SAFETY DATA SHEET
ACTIVE

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name ACTIVE

Product number HLA28

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

Identified uses Disinfectant. For professional use only. Disinfectants must be used responsibly in line with manufacturer's instructions.

Uses advised against Not for direct contact with Food or Beverage stuffs. Not for oral consumption.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD
+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.
This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599 (This is a Lo Call Number)
This product is registered with the Irish National Poison Centre (NPIC at Beaumont Hospital - Dublin). The Poison Centre can be contacted between 8am and 10pm, telephone +00353 1 8092566.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Met. Corr. 1 - H290

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT RE 2 - H373

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411

2.2. Label elements

ACTIVE

Pictogram

Signal word	Danger
Hazard statements	H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective clothing, gloves, eye and face protection. P303+P361+P353 IF ON SKIN (or hair): 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. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P313 Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations.
Contains	ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE, SODIUM ARYL SULPHONATE
Detergent labelling	15 - < 30% EDTA and salts thereof, < 5% amphoteric surfactants, < 5% anionic surfactants, < 5% non-ionic surfactants
Supplementary precautionary statements	P404 Store in a closed container.
Labelling notes	This classification relates to the neat product only. Normal in use solutions are expected to have no Health Classifications.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Note: "H290 May Be Corrosive to Metals" relates to the concentrated product. Note: H373 Relates only to neat product as delivered, it does not apply to use solutions. This product is not volatile and not intended for consumption, through normal use H373 is not expected to be a risk, but should be considered as part of a COSHH assessment

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT **10 - <20%**

CAS number: 64-02-8 | EC number: 200-573-9 | REACH registration number: 01-2119486762-27

Classification
Met. Corr. 1 - H290
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Eye Dam. 1 - H318
STOT RE 2 - H373

Classification (67/548/EEC or 1999/45/EC)
Xn;R20,R22. Xi;R41.

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N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE		1-5%
CAS number: 2372-82-9	EC number: 219-145-8	REACH registration number: 01-2119980592-29-XXXX
M factor (Acute) = 10	M factor (Chronic) = 1	

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 3 - H301 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT RE 2 - H373 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Xn; R22, R48/22. C; R35. N; R50

SODIUM ARYL SULPHONATE		1-5%
CAS number: 1300-72-7	EC number: 215-090-9	REACH registration number: 01-2119513350-56-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi; R36

ALCOHOL ETHOXYLATE	<1%
CAS number: 68131-39-5	
M factor (Acute) = 1	

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 3 - H412	Xn;R22. Xi;R41. N;R50.

SODIUM HYDROXIDE		<1%
CAS number: 1310-73-2	EC number: 215-185-5	REACH registration number: 01-2119457892-27

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318	C;R35

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH. The Biocidally Active components of this product are supported in the Biocidal Products Regulation.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

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Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.
Skin contact	Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	Neat product will cause skin irritation and potentially permanent eye damage. Dilute product will result in less severe damage to the eyes, but contact should be treated as per neat chemical.
Inhalation	Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose.
Ingestion	Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. If dilute chemical is ingested some soreness of the mouth, throat and GI tract may occur.
Skin contact	Chemical burns are possible after prolonged contact. Use solutions may cause mild irritation, especially to open cuts and abrasions.
Eye contact	May result in permanent eye damage.

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

Notes for the doctor	Contains Chelating Agents and Surfactants in Aqueous Solution. Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Mixing with Hypochlorite based chemicals could result in a dangerous heating of the solution and evolution of Carbon Dioxide and Oxygen. Note - Comment refers to neat product. On heating irritating fumes may be formed.

5.3. Advice for firefighters

Protective actions during firefighting	Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

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Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid or minimise the creation of any environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Dike far ahead of larger spills for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Refer to section 8. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Store in a cool and well-ventilated place. Store away from:- Acids. Chlorinated Detergents and Disinfectants. Store between - 5 and 35 Degrees C

7.3. Specific end use(s)

Specific end use(s) Disinfectant, refer to Product Information Sheet for full details.

Usage description This product is suitable for use in food preparation areas

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

SODIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m³
WEL = Workplace Exposure Limit

Ingredient comments DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2. Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT (CAS: 64-02-8)

DNEL Professional - Inhalation; Long term systemic effects: 1.5 mg/m³

PNEC
- Fresh water; 2.86 mg/l
- Marine water; 0.286 mg/l
- Intermittent release; 1.56 mg/l
- Soil; 0.937 mg/kg, mg/kg dwt
- STP; 55.94 mg/kg

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N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE (CAS: 2372-82-9)

DNEL

Professional - Inhalation; Long term systemic effects: 2.35 mg/m³

PNEC

- Fresh water; 0.001 mg/l
- Marine water; 0.0001 mg/l
- Sediment (Freshwater); 8.5 mg/l
- Sediment (Marinewater); 0.85 mg/l
- Soil; 45.34 mg/l

SODIUM ARYL SULPHONATE (CAS: 1300-72-7)

DNEL

Workers - Dermal; Long term systemic effects: 136.25 mg/kg/day
Workers - Inhalation; Long term systemic effects: 26.9 mg/m³
Workers - Dermal; Long term local effects: 0.096 mg/cm²
General population - Inhalation; Long term systemic effects: 6.6 mg/m³
General population - Dermal; Long term systemic effects: 68.1 mg/kg
General population - Dermal; Long term local effects: 0.048 mg/cm²
General population - Oral; Long term systemic effects: 3.8 mg/kg/day

PNEC

- Fresh water; 0.23 mg/l
- Marine water; 0.023 mg/l
- Intermittent release; 2.3 mg/l
- Sediment, Fresh water; 0.862 mg/kg
- Sediment, Marine water; 0.0862 mg/kg
- Soil; 0.037 mg/kg
- STP; 100 mg/l

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL

Industry - Inhalation; Long term local effects: 1.0 mg/m³
DNEL data for Professional users is not yet available, but it is assumed to be the same as for Industrial users.
Industry - Dermal; Short term local effects: 2%

PNEC

No information is available for PNEC data for Sodium Hydroxide

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

If use of this product generates dust, mists, vapours or fumes, process enclosures or local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits quoted in this msds or other data sources.

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Refer to EN Standard 166 to select appropriate level of protection.

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Hand protection	Nitrile Rubber of at least 0.4mm coating thickness with a breakthrough time of >240min. Refer to Standard EN 374.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.
Hygiene measures	Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Provide eyewash station and safety shower.
Respiratory protection	In the case of dust or aerosol formation (eg spraying), or vapour from hot vessels, use respiratory protection with an approved filter (P2).
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13. We believe that the disinfectant active component(s) of this formulation represent the greatest environmental risk. Information on these are given in section 12. Users of this product should consult local drainage and permitting authorities to ensure that any restrictions or discharge consents are adhered to.
General Health and Safety Measures.	The above information relates to the neat product. Recommended use solutions will be unclassified for health hazards, but use of gloves and eye protection is advised.A full Risk Assessment should be carried out before handling any chemical(s). Risk Assessments should refer to COSHH, and any other relevant legislation or industry specific guidelines governing the use of chemicals.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid. Liquid
Colour	Colourless.
Odour	Detergent.
Odour threshold	Not applicable.
pH	pH (diluted solution): 11.0 - 11.5 @ 1%
Melting point	Not applicable.
Initial boiling point and range	Approximately 95 - 105 Degrees C at Atmospheric Pressure.
Flash point	Not applicable. Contains no Flammable Components
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	1.13 @ @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not applicable. Technically not feasible. Not technically practical for mixtures.

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Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not determined.
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising. Not applicable. Contains no Oxidising Components.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	- 5 to 35 Degree C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. - See note 10.6.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Refer to section 10.1. Do not mix with Hypochlorite based chemicals, this could result in a dangerous heating of the solution.

