi; R36
Oxalic acid	(CAS No) 144-62-7 (EC no) 205-634-3 (EC index no) 607-006-00-8	0,1 - 1,5	Xn; R21/22 Xi; R41

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Citric acid	(CAS No) 77-92-9 (EC no) 201-069-1	15 - 40	Eye Irrit. 2, H319
Oxalic acid	(CAS No) 144-62-7 (EC no) 205-634-3 (EC index no) 607-006-00-8	0,1 - 1,5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Eye Dam. 1, H318

Full text of R- and 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 : Remove 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 : Toxic 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

Unsuitable extinguishing media : Do not use a heavy water stream

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Thermal decomposition generates: Fume. Carbon monoxide. Carbon dioxide. Phosphorous oxide

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### 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. Neutralise 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, national and international regulation

### 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. Avoid contact during pregnancy/while nursing
- 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
- Packaging materials : Keep only in the original container. Store in corrosive resistant container with a resistant inner liner

### 7.3. Specific end use(s)

- No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Oxalic acid (144-62-7)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>

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Oxalic acid (144-62-7)		
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

### 8.2. Exposure controls

- Appropriate engineering controls : Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure
- 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. The following pictograms represent the minimum requirements for personal protective equipment. 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. 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 : Light straw
- odour : Slight chemical odor
- Odour threshold : No data available
- pH : 1,2 Approximately
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : 99 °C (210.2 °F)
- 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
- Relative density : No data available
- Density : ca. 1,18 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

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### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur

### 10.4. Conditions to avoid

Extremely high or low temperatures

### 10.5. Incompatible materials

Strong oxidizers. Strong bases. Aluminium

### 10.6. Hazardous decomposition products

Thermal decomposition generates: Corrosive vapours. Phosphorous oxide. Fume. Carbon monoxide. Carbon dioxide

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Prolystica® Restore™ Descaler & Neutralizing Detergent	
LD50 oral rat	> 2000 mg/kg

Oxalic acid (144-62-7)	
LD50 oral rat	7500 mg/kg
LD50 dermal rat	20000 mg/kg
ATE (oral)	500,000 mg/kg bodyweight
ATE (dermal)	1100,000 mg/kg bodyweight

Skin corrosion/irritation	: Causes severe skin burns and eye damage pH: 1,2 Approximately
Serious eye damage/irritation	: Causes serious eye damage pH: 1,2 Approximately
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
Potential Adverse human health effects and symptoms	: Harmful if swallowed

## SECTION 12: Ecological information

### 12.1. Toxicity

Citric acid (77-92-9)	
LC50 fishes 1	1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [Static])
EC50 Daphnia 1	120 mg/l (Exposure time: 72 h - Species: Daphnia magna)

Oxalic acid (144-62-7)	
EC50 Daphnia 1	125 - 150 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

### 12.2. Persistence and degradability

Prolystica® Restore™ Descaler & Neutralizing Detergent	
Persistence and degradability	The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer

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### 12.3. Bioaccumulative potential

#### Prolystica® Restore™ Descaler & Neutralizing Detergent

Bioaccumulative potential : Not established

#### Citric acid (77-92-9)

Log Pow : -1,72 (at 20 °C)

#### Oxalic acid (144-62-7)

BCF fish 1 : (no bioaccumulation)

Log Pow : -0,81 (at 30 °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

: 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

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 ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No : 3265

UN-No.(IATA) : 3265

UN-No. (IMDG) : 3265

### 14.2. UN proper shipping name

Proper Shipping Name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

Transport document description : UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Organic N.O.S. (Citric Acid Solution)), 8, III

### 14.3. Transport hazard class(es)

Class (UN) : 8

Class (IMDG) : 8

Hazard labels (UN) : 8



### 14.4. Packing group

Packing group (UN) : III

### 14.5. Environmental hazards

Other information : Corrosive

### 14.6. Special precautions for user

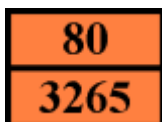
Special transport precautions : 4 x 1 gal package not approved for air shipment

#### 14.6.1. Overland transport

Hazard identification number (Kemler No.) : 80

Classification code (UN) : C3

Orange plates :



Special provision (ADR) : 274

Transport category (ADR) : 3

Tunnel restriction code : E

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Limited quantities (ADR) : 5L  
Excepted quantities (ADR) : E1  
EAC code : 2X

### 14.6.2. Transport by sea

No additional information available

### 14.6.3. Air 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 : 10/19/2015

Sources of Key data : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Other information : None

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H290	May be corrosive to metals
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H319	Causes serious eye irritation
R21/22	Harmful in contact with skin and if swallowed
R36	Irritating to eyes
R41	Risk of serious damage to eyes
Xi	Irritant
Xn	Harmful

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.*