

SECTION 1.

1.1.1 Product identifier

Product name: Pathisol disinfectant

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

Relevant identified use: For use as a surface biocide

Uses advised against: No specific uses advised against

1.3 Details of the supplier of the Safety Data Sheet

Supplier:
Tutum Health Ltd
University Hospital of Hartlepool
Holdforth Road
Hartlepool
TS24 9AH

Phone: 0808 164 2800
www.pathisol.com

Competent responsible person:
Barry Burles
Email: bburles@tutumhealth.co.uk
Availability: 24 hours

1.4 Emergency telephone number

England, Scotland and Wales: Contact NHS 111/NHS 24: 111
Northern Ireland: Contact your local GP (or "Out of hours Service")

SECTION 2 Hazards Identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP/GHS):
Not classified

2.2 Label Elements

Labelling according to Regulation (EC) 1272/2008 (CLP/GHS)

Pictograms: None

Signal Word: None

Hazard Statements: None

Precautionary Statements:

P102: Keep out of reach of children

2.3 Other Hazards

Not applicable.

SECTION 3 Composition/information on ingredients

3.1 Substance: Not Applicable

3.2 Mixture

This mixture is a solution of water and Hypochlorous acid. Active chlorine released from hypochlorous acid is an equilibrium mixture.

Chemical Name (CA)	Common Name	CAS Number	EC Number	% (w/w)	Classification according to Regulation (EC) 1272/2008
Hypochlorous acid	Hypochlorous acid	7790-92-3	232-232-5	0.06	Not classified
Sodium hypochlorite	Sodium hypochlorite	7681-52-9	231-668-3	< 0.01	Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 (M=10), Aquatic Chronic 1 H410 (M=1) EUH031 (C ≥ 5%)
Chlorine	Chlorine	7782-50-5	231-959-5	< 0.01	Press. Gas Ox. Gas 1 H270, Skin Irrit. 2 H315, Eye Irrit. 2 H319, Acute Tox. 3 H331, STOT SE 3 H335, Aquatic Acute 1 H400 (M=100)

SECTION 4 First Aid Measures.

4.1 Description of First Aid Measures

General Notes:

Hypochlorous acid has no known cytotoxic effects on human cells, so under normal conditions it is unlikely to cause harm

Inhalation: It should not cause any problems if inhaled, but move away from product if breathing problems develop, and if they continue, seek medical help

Skin Contact: It should have no effect on skin. If irritation occurs, wash affected area with water

Eye Contact: It should have no effect on eyes. As a precaution, after contact with eyes flush eyes with water if irritation occurs

Ingestion: If accidentally swallowed, drink a glass of water

Exposure Limits: Refer to Section 8. No medical conditions generally recognised as being aggravated by product

4.2 Most important symptoms and effects, both acute and delayed

None known

4.3 Indication of any immediate medical attention and special treatment needed

None needed

SECTION 5 Fire Fighting Measures

5.1 Suitable extinguishable media

Product is non-flammable or not explosive. Use fire extinguishing media appropriate for surrounding materials

5.2 Special Hazards arising from the substance or mixture

There are no fire or explosion hazards associated with this product

5.3 Advice for firefighters

No specific fire-fighting procedures. Use fire extinguishing methods suitable to surrounding conditions

SECTION 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

No personal, protective equipment required under normal conditions. Should there be accidental release of Chlorine due to acidification of the mixture for whatever reason, the measures referred to in 6.1.2 should be considered

6.1.2 For Emergency Responders

6.1.2.1 Ventilation: Open air or good room ventilation is normally adequate for the safe use of the product. Avoid breathing any vapours or fumes resulting from acid ventilation

6.1.2.2 Respiratory Protection: Fogging or spraying applications may require the worker to wear suitable respiratory protection that offers protection from Chlorine or Chlorine vapours.

6.1.2.3 Eye protection: Although the product causes no harm when in contact with eyes, good manufacturing and laboratory practices recommend the use of chemical safety goggles for all applications involving chemical handling

6.1.2.4 Protective Clothing: the product causes no harm when in contact with the skin. However, good manufacturing and laboratory practices recommend that gloves be worn when handling chemicals. The gloves should be chemically impervious such as those made of rubber or neoprene.

6.2 Environmental Precautions

Product contains $\leq 0.9\%$ Sodium chloride (salt) and 0.06% Hypochlorous acid (available Chlorine). Local environmental regulatory requirements should be followed. Most authorities allow such low concentrations to be sent to open sewers. Spills can be washed to drains and sewers with plenty of water, or neutralised using Sodium sulphite or Sodium thiosulphate.

6.3 Methods of Material Containment and cleaning up

Mopping up spills into a bucket or use an inert absorbent material (sand) and then subsequently dispose what is collected via drains, if possible. It is never wise to let a biocide, even when very dilute, be wasted into soil because it robs the fertility of the soil by killing the bacteria.