10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid	Do not mix with Hypochlorite based chemicals this could result in a hazardous reaction producing heat, CO2 and O2.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. - See section 10.5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ACTIVE

ATE oral (mg/kg)	4,092.77
Acute toxicity - inhalation	
ATE inhalation (dusts/mists mg/l)	9.87
Respiratory sensitisation	
Respiratory sensitisation	No evidence of skin sensitisation for any component of this formulation.
Carcinogenicity	
Carcinogenicity	The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.
Reproductive toxicity	
Reproductive toxicity - fertility	The components of this formulation will not be systemically available in the body under normal conditions of use and handling. As a consequence it is not expected to be toxic to the reproductive system or developing foetus.
General information	See section 4.2.
Inhalation	Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. - See section 4.2.
Ingestion	Will cause severe irritation to mouth, throat and GI-Tract.
Skin contact	Neat product may cause reddening of skin and with prolonged contact burns. Prolonged or repeated contact of in use solutions with skin may cause redness, itching, irritation and eczema/chapping. Use solutions may cause mild irritation especially to open cuts and abrasions.
Eye contact	Risk of serious damage to eyes. May cause permanent eye injury.

SECTION 12: Ecological Information

Ecotoxicity	This product is classified as very toxic to aquatic life, this refers to the neat product. Normal use is not expected to pose a risk.

12.1. Toxicity

Acute toxicity - fish	To the best of our current knowledge, the main ecotoxicological impact from this product is due to N-(3-Aminopropy)-N-Dodecylpropane-1,3-Diamine, for which we have the following information:- N-(3-Aminopropy)-N-Dodecylpropane-1,3-Diamine:- The EC50(48hr) value for Daphnia magna is 0.073mg/l. Tne NOEC(21d) value for Daphnia magna is 0.024mg/l. The LC50(96hr) value for Rainbow Trout) is 0.68mg/l. The ErC50(96hr) value for Green Algae is 0.054mg/l. The toxicity to bacteria EC50(3hr) is 18mg/l activated sludge. Note:- pH values greater than 10.5 may be fatal to fish and other aquatic organisms, there may also be damage to aquatic plants. Normal use of diluted product is unlikely to pose a risk.

12.2. Persistence and degradability

Persistence and degradability	The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European Detergents Regulation No 648/2004 as amended.

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12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

Partition coefficient Not applicable. Technically not feasible. Not technically practical for mixtures.

12.4. Mobility in soil

Mobility The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals.

Disposal methods Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1903

UN No. (IMDG) 1903

UN No. (ICAO) 1903

UN No. (ADN) 1903

14.2. UN proper shipping name

Proper shipping name (ADR/RID) DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE)

Proper shipping name (IMDG) DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE, ALCOHOL ETHOXYLATE)

Proper shipping name (ICAO) DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE)

Proper shipping name (ADN) DISINFECTANT, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, N-(3-AMINOPROPYL)-N-DODECYLPROPANE-1,3-DIAMINE)

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID classification code C9

ADR/RID label 8

ACTIVE

IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels

14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ADN packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-A, S-B
ADR transport category	1
Hazard Identification Number (ADR/RID)	88
Tunnel restriction code	(E)

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

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

EU legislation	European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

Pcs Information	A solution containing 4.5% wt/wt Triamine in aqueous solution. Authorisation holder Holchem Laboratories Ltd.
Pcs Number	PCS No:- 94464

No chemical safety assessment has been carried out.

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SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures.
NPIS - National Poisons Information Service.
vPvB - Very Persistent, Very bioaccumulative.
PBT - Persistent, Bioaccumulative & Toxic.
REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006).
DNEL - Derived No Effect Limit.
PNEC - Predicted No Effect Concentration.
COSHH - Control of Substances Hazardous to Health.
LC50 - Lethal Concentration 50 - The environmental contamination at which 50% mortality is reached over a fixed time scale.
LD50 - Lethal Dose 50 - The dose at which 50% of the tested group will die.
Industry - Refers in section 8 to application of the substance in an industrial process.
Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.

General information

PCS No:- 94464 This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment. The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.

Revision comments

Change of Health Classification from H315, H318 to H314, H373. Addition of Physical classification H290. Note these only apply to the neat product as delivered. Use solutions remain unclassified for Health and Physical criteria. No change to formulation

Revision date

10/06/2017

Risk phrases in full

R20 Harmful by inhalation.
R22 Harmful if swallowed.
R35 Causes severe burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50 Very toxic to aquatic organisms.

Hazard statements in full

H290 May be corrosive to metals.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H373 May cause damage to organs (Respiratory tract) through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.
END OF SAFETY DATA SHEET	

SAFETY DATA SHEET
CS-310

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name CS-310

Product number 6221

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

Identified uses Corrosion inhibitor.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Rochester Midland Corporation Ltd.
Unit 24 Nine Mile Point Ind. Est
Cwmfelinfach
Crosskeys
NP11 7HZ
UK
T: +44 (0) 1495 200005
E: hq@rmcorp.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0) 1495 200005
Monday - Friday 09:00 - 17:00h (UK)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn; R22. C; R34

2.2. Label elements

Pictogram

Signal word Danger

Hazard statements H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

CS-310

Precautionary statements	P260 Do not breathe vapour/spray. P280 Wear protective clothing, gloves, eye and face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P310 Immediately call a POISON CENTER/doctor. P303+P361+P353 IF ON SKIN (or hair): 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. P501 Dispose of contents/container in accordance with national regulations.
Contains	Sodium metasilicate pentahydrate, Sodium nitrite, etidronic acid, potassium hydroxide, Sodium 4(or 5)-methyl-1H-benzotriazolide
Supplementary precautionary statements	P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Sodium metasilicate pentahydrate **10 - <25%**

CAS number: 10213-79-3

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335	C; R34. Xi; R37

Sodium nitrite **5 - <10%**

CAS number: 7632-00-0 EC number: 231-555-9 REACH registration number: 01-2119471836-27-0000

M factor (Acute) = 1

Classification	Classification (67/548/EEC or 1999/45/EC)
Ox. Sol. 2 - H272 Acute Tox. 3 - H301 Eye Irrit. 2 - H319 Aquatic Acute 1 - H400	O; R8. T; R25. N; R50

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etidronic acid		**2.5 - <5%**
CAS number: 2809-21-4	EC number: 220-552-8	REACH registration number: 01-2119510391-53-XXXX

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Met. Corr. 1 - H290 Acute Tox. 4 - H302 Eye Dam. 1 - H318	Xn; R22. Xi; R41

potassium hydroxide		**2.5 - <5%**
CAS number: 1310-58-3	EC number: 215-181-3	REACH registration number: 01-2119487136-33-XXXX

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Met. Corr. 1 - H290 Acute Tox. 4 - H302 Skin Corr. 1A - H314 Eye Dam. 1 - H318	Xn; R22. C; R35

Sodium 4(or 5)-methyl-1H-benzotriazolide		**1 - <2.5%**
CAS number: 64665-57-2	EC number: 265-004-9	

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412	Xn; R22. C; R34. R52/53

disodium tetraborate decahydrate		**0.5 - <1%**
CAS number: 1330-43-4	EC number: 215-540-4	REACH registration number: 01-2119490790-32-XXXX

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Eye Irrit. 2 - H319 Repr. 1B - H360FD	Xi; R36. Repr. Cat. 2 R60, R61

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

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Ingestion Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation A single exposure may cause the following adverse effects: Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.

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5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

6.2. Environmental precautions

Environmental precautions The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Neutralise with acid. Caution. May generate heat. Following dilution and neutralisation, discharge to the sewer with plenty of water may be permitted. The requirements of the local water authority must be complied with if contaminated water is flushed directly to the sewer. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in accordance with local regulations. Store away from the following materials: Acids. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class Corrosive storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

potassium hydroxide

Short-term exposure limit (15-minute): WEL 2 mg/m³

disodium tetraborate decahydrate

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Yellow.
Odour threshold	Not determined.
pH	pH (concentrated solution): 12.85
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.25

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Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Other information	No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid	Acid anhydrides. Acids. Phenols, cresols.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50})	Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg)	1,501.88

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Skin Corr. 1B - H314 Causes severe burns.

Serious eye damage/irritation

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Serious eye damage/irritation Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of entry Ingestion Inhalation Skin and/or eye contact

Target organs No specific target organs known.

Toxicological information on ingredients.

Sodium metasilicate pentahydrate

Skin corrosion/irritation

Animal data Corrosive to skin.

Serious eye damage/irritation

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Serious eye damage/irritation	Corrosive to skin. Corrosivity to eyes is assumed.

Specific target organ toxicity - single exposure

STOT - single exposure	STOT SE 3 - H335 May cause respiratory irritation.

Sodium nitrite

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	180.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information. Toxic if swallowed.
ATE oral (mg/kg)	180.0

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	NOAEL 150 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility	Fertility - NOAEL >370 mg/kg/day, Oral, Mouse P REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 0.5 g/L, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	Based on available data the classification criteria are not met.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL 10 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard	Not anticipated to present an aspiration hazard, based on chemical structure.

etidronic acid

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,878.0
Species	Rat
Notes (oral LD_{50})	Harmful if swallowed.
ATE oral (mg/kg)	1,878.0

Acute toxicity - dermal

Notes (dermal LD_{50})	> 10000 mg/kg, Rabbit, REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	No information available.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	NOAEL 493 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

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Reproductive toxicity - fertility	No information available.
Reproductive toxicity - development	No information available.

Specific target organ toxicity - single exposure

STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	NOAEL 1724 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard	Not relevant.

potassium hydroxide

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	333.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information. Acute Tox. 4 - H302 Harmful if swallowed.
ATE oral (mg/kg)	333.0

Acute toxicity - dermal

Notes (dermal LD_{50})	No information available.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	No information available.

Skin corrosion/irritation

Animal data	Skin Corr. 1A - H314 Causes severe skin burns and eye damage. REACH dossier information.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 0.1 ml (0.1 - 5%), 5 minutes, Rabbit REACH dossier information. Eye Dam. 1 - H318 Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation	No information available.

Skin sensitisation

Skin sensitisation	Intracutaneus test - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

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Carcinogenicity No information available.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

Sodium 4(or 5)-methyl-1H-benzotriazolide

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 640.0

Species Rabbit

Notes (oral LD_{50}) Harmful if swallowed. Raw material suppliers' information.

ATE oral (mg/kg) 640.0

Acute toxicity - dermal

Notes (dermal LD_{50}) > 2000 mg/kg Rabbit Raw material suppliers' information.

Skin corrosion/irritation

Animal data Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Corrosivity to eyes is assumed.

disodium tetraborate decahydrate

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg) 3,450.0

Species Rat

Notes (oral LD_{50}) REACH dossier information. Based on available data the classification criteria are not met.

ATE oral (mg/kg) 3,450.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg) 2,001.0

Species Rabbit

Notes (dermal LD_{50}) REACH dossier information. Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 2,001.0

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Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Dose: 0.5g, 24 hours, Rabbit Primary dermal irritation index: 0.1 REACH dossier information. Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Buehler test - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro DNA damage and/or repair: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity NOAEL >5000 ppm, Oral, Mouse REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Three-generation study - NOAEL 100 mg/kg/day, Oral, Rat F1 REACH dossier information. May damage fertility.

Reproductive toxicity - development Developmental toxicity: - NOAEL: 55 mg/kg/day, Oral, Rat REACH dossier information. May damage the unborn child.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 100 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

SECTION 12: Ecological Information

Ecotoxicity The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met.

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Ecological information on ingredients.

Sodium metasilicate pentahydrate

Toxicity	Based on available data the classification criteria are not met.

Sodium nitrite

Toxicity	Aquatic Acute 1 - H400 Very toxic to aquatic life.
Acute aquatic toxicity	
LE(C)$_{50}$	0.1 < L(E)C50 ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC_{50}, 96 hours: 0.54 - 26.3 mg/l, Onchorhynchus mykiss (Rainbow trout) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{0}, 48 hours: 4.6 mg/l, Daphnia magna EC_{50}, 48 hours: 15.4 mg/l, Daphnia magna EC_{100}, 48 hours: > 100 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: > 100 mg/l, Desmodesmus subspicatus NOEC, 72 hours: 100 mg/l, Desmodesmus subspicatus REACH dossier information.
Acute toxicity - microorganisms	EC_{50}, 24 hours: 285 mg/l, Spirostomum ambiguum EC_{50}, 48 hours: 281 mg/l, Spirostomum ambiguum REACH dossier information.
Chronic toxicity - fish early life stage	NOEC, 29 days: 1.05 mg/l, Cyprinus carpio (Common carp) REACH dossier information.
Chronic toxicity - aquatic invertebrates	NOEC, 80 days: 9.86 mg/l, Penaeus monodon (Asian tiger shrimp) EC_{50}, 80 days: 114.9 mg/l, Penaeus monodon (Asian tiger shrimp) LC_{50}, 80 days: > 95.6 mg/l, Penaeus monodon (Asian tiger shrimp) REACH dossier information.

etidronic acid

Toxicity	Aquatic toxicity is unlikely to occur. Based on available data the classification criteria are not met.
Acute toxicity - fish	NOEC, 96 hours: 180 mg/l, Onchorhynchus mykiss (Rainbow trout) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 527 mg/l, Daphnia magna REACH dossier information.

potassium hydroxide

Toxicity	The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

Sodium 4(or 5)-methyl-1H-benzotriazolide

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Toxicity	Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.
Acute toxicity - fish	LC_{50}, 96 hours: 25 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 280 mg/l, Daphnia magna

disodium tetraborate decahydrate

Acute toxicity - fish	LC_{50}, 96 hours: 74 mg/l, Limanda limanda (common dab)
Acute toxicity - aquatic invertebrates	LC_{50}, 96 hours: 147 mg/l, Legumia recta (Black sandshell mussel)
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 40.2 mg/l, Selenastrum capricornutum

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

Sodium metasilicate pentahydrate

Persistence and degradability	The degradability of the product is not known.

Sodium nitrite

Persistence and degradability	The product contains inorganic substances which are not biodegradable.

etidronic acid

Biodegradation	The product is not readily biodegradable.
Biological oxygen demand	15.1 mg O_2/l REACH dossier information.

potassium hydroxide

Persistence and degradability	The product contains inorganic substances which are not biodegradable.

Sodium 4(or 5)-methyl-1H-benzotriazolide

Persistence and degradability	The product is readily biodegradable.
Biodegradation	Water and sediment - Degradation 70%: 28 days

disodium tetraborate decahydrate

Persistence and degradability	The degradability of the product is not known.

12.3. Bioaccumulative potential

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Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

Sodium metasilicate pentahydrate

Bioaccumulative potential No data available on bioaccumulation.

Sodium nitrite

Bioaccumulative potential No data available on bioaccumulation.

etidronic acid

Bioaccumulative potential BCF: 31, Cyprinus carpio (Common carp) REACH dossier information. The product is not bioaccumulating.

Partition coefficient log Pow: -3.5 REACH dossier information.

potassium hydroxide

Bioaccumulative potential No data available on bioaccumulation.

Sodium 4(or 5)-methyl-1H-benzotriazolide

Partition coefficient log Pow: 0.658

disodium tetraborate decahydrate

Bioaccumulative potential BCF: 0.7-1.4, Crassostrea gigas (Pacific oyster)

Partition coefficient log Pow: -1.53

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems.

Ecological information on ingredients.

Sodium metasilicate pentahydrate

Mobility No data available.