6.3.1 For containment

Collect in a suitable water proof container such as a bucket

6.3.2 For cleaning up

Clean all objects used and dispose of waste as advised, observing local environmental regulations

6.3.3 Other information

None

6.4 Reference to other information

Personal protection: wear gloves (see 6.1.2.4)

SECTION 7 Handling and Storage

7.1 Precautions for safe handling

7.1.1 Protective measures:

Close container tightly after removal. Wear gloves.

7.1.2 Measures to prevent fire:

The product is non-flammable. No special fire protection measures are necessary

7.1.3 Measures to prevent aerosol and dust generation:

Use hand pump spray bottles or hand-held sprayers responsibly where and as advised so that aerosol generation is managed as intended. Normal room ventilation is adequate. It is wise to avoid wetting exposed electrical parts. When the product dries, it leaves no dust.

7.1.4 Measures to protect the environment:

None needed as the product is not damaging to the environment

7.1.5 Advice on general occupational hygiene

Do not eat or drink when using the product, wear gloves and apply the product to those areas intended for disinfection. No need to over wet any area being cleaned. A covering is all that is required.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Technical measures and storage conditions:

Store in a cool and dark place

7.2.2 Requirements for storage rooms and vessels:

Store only in labelled clean bottles stamped with the most recent filling date. Never risk mixing the product. Bottles can be re-filled with the same product once emptied.

Bottles must be emptied before refilling with fresh product. Use within 30 days of the filling date.

- 7.2.3 Further information on storage conditions:
Keep bottles in a cool dark place as instructed on bottle labels

- 7.3 **Specific end use(s)**
Observe instructions for use

SECTION 8 Exposure Controls/Personal Protections

- 8.1 Control parameters
Chlorine (CAS No.7782-50-5)

UK Limit value – short term	
ppm	mg/m ³
0.5	1.5
Limit value – long term ¹	
ppm	mg/m ³
0.5	1.5

¹There are no UK national long-term exposure limits for chlorine. The value shown is the national limit for Austria, Denmark and Germany.

Do not eat or drink when using the product and handle in accordance with good industrial hygiene and safety practice

- 8.2 Exposure controls
There are no other exposure limits or measures recommended for the product
- 8.2.1 Appropriate engineering controls
Normal room ventilation is adequate to manage the mists and/or vapours that arise due to spray applications of the product.
- 8.2.2 Personal protective equipment
- 8.2.2.1 Eye and face protection: None required, but goggles are always a good idea.
- 8.2.2.2 Skin protection: Chemical resistant gloves
- 8.2.2.3 Respiratory protection: None required
- 8.2.2.4 Thermal hazards: None known
- 8.2.3 Environmental exposure controls
The droplet size from the spray guns are greater than 40 microns, so unlikely to be inhaled past the nostrils and compliant with ECHA environmental protection legislation
No specific measures. The product is safe to release to drains.

SECTION 9 Physical and Chemical Properties

Property

Appearance	Clear liquid
Odour	Very faint Chlorinous odour
Odour threshold	Not available
pH	6.3 – 6.8
Melting point/Freezing point	0°C
Boiling point	100°C
Flash point	Not available (non flammable)
Evaporation rate	Comparable to water
Flammability	Not flammable
Upper lower flammability/explosive limits	Not flammable or explosive
Vapour pressure	Not available
Vapour density (Air =1)	Similar to water
Relative density	999.4 kg/m ³ (Similar to Water)
Solubility in water	Complete
Solubility in organic solvents	Not available
Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	Does not auto-ignite
Decomposition temperature	Not available
Viscosity	Similar to water
Explosive properties	Not explosive
Oxidising properties	Slightly oxidising

SECTION 10 Stability and Reactivity

10.1 Reactivity

Due to dilution of Hypochlorous acid, it is a not very reactive. Similar to water.
No specific test data for this product or its ingredients.

10.2 Chemical Stability

Chemically stable under normal operating and recommended conditions of storage, use and temperature. But over time, the solution is metastable because it loses progressively its level of available active Chlorine, losing on average 22% over 30 days, and more quickly when exposed to high temperatures or direct sunlight.

10.3 Possibility of hazardous reactions

No hazardous reactions known and no polymerisation.

10.4 Conditions to avoid

Avoid accidental or uncontrolled contact of Product with acids and hydrogen peroxide.

10.5 Incompatible materials

Avoid contact of Product with strong oxidising/reducing agents including acids.

10.6 Hazardous decomposition products

Hypochlorite and Chlorine are produced in very low concentrations when the Hypochlorous acid product slowly breaks down to its components salt and water over many months.

SECTION 11 Toxicological Information

11.1 Information on toxicological effects

(a) Acute toxicity

Acute oral toxicity: No Oral toxicity known. Not classified.

Chlorine: Acute Oral LD50 in rats: 0.73 g/kg bw

- Acute inhalation toxicity: No inhalation toxicity known. Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)
- Acute dermal toxicity: No dermal toxicity known. Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)

Chlorine: Dermal LD50 in rats: 1.26 – 2.0 g/kg bw

(b) Skin corrosion/irritation

No dermal irritation induced in rabbits, gerbils and rats at 1000 ppm. Nothing reported from the work force either. Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)

(c) Eye damage/eye irritation: No inflammation, irritation, or other eye damage induced in rabbits, gerbils and rats when applied to the sclera (white tissue of the eye balls) at concentrations of up to 1000 ppm. Not classified.