Sodium nitrite

Mobility The product is soluble in water.

etidronic acid

Mobility The product is soluble in water.

potassium hydroxide

Mobility Mobile.

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Sodium 4(or 5)-methyl-1H-benzotriazolide

Mobility Not known.

disodium tetraborate decahydrate

Mobility The product is soluble in water.

Surface tension 71 mN/m @ 23°C

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

Sodium metasilicate pentahydrate

Results of PBT and vPvB assessment No data available.

Sodium nitrite

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

etidronic acid

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

potassium hydroxide

Results of PBT and vPvB assessment Substance is inorganic. Not relevant.

Sodium 4(or 5)-methyl-1H-benzotriazolide

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

disodium tetraborate decahydrate

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

Ecological information on ingredients.

etidronic acid

Other adverse effects None known.

Sodium 4(or 5)-methyl-1H-benzotriazolide

CS-310

Other adverse effects Not known.

disodium tetraborate decahydrate

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID) 3266

UN No. (IMDG) 3266

UN No. (ICAO) 3266

UN No. (ADN) 3266

14.2. UN proper shipping name

Proper shipping name (ADR/RID) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS potassium hydroxide, etidronic acid)

Proper shipping name (IMDG) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS potassium hydroxide, etidronic acid)

Proper shipping name (ICAO) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS potassium hydroxide, etidronic acid)

Proper shipping name (ADN) CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (CONTAINS potassium hydroxide, etidronic acid)

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID classification code C5

ADR/RID label 8

IMDG class 8

ICAO class/division 8

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ADN class 8

Transport labels

14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ADN packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-A, S-B

ADR transport category 2

Emergency Action Code 2X

Hazard Identification Number (ADR/RID) 80

Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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

National regulations Health and Safety at Work etc. Act 1974 (as amended).
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
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 (as amended).

15.2. Chemical safety assessment

CS-310

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008	Acute Tox. 4 - H302, Skin Corr. 1B - H314, Eye Dam. 1 - H318: Calculation method.
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision comments	Classification according to EC 1272/2008 (CLP).
Revision date	28/05/2015
Revision	5
Supersedes date	11/10/2011
SDS number	3169
Risk phrases in full	R8 Contact with combustible material may cause fire. R22 Harmful if swallowed. R25 Toxic if swallowed. R34 Causes burns. R35 Causes severe burns. R36 Irritating to eyes. R37 Irritating to respiratory system. R41 Risk of serious damage to eyes. R50 Very toxic to aquatic organisms. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R60 May impair fertility. R61 May cause harm to the unborn child.
Hazard statements in full	H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H301 Toxic if swallowed. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H360FD May damage fertility. May damage the unborn child. H400 Very toxic to aquatic life. H412 Harmful to aquatic life with long lasting effects.

HOLCHEM

SAFETY DATA SHEET
PERBAC AGRI

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name PERBAC AGRI

Product number HLP25

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

Identified uses Disinfectant. For professional use only.

Uses advised against Not for use by hand. Not for direct contact with Food or Beverage stuffs. Not for Direct Oral Consumption. Must not be used where Hypochlorite based chemicals (Bleach) are present.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD
+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.
This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599 (This is a Lo Call Number)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Ox. Liq. 2 - H272 Met. Corr. 1 - H290

Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards Aquatic Chronic 1 - H410

2.2. Label elements

Hazard pictograms

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Signal word	Danger
Hazard statements	H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260 Do not breathe vapour/ spray. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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. P313 Get medical advice/ attention. P391 Collect spillage. P501 Dispose of contents/ container in accordance with national regulations.
Contains	HYDROGEN PEROXIDE SOLUTION ... %, ACETIC ACID, PERACETIC ACID, ALCOHOLS C6-12 ETHOXYLATED
Detergent labelling	15 - < 30% oxygen-based bleaching agents, < 5% non-ionic surfactants
Supplementary precautionary statements	P220 Keep away from clothing and other combustible materials. P234 Keep only in original packaging. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Note H290 classification relates to the Neat Undiluted Product.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HYDROGEN PEROXIDE SOLUTION ... % **10-30%**

CAS number: 7722-84-1 | EC number: 231-765-0 | REACH registration number: 01-2119485845-22

Classification
Ox. Liq. 1 - H271
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Corr. 1A - H314
Eye Dam. 1 - H318
STOT SE 3 - H335

Classification (67/548/EEC or 1999/45/EC)
R5 O;R8 C;R35 Xn;R20/22

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ACETIC ACID		10-30%
CAS number: 64-19-7	EC number: 200-580-7	REACH registration number: 01-2119475328-30-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226 Skin Corr. 1A - H314 Eye Dam. 1 - H318	C;R35. R10.

PERACETIC ACID		5-10%
CAS number: 79-21-0	EC number: 201-186-8	REACH registration number: 01-2119531330-56-0000
M factor (Acute) = 1	M factor (Chronic) = 10	

Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226 Org. Perox. C - H242 Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Xn;R20/21/22. C;R35. O;R7. N;R50. R10.

ALCOHOLS C6-12 ETHOXYLATED	1-5%
CAS number: 68439-45-2	

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Eye Dam. 1 - H318	Xn;R22. Xi;R41.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The Biocidally Active components of this product are supported in the Biocidal Products Regulation. To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH. Note:- H290 "May be Corrosive to Metals" refers to the neat product.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury. For immediate First Aid advice in the UK, dial 111.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.

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Skin contact	Immediately remove contaminated clothing. Rinse immediately with plenty of water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. In case of difficulty of opening eye lids, administer an analgesic eye wash (oxybuprocaine).
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The information given here relates to the neat chemical, dilutions may also cause chemical burns to skin and permanent eye damage.
Inhalation	Severe repiratory irritant. Breathing difficulties will be experienced, together with coughing, pulmonary oedma. On repeated exposure nose bleeds an chronic bonchitis may be experienced. If mixed with Hypochlorite based products (Bleach) Chlorine Gas may be evolved, this can result in irritation to eyes and difficulty in breathing. If inhaled this may result in irritation to the mouth, nose and respiratory tract.
Ingestion	Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. There is potential for perforation of the oesophagus and stomach. Similar but less severe symptoms will be seen if dilute chemical is ingested.
Skin contact	This product is strongly corrosive.
Eye contact	This product is strongly corrosive. May result in permanent eye damage.

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

Notes for the doctor	Strongly Oxidising Acid in Aqueous Solution. Rinse well with water to neutral pH. Risk of Respiratory disorder.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire. Water. Water spray, fog or mist.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Strong Oxidiser, may cause fire or explosion. Oxygen released in thermal decomposition may support combustion. In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Contact with Sodium Hypochlorite liberates toxic Chlorine Gas.

5.3. Advice for firefighters

Protective actions during firefighting	Use air respirator if substance is involved in a fire. Cool containers exposed to flames with water until well after the fire is out.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions	Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Keep above the chemical's freezing point. Keep away from chlorinated and alkaline products.

7.3. Specific end use(s)

Specific end use(s) Disinfectant, refer to Product Information Sheet for full details. Use in well ventilated areas.

Usage description This product is suitable for use in food and beverage processing plants, but it is not designed for direct food contact.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

HYDROGEN PEROXIDE SOLUTION ... %

Long-term exposure limit (8-hour TWA): WEL 1 ppm 1.4 mg/m³
Short-term exposure limit (15-minute): WEL 2 ppm 2.8 mg/m³

ACETIC ACID

Long-term exposure limit (8-hour TWA): WEL 10 ppm
Short-term exposure limit (15-minute): 20 ppm

PERACETIC ACID

Short-term exposure limit (15-minute): 0.4 ppm
WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

HYDROGEN PEROXIDE SOLUTION ... % (CAS: 7722-84-1)

DNEL

Professional - Inhalation; Short term local effects: 3 mg/m³
Professional - Inhalation; Long term local effects: 1.4 mg/m³
Consumer - Inhalation; Short term local effects: 1.93 mg/m³
Consumer - Inhalation; Long term local effects: 0.21 mg/m³

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PNEC

- Fresh water; 0.0126 mg/l
- marine water; 0.0126 mg/l
- Intermittent release; 0.0138 mg/l
- STP; 4.66 mg/l
- Sediment (Freshwater); 0.047 mg/kg
- Sediment (Marinewater); 0.047 mg/kg
- Soil; 0.0023 mg/kg

ACETIC ACID (CAS: 64-19-7)

DNEL

General population - Inhalation; Long term systemic effects: 25 mg/m³
General population - Inhalation; Acute local effects: 25 mg/m³
General population - Oral; Long term systemic effects: 7.20 ug/KG bw/day

PERACETIC ACID (CAS: 79-21-0)

DNEL

Professional - Inhalation; Short term systemic effects: 0.6 mg/m³
Professional - Inhalation; Long term systemic effects: 0.6 mg/m³
Professional - Inhalation; Short term local effects: 0.6 mg/m³
Professional - Inhalation; Long term local effects: 0.6 mg/m³
Professional - Dermal; Short term local effects: 0.12 %
Consumer - Inhalation; Short term systemic effects: 0.6 mg/m³
Consumer - Inhalation; Long term systemic effects: 0.6 mg/m³
Consumer - Inhalation; Long term local effects: 0.6 mg/m³
Consumer - Inhalation; Short term local effects: 0.3 mg/m³
Consumer - Dermal; Short term local effects: 0.12 %

PNEC

- Fresh water; 0.000224 mg/l
- STP; 0.051 mg/l
- Sediment (Freshwater); 0.00018 mg/kg
- Soil; 0.320 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

If use of this product generates dust, mists, vapours or fumes, process enclosures or local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits quoted in this msds or other data sources.

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

Eye/face protection

The following protection should be worn: Full face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.

Hand protection

It is recommended that gloves are made of the following material: Butyl rubber. Refer to Standard EN 374 and EN 16523 The selected gloves should have a breakthrough time of at least 8 hours.

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Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.
Hygiene measures	Provide eyewash station and safety shower. Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Contaminated clothing and shoes must be discarded.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Recommended filter type ABEK-P2. Consult EN133 AND EN141.
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13. Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted.
General Health and Safety Measures.	The above requirements refer to the neat chemical. In-use solutions may have a lower classification, however, a full risk assessment should be carried out before handling any chemical(s). Risk assessments should refer to COSHH and any other relevant legislation or industry specific guidelines governing the use of chemicals.Note a 1% solution would have no health risk classification, but would still have the environmental classification H412 Harmful to aquatic life with long lasting effects.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid. Liquid
Colour	Colourless.
Odour	Strong. Acetic acid.
Odour threshold	Not applicable.
pH	pH (concentrated solution): <1
Melting point	<-30°C
Initial boiling point and range	105 Degrees C
Flash point	74 - 83°C
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	32hPa (calculated) @ 25°C
Vapour density	Not applicable.
Relative density	1.1 @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Miscible with water
Partition coefficient	Not applicable. Technically not feasible.
Auto-ignition temperature	Not applicable.

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Decomposition Temperature	>=60°C Self-Accelerating decomposition temperature (SADT)
Viscosity	Not determined.
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Classified as Oxidising.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 to <30 Degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions. Stable under normal temperature conditions and recommended use. Avoid contact with caustic/alkaline material; this will generate heat and potentially corrosive vapour. Avoid contact with bleach and other hypochlorite based products; this will produce toxic Chlorine gas.

10.2. Chemical stability

Stability Stable at normal ambient temperatures. Decomposes on heating.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Refer to section 10.1. Do not mix with Hypochlorite based chemicals, this will result in the generation of toxic chlorine gas. Contact with combustible material may cause fire or explosions.
Contact with flammable material may cause fire or explosions.
Risk of explosion if heated under confinement.
Fire or intense heat may cause violent rupture or packages.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid pressure build up, contamination by dust or combustible materials.

10.5. Incompatible materials

Materials to avoid Reacts violently with readily oxidisable organic materials, acids, alkalis, reducing agents and other oxidisers. Catalytically decomposed by heavy metals and their salts, enzymes and contaminants such as dirt or rust. Flammable/combustible materials.

10.6. Hazardous decomposition products

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Hazardous decomposition products	Oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	300.0
Species	Rat
Notes (oral LD_{50})	Data is for a 5% PAA solution.
ATE oral (mg/kg)	500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	1,147.0
Species	Rat
Notes (dermal LD_{50})	Data is for a 5% PAA solution.
ATE dermal (mg/kg)	1,147.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	4,080.0
Species	Rat
Notes (inhalation LC_{50})	Units of mg/m3 for 5% PAA mixture as an aerosol.
ATE inhalation (dusts/mists mg/l)	1.5

Carcinogenicity

Carcinogenicity	The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.

General information	See section 4.2.
Inhalation	May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Ingestion	Causes burns. May cause internal injury.
Skin contact	This product is strongly corrosive.
Eye contact	May cause permanent eye injury.

SECTION 12: Ecological information

Ecotoxicity	This product is classified as very toxic to aquatic life, this refers to the neat product. Normal use is not expected to pose a risk.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish	See note 12.0.

12.2. Persistence and degradability

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Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

Partition coefficient Not applicable. Technically not feasible.

12.4. Mobility in soil

Mobility The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3149

UN No. (IMDG) 3149

UN No. (ICAO) 3149

14.2. UN proper shipping name

Proper shipping name (ADR/RID) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (IMDG) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (ICAO) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (ADN) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

14.3. Transport hazard class(es)

ADR/RID class 5.1

ADR/RID label 5.1 & 8

IMDG class 5.1

ICAO class/division 5.1

ICAO subsidiary risk 8

Transport labels

PERBAC AGRI

14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS 5.1-02

Hazard Identification Number (ADR/RID) 58

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

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

EU legislation European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

Pcs Information A suspension containing 5% w/w Peracetic Acid in a Corrosive/Harmful/Oxidising formulation. Authorising Holder Holchem Laboratories Ltd.

Pcs Number PCS No:- 98979

No chemical safety assessment has been carried out.

SECTION 16: Other information

PERBAC AGRI

Abbreviations and acronyms used in the safety data sheet	(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service. PBT - Persistent, Bioaccumulative & Toxic. vPvB - Very Persistent, Very bioaccumulative. REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006). DNEL - Derived No Effect Limit. PNEC - Predicted No Effect Concentration. COSHH - Control of Substances Hazardous to Health. Industry - Refers in section 8 to application of the substance in an industrial process. Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.
Revision comments	Update of WEL data for Acetic Acid in section 8.
Revision date	20/03/2020
SDS number	26578
Risk phrases in full	R10 Flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R20/22 Harmful by inhalation and if swallowed. R22 Harmful if swallowed. R34 Causes burns. R35 Causes severe burns. R37 Irritating to respiratory system. R41 Risk of serious damage to eyes. R5 Heating may cause an explosion. R50 Very toxic to aquatic organisms. R7 May cause fire. R8 Contact with combustible material may cause fire.
Hazard statements in full	H226 Flammable liquid and vapour. H242 Heating may cause a fire. H271 May cause fire or explosion; strong oxidiser. H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H302 Harmful if swallowed. H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.
END OF SAFETY DATA SHEET	

PERBAC AGRI

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.All composition information is based on suppliers data.

HOLCHEM

SAFETY DATA SHEET

MAXICHLOR

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name MAXICHLOR

Product number HLM8

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

Identified uses Detergent. For professional use only.

Uses advised against Not for direct contact with Food or Beverage stuffs. Not for oral consumption. Must not be used where acid based chemicals are present.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD

+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone

Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.

This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards
Met. Corr. 1 - H290

Health hazards
Skin Corr. 1B - H314 Eye Dam. 1 - H318

Environmental hazards
Aquatic Acute 1 - H400 Aquatic Chronic 3 - H412

2.2. Label elements

Pictogram

MAXICHLOR

Signal word Danger

Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): 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.
P313 Get medical advice/attention.
P501 Dispose of contents/container in accordance with national regulations.
P234 Keep only in original container.
P273 Avoid release to the environment.

Supplemental label information

EUH031 Contact with acids liberates toxic gas.

Contains SODIUM HYPOCHLORITE SOLUTION, POTASSIUM HYDROXIDE

Detergent labelling 5 - < 15% anionic surfactants, < 5% chlorine-based bleaching agents, < 5% non-ionic surfactants, < 5% polycarboxylates

Supplementary precautionary statements

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P404 Store in a closed container.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

SODIUM ARYL SULPHONATE **5-10%**

CAS number: 1300-72-7 **EC number:** 215-090-9

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36/37/38.

SODIUM HYPOCHLORITE SOLUTION **1-5%**

CAS number: 7681-52-9 **EC number:** 231-668-3 **REACH registration number:** 01-2119488154-34

M factor (Acute) = 10

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1B - H314 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411	C;R34 R31 N;R50

MAXICHLOR

ALKYL DIMETHYL AMINE OXIDE **1-5%**

CAS number: 308062-28-4 **EC number:** 931-292-6 **REACH registration number:** 01-2119490061-47

M factor (Acute) = 1

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411	Xn; R22. Xi; R38, R41. N; R50/53

POTASSIUM HYDROXIDE **1-5%**

CAS number: 1310-58-3 **EC number:** 215-181-3 **REACH registration number:** 01-2119487136-33

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Acute Tox. 4 - H302 Skin Corr. 1A - H314	C;R35 Xn;R22

SODIUM ALKYL ETHER SULPHATE **1-5%**

CAS number: 68891-38-3 **EC number:** 500-234-8 **REACH registration number:** 01-2119488639-16

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412	Xi; R38, R41

SODIUM DECANOATE **1-5%**

CAS number: 1002-62-6 **EC number:** 213-688-4

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335	Xi;R36/37/38.

SODIUM OCTANOATE **1-5%**

CAS number: 1984-06-1 **EC number:** 217-850-5

Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Irrit. 2 - H315 Eye Irrit. 2 - H319	Xi;R36/37/38.

1-DODECANOL **<1%**

CAS number: 112-53-8 **EC number:** 203-982-0 **REACH registration number:** 01-2119485976-15

M factor (Acute) = 1

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319 Aquatic Acute 1 - H400	Xi;R36. N;R50.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH., Note:- Sodium Hypochlorite content expressed as % Available Chlorine in Solution., Note:- H290 "May be Corrosive to Metals" refers to the neat product.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.

Ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.

Skin contact

Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Eye contact

Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

General information

Neat product may cause chemical burns and permanent eye damage. Dilute product may cause irritation to the skin and eyes.

Inhalation

Inhalation of neat product is unlikely. However, inhalation of mists or vapours of diluted product may result in soreness, irritation or burns to the mouth, nose and respiratory tract. If mixed with acid products Chlorine Gas may be evolved, this can result in irritation to eyes and difficulty in breathing. If inhaled this may result in irritation to the mouth nose and respiratory tract.

Ingestion

Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. If dilute chemical is ingested, soreness of mouth, throat and GI tract may occur together with redness and blistering.

Skin contact

May cause serious chemical burns to the skin.

Eye contact

May result in permanent eye damage.

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

Notes for the doctor

Rinse well with water to neutral pH. Contains Sodium Hypochlorite, Potassium Hydroxide and Soaps in an Aqueous Solution. Will cause severe skin burns, If mixed with acidic material will produce Chlorine Gas, check for respiratory disorders.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

This product is non combustible, on heating corrosive vapours may be formed.
In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Note - Comment refers to neat product. Contact with acids will generate toxic chlorine gas.

5.3. Advice for firefighters

Protective actions during firefighting

Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid or minimise the creation of any environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Stop leak if possible without risk. Dike far ahead of larger spills for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections

See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a well-ventilated place. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Store between 0 and 30 Degrees C. Store away from the following materials: Acids.

7.3. Specific end use(s)

Specific end use(s)

Detergent, refer to Product Information Sheet for full details.

Usage description

This product is suitable for cleaning food process plants, it is not suitable for direct food contact.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

POTASSIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m3

WEL = Workplace Exposure Limit

Ingredient comments

Where an exposure level is quoted, a risk assessment should consider if there is a need to monitor the atmosphere of the

working environment. Results should be compared against the WEL and/or DNEL information provided.
The Long Term WEL refers to total exposure of a worker to a specific substance averaged out over an 8 hour period.
The Short Term WEL refers to a single exposure of a worker to a specific substance over a 15 minute period.
If the Short Term WEL is exceeded and no Long Term Limit is set, further exposure during the working shift is not permitted. Further controls should be implemented to ensure that future exposure to the substance is reduced below the levels set before the activity is repeated/continued.
Where no Short Term WEL exists, guidance from the HSE is to use a value of three times the Long Term WEL.
The WEL limits are laid down in the EH40 list as supplied by the HSE. This is taken from the Chemical Agents Directive (98/24/EC). Where a worker is exposed to levels approaching a limit, further exposure control measures should be considered to reduce exposure to the substance.

DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2.
Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

MAXICHLOR

SODIUM ARYL SULPHONATE (CAS: 1300-72-7)

DNEL	Professional - Dermal; Long term systemic effects: 7.6 mg/kg/day Professional - Inhalation; Long term systemic effects: 53.6 mg/m3 8h
PNEC	- Fresh water; 1000 mg/l - Intermittent release; 2.3 mg/l - STP; 100 mg/l

SODIUM HYPOCHLORITE SOLUTION (CAS: 7681-52-9)

DNEL	Industry - Inhalation; Long term local effects: 1.55 mg/m3 Industry - Inhalation; Long term systemic effects: 1.55 mg/m3 Industry - Inhalation; Short term local effects: 3.1 mg/m3 Industry - Inhalation; Short term systemic effects: 3.1 mg/m3 Industry - Dermal; Long term local effects: 0.5% wt/wt
PNEC	- Sediment (Freshwater); 0.21 ug/l - Sediment; 0.042 ug/l - Intermittent release; 0.26 ug/l - Fresh water; 30 ug/l

ALKYL DIMETHYL AMINE OXIDE (CAS: 308062-28-4)

DNEL	Professional - Dermal; Long term systemic effects: 11 mg/kg/day Professional - Inhalation; Long term systemic effects: 15.5 mg/m3 8h Professional - Dermal; Long term local effects: 0.27 % General population - Dermal; Long term systemic effects: 5.5 mg/kg/day General population - Inhalation; Long term systemic effects: 3.8 mg/m³ General population - Oral; Long term systemic effects: 0.44 mg/kg/day
PNEC	- Fresh water; 0.0335 mg/l - Marine water; 0.00335 mg/l - Intermittent release; 0.0335 mg/l - Sediment (Freshwater); 1.02 mg/kg - Sediment (Marinewater); 24 mg/kg - Soil; 1.02 mg/kg - STP; 24 mg/kg

SODIUM ALKYL ETHER SULPHATE (CAS: 68891-38-3)

DNEL	Professional - Dermal; Long term systemic effects: 2750 mg/kg/day Professional - Inhalation; Long term systemic effects: 175 mg/m³ General population - Oral; Long term systemic effects: 15 mg/kg/day General population - Dermal; Long term systemic effects: 1650 mg/kg/day General population - Inhalation; Long term systemic effects: 52 mg/m³
PNEC	- Fresh water; 0.24 mg/l - Marine water; 0.024 mg/l - Intermittent release; 0.071 mg/l - Sediment (Freshwater); 5.45 mg/kg - Sediment (Marinewater); 0.545 mg/kg - Soil; 0.946 mg/kg - STP; 10 g/l

8.2. Exposure controls

Protective equipment




Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

Eye/face protection

The following protection should be worn: Full face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.

Hand protection

Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC).
Refer to Standard EN 374.

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.

Hygiene measures

Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Contaminated clothing and shoes must be discarded. Provide eyewash station and safety shower.

Respiratory protection

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Workplace Exposure Limit. In the case of dust or aerosol formation (eg spraying), or vapour from hot vessels, use respiratory protection with an approved filter Type B(P3).

Environmental exposure controls

Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13.

Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted.

Users of this product should consult local drainage and permitting authorities to ensure that any restrictions or discharge consents are adhered to.

General Health and Safety Measures.	The above requirements refer to the neat chemical. A 5% solution of this product would not be classified, although mixing with acid would still produce Chlorine Gas. Although not classifed, we would recommend eye protection if there is a risk of splashing, also use of gloves.A full Risk Assessment should be carried out before handling any chemical(s). Risk Assessments should refer to COSHH, and any other relevant legislation or industry specific guidelines governing the use of chemicals.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Clear liquid.

Colour

Pale Yellow

Odour

Chlorine.

Odour threshold

Not applicable.

pH

pH (diluted solution): 11.5 - 12.5@ 5%

Melting point

Not applicable.

Initial boiling point and range

Not applicable.

Flash point

Not applicable. Contains no Flammable Components

Evaporation rate

Not applicable.

Evaporation factor

Not applicable.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Not applicable.

Vapour pressure

Not applicable.

Vapour density

Not applicable.

Relative density

1.13 @20 Degrees C

Bulk density

Not applicable.

Solubility(ies)

Soluble in water.

Partition coefficient

Technically not feasible.

Auto-ignition temperature

Not applicable.

Decomposition Temperature

Not applicable.

Viscosity

Not determined.

Explosive properties

Not applicable.

Explosive under the influence of a flame

Not considered to be explosive.

Oxidising properties

Not classified as an Oxidiser, but contains Sodium Hypochlorite.

9.2. Other information

Refractive index

Not applicable.

Particle size

Not applicable.

Molecular weight

Not applicable.

Volatility

Not applicable.

Saturation concentration

Not applicable.

Critical temperature

Not applicable.

Volatile organic compound

Not applicable.

Explosive Properties Not Classified as Explosive

Storage Temperature Range 0 to + 30 Degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions.

10.2. Chemical stability

Stability

Stable at normal ambient temperatures and when used as recommended. Decomposes over time to produce Oxygen and Sodium Chloride. - See note 10.6.

10.3. Possibility of hazardous reactions

Refer to section 10.1.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time. Generates toxic gas in contact with acid.

10.5. Incompatible materials

Materials to avoid

Reaction with acids will produce toxic Chlorine Gas. In contact with cellulose based material such as wood or paper a potential for ignition and slow burning exists.
Reaction with Aluminium, Zinc, Tin, Copper or their alloys produces flammable Hydrogen Gas. - Note: reaction relates to neat product.

10.6. Hazardous decomposition products

Will evolve Hydrogen Gas when in contact with soft metals such as Aluminium. Will evolve Chlorine Gas in contact with Acids. Natural decay (especially in warm conditions or in direct sunlight) will evolve Oxygen Gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)

4,673.22557976

Skin sensitisation

There is no evidence of skin sensitisation in humans.

Carcinogenicity

The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility

The components of this formulation will not be systemically available in the body under normal conditions of use and handling. As a consequence it is not expected to be toxic to the reproductive system or developing foetus.

General information

See section 4.2.

Inhalation

Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. Mixing with acid will evolve toxic Chlorine Gas. - See section 4.2.

Ingestion

May cause chemical burns in mouth, oesophagus and stomach.

Skin contact

Causes severe burns.

Eye contact

Risk of serious damage to eyes. May cause permanent eye injury.

SECTION 12: Ecological Information

Ecotoxicity

This product is classified as very toxic to aquatic life, this refers to the neat product. Normal use is not expected to pose a risk.

12.1. Toxicity

Normal use is not expected to pose an ecological risk.

Acute toxicity - fish

To the best of our current knowledge, the main ecotoxicological effect is due to the Sodium Hypochlorite for which:-
The Fresh Water LC50 (96hr) is 0.06mg/l.
The Marine Water LC50 (96hr) is 0.032 mg/l.
The Fresh Water EC50 (48hr) value for Daphnia magna is 0.141mg/l.
The Marine Water EC50(48hr) value for Crassostrea virginica is 0.026mg/l.
The NOEC (Algae 7 day) Fresh Water 0.0021.

Note in addition to Hypochlorite, high pH has the potential to cause harm to the environment. Effluent pH values greater than 10.5 in fresh water may be fatal to fish and other aquatic organisms. Damage to aquatic plants is also possible.

Normal use is unlikely to pose a risk. - See note 12.

12.2. Persistence and degradability

Persistence and degradability

The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European Detergents Regulation No 648/2004 as amended.

12.3. Bioaccumulative potential

Not expected to bioaccumulate.

Partition coefficient

Technically not feasible.

12.4. Mobility in soil

Mobility

The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals.

Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

MAXICHLOR

UN No. (ADR/RID)	1719
UN No. (IMDG)	1719
UN No. (ICAO)	1719

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYPOCHLORITE SOLUTION, 15% Cl ACTIVE, POTASSIUM HYDROXIDE)
Proper shipping name (IMDG)	CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYPOCHLORITE SOLUTION, 15% Cl ACTIVE, POTASSIUM HYDROXIDE)
Proper shipping name (ICAO)	CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYPOCHLORITE SOLUTION, 15% Cl ACTIVE, POTASSIUM HYDROXIDE)
Proper shipping name (ADN)	CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYPOCHLORITE SOLUTION, 15% Cl ACTIVE, POTASSIUM HYDROXIDE)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID subsidiary risk	
ADR/RID label	8
IMDG class	8
IMDG subsidiary risk	
ICAO class/division	8
ICAO subsidiary risk	

Transport labels

14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

Yes.

14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	2R
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

MAXICHLOR

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

EU legislation

European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service.
vPvB - Very Persistent, Very bioaccumulative.
PBT - Persistent, Bioaccumulative & Toxic.
REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006).
DNEL - Derived No Effect Limit.
PNEC - Predicted No Effect Concentration.
COSHH - Control of Substances Hazardous to Health.
NOEC - No Observed Effect Concentration.
NOAEL - No Observable Adverse Effect Level.
LC50 - Lethal Concentration 50 - The environmental contamination at which 50% mortality is reached over a fixed time scale.

EC50 - Effective Concentration 50 - Concentration of a substance in water at which 50% of the maximum biological response is reached.
Industry - Refers in section 8 to application of the substance in an industrial process.
Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.

General information

This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment.

The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.

Revision comments

Review in line with CLP Regulation.

Revision date 30/03/2015

Risk phrases in full

R22 Harmful if swallowed.
R31 Contact with acids liberates toxic gas.
R34 Causes burns.
R35 Causes severe burns.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R36/38 Irritating to eyes and skin.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R50 Very toxic to aquatic organisms.

Hazard statements in full

MAXICHLOR

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

REACH extended MSDS comments

REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios.
Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.

HOLCHEM

SAFETY DATA SHEET

MAXIFOAM ACID

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name MAXIFOAM ACID

Product number HLM7

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

Identified uses Acidic Detergent. For professional use only.

Uses advised against Not for use by hand. Not for direct contact with Food or Beverage stuffs. Not for Direct Oral Consumption. Must not be used where Hypochlorite based chemicals (Bleach) are present.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD

+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone

Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.