(d) Respiratory or skin sensitisation

None induced. Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)

(e) Germ Cell mutagenicity

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)-

(f) Carcinogenicity

None known, but no conclusion has been made on the carcinogenicity of Chlorine based on the limited information available from human and animal studies. Neither the Product nor any of the constituents into which it breaks down have been listed in the latest NTP Annual Report on Carcinogens, or has been found to be a potential carcinogen in the latest IARC Monograph or by OSHA.

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)

(g) Reproductive toxicity

No teratogenicity known, but no conclusion has been made based on human and animal studies. None of the mixture components are known to be toxic to any aspects of reproduction

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation).

(h) STOT-single exposure

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation).

(i) STOT-repeated exposure

Repeated exposure to skin has caused no adverse effects in the work force.

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation).

(j) Aspiration hazard

There is no known evidence of damage to the respiratory organs due to aspiration.

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation)

SECTION 12 Ecotoxicological Information

12.1 Toxicity

Not classified according to Regulation (EC) No 1272/2008 (CLP Regulation).

The Product destroys bacteria, viruses, fungi, spores and algae. It presents no adverse effects on the environment and it is used in such a low concentration that by the time it reaches the waterways of the environment, it is difficult to detect any. The concentrations of Hypochlorous used are very low, 0.06%. These levels are even more dilute in the waters of the environment.

12.2 Persistence and degradability

There is no persistence of the Product in the environment because it is metastable and breaks down mostly to salt and water very readily (22% per 30 days in a transparent bottle at normal room temperature), with very little Hypochlorite and free Chlorine due to the very low concentration of Hypochlorous acid 0.06%.

12.3 Bio-accumulative potential

None

12.4 Mobility in soil

No information available

12.5 Results on PBT and vPvB assessment

The results of a chemical safety report including the results of a Persistent Bio-accumulative and Toxic (PBT) and very Persistent and very bio-accumulative (vPvB) assessment are not available.

12.6 Other adverse effects

No adverse effects reported

SECTION 13 Disposal considerations

13.1 Waste treatment methods

13.1.1 Product/Packaging disposal

Industrial use: No special disposal procedures. The packaging is in strong plastic containers, both large industrial containers down to hand held spray bottles, and all the containers are designed for repeated refilling and reuse. The empty containers should not be used for any other products. Once damaged, the plastic containers can be used for recycling.

13.1.2 Waste treatment-relevant information
Product can be emptied to drains and sewers

13.2 Other disposal-relevant information
Ensure compliance with EC, national and local regulations when disposing of product using local drains and sewers

SECTION 14 Transport Information

14.1 UN Number

Not classified as hazardous for transport

14.2 UN proper shipping name

Not hazardous for transport

14.3 Transport hazard class(es)

Not hazardous for transport

14.4 Packaging group

Not hazardous for transport

14.5 Environmental hazards

No environmental hazards

14.6 Special precautions for user

None required

SECTION 15 Regulatory Information

15.1 The Safety health and environmental regulations are specific for the substance

This safety data sheet has been compiled according to the requirements of Regulation (EC) No 1907/2006, Regulation (EC) 1272/2008 and Regulation (EU) 830/2015

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out

SECTION 16 Other Information

16.1 Indication of changes

Date of Issue: 18th November 2020

16.2 Abbreviations/Acronyms:

CAS No: Chemical Abstracts Service Number
CLP: Classification Labelling and Packaging Regulation (EC) No. 1272/2008
DNEL: Derived No-Effect Level
ES: Exposure Scenario
EC: European Commission
LC50: Lethal concentration, 50%
LD50: Median Lethal dose
NA: No Applicable Information
ND: Not Determined
PBT: Persistent Bio-accumulative and Toxic
PC: Product Category
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
STOT: Specific Target Organ Toxicity
TLV: Threshold Limit Value
TWA: Time Weighted Average, 8 hrs
vPvB: Very Persistent and Very Bio-accumulative
WEL: Workplace Exposure Limits

16.3 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

The classification of this product has been assessed in accordance with Annex I of Regulation (EC) No. 1272/2008.

16.5 Relevant H-statements and P- statements (number and full text):

H270 May cause or intensify fire; oxidiser
H314 Causes severe skin burns and eye damage
H315 Causes skin irritation
H318 Causes serious eye damage
H319 Causes serious eye irritation
H331 Toxic if inhaled
H335 May cause respiratory irritation
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
EUH031 Contact with acids liberates toxic gas

16. 6 Training Advice

The Product should be handled by trained personnel

16. 7 Additional Information:

The above information is designed to give advice with regard to the safe handling of the storage, transport and disposal of the Product named in this Safety Data Sheet. It describes exclusively the safety requirements of the Product and it is based on our present-day knowledge, according to Regulation (EC) No 1907/2006.