This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards
Met. Corr. 1 - H290

Health hazards
Skin Corr. 1B - H314

Environmental hazards
Not Classified

2.2. Label elements

Pictogram

MAXIFOAM ACID

Signal word Danger

Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P234 Keep only in original container.
P280 Wear protective clothing, gloves, eye and face protection.
P303+P361+P353 IF ON SKIN (or hair): 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.
P313 Get medical advice/attention.
P501 Dispose of contents/container in accordance with national regulations.

Contains PHOSPHORIC ACID

Detergent labelling 15 - < 30% phosphates, 5 - < 15% amphoteric surfactants

Supplementary precautionary statements

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P404 Store in a closed container.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

PHOSPHORIC ACID **10-30%**

CAS number: 7664-38-2 **EC number:** 231-633-2 **REACH registration number:** 01-2119485924-24

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1B - H314 Eye Dam. 1 - H318	C;R34.

2-(2-BUTOXYETHOXY)ETHANOL **5-10%**

CAS number: 112-34-5 **EC number:** 203-961-6 **REACH registration number:** 01-2119475104-44

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36

BETA-ALANINE, N-(2 CARBOXYETHYL)-N-DODECYL MONO SODIUM SALT **5-10%**

CAS number: 90170-43-7 **EC number:** 290-476-8

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36.

CITRIC ACID **5-10%**

CAS number: 5949-29-1 **EC number:** 201-069-1 **REACH registration number:** 01-2119457026-42

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36.

GLUCONIC ACID	1-5%
CAS number: 526-95-4 **EC number:** 208-401-4	
Classification	**Classification (67/548/EEC or 1999/45/EC)**
Eye Irrit. 2 - H319	Xi;R36.

1-DODECANOL	<1%
CAS number: 112-53-8 **EC number:** 203-982-0 **REACH registration number:** 01-2119485976-15 **M factor (Acute) =** 1	
Classification	**Classification (67/548/EEC or 1999/45/EC)**
Eye Irrit. 2 - H319 Aquatic Acute 1 - H400	Xi;R36. N;R50.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention.

Ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.

Skin contact

Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

Eye contact

Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue.

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

General information

The information given here relates to the neat chemical, dilutions may also cause chemical burns to skin and permanent eye damage.

Inhalation

Inhalation of neat product is unlikely. However, inhalation of mists or vapours of diluted product may result in soreness, irritation or burns to the mouth, nose and respiratory tract. If mixed with Hypochlorite based products (Bleach) Chlorine Gas may be evolved, this can result in irritation to eyes and difficulty in breathing. If inhaled this may result in irritation to the mouth, nose and respiratory tract.

Ingestion

Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. Similar but less severe symptoms will be seen if dilute chemical is ingested.

Skin contact

Burns can occur.

Eye contact

Extreme pain and blurred vision. May result in permanent eye damage.

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

Notes for the doctor

Contains Phosphoric Acid and Surfactants in Aqueous Solution. Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Contact with Sodium Hypochlorite liberates toxic Chlorine Gas.

5.3. Advice for firefighters

Protective actions during firefighting

Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Stop leak if possible without risk. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid Spillage or Run Off from entering Surface Water Drains. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

Reference to other sections

See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Store between 0 and 40 Degrees C. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Keep away from chlorinated

and alkaline products.

7.3. Specific end use(s)

Specific end use(s)

Acidic Detergent, Descaler. Refer to Product Information Sheet for use instructions.

Usage description

This product is suitable for use in food and beverage processing plants, but it is not designed for direct food contact.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

PHOSPHORIC ACID

Long-term exposure limit (8-hour TWA): WEL 1 mg/m3
Short-term exposure limit (15-minute): WEL 2 mg/m3

2-(2-BUTOXYETHOXY)ETHANOL

Long-term exposure limit (8-hour TWA): WEL 10 ppm 67.5 mg/m3
Short-term exposure limit (15-minute): WEL 15 ppm 101.2 mg/m3

WEL = Workplace Exposure Limit

Ingredient comments

Where an exposure level is quoted, a risk assessment should consider if there is a need to monitor the atmosphere of the working environment. Results should be compared against the WEL and/or DNEL information provided.
The Long Term WEL refers to total exposure of a worker to a specific substance averaged out over an 8 hour period.
The Short Term WEL refers to a single exposure of a worker to a specific substance over a 15 minute period.
If the Short Term WEL is exceeded and no Long Term Limit is set, further exposure during the working shift is not permitted. Further controls should be implemented to ensure that future exposure to the substance is reduced below the levels set before the activity is repeated/continued.
Where no Short Term WEL exists, guidance from the HSE is to use a value of three times the Long Term WEL.
The WEL limits are laid down in the EH40 list as supplied by the HSE. This is taken from the Chemical Agents Directive (98/24/EC). Where a worker is exposed to levels approaching a limit, further exposure control measures should be considered to reduce exposure to the substance.

DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2.
Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

MAXIFOAM ACID

PHOSPHORIC ACID (CAS: 7664-38-2)

DNEL - Inhalation; Long term local effects: 2.92 mg/m³

2-(2-BUTOXYETHOXY)ETHANOL (CAS: 112-34-5)

DNEL
Professional - Inhalation; Short term local effects: 14 ppm
Professional - Dermal; Long term systemic effects: 20 mg/kg bw/day
Professional - Inhalation; Long term systemic effects: 10 ppm
Professional - Inhalation; Long term local effects: 10 ppm

PNEC
- Sediment (Marinewater); 0.4 mg/kg
- Marine water; 0.1 mg/l
- STP; 200 mg/l
- Sediment (Freshwater); 4 mg/l
- Soil; 0.4 mg/l

CITRIC ACID (CAS: 5949-29-1)

PNEC
- Fresh water; 0.44 mg/l
- Marine water; 0.044 mg/l
- STP; >1000 mg/l
- Sediment (Freshwater); 34.6 mg/kg
- Sediment (Marinewater); 3.46 mg/kg
- Soil; 33.1 mg/kg

GLUCONIC ACID (CAS: 526-95-4)

DNEL
Professional - Dermal; Long term systemic effects: 11.9 mg/kg bw/day
Professional - Inhalation; Long term systemic effects: 59 mg/m³
General population - Dermal; Long term systemic effects: 5.9 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 14.6 mg/m³
General population - Oral; Long term systemic effects: 5.9 mg/kg bw/day

PNEC
- Fresh water; 0.1 mg/l
- Marine water; 0.01 mg/l
- Intermittent release; 1 mg/l
- STP; 6.498 mg/l
- Sediment (Freshwater); 0.36 mg/kg
- Marine water; 0.36 mg/kg
- Soil; 0.0135 mg/kg

8.2. Exposure controls

Protective equipment

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

Eye/face protection

The following protection should be worn: Full face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.

Hand protection

Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC).
Refer to Standard EN 374.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.

Hygiene measures

Provide eyewash station and safety shower. Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Contaminated clothing and shoes must be discarded.

Respiratory protection

No specific recommendations.
Recommended filter type ABEK-P2. Consult EN133 AND EN141. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

Environmental exposure controls

Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13.

Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted.

General Health and Safety Measures.	The above information refers to the neat product. A 5% Solution would be classified as Skin Irrit.2 - H315. Use of gloves and eye protection is recommended when handling use solutions.A full Risk Assessment should be carried out before handling any chemical(s). Risk Assessments should refer to COSHH, and any other relevant legislation or industry specific guidelines governing the use of chemicals.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Clear liquid.

Colour

Colourless to pale green.

Odour

Slight pungent.

Odour threshold

Not applicable.

pH

pH (concentrated solution): <2 pH (diluted solution): 1 - 2 @ 1%

Melting point

Not applicable.

Initial boiling point and range

Not applicable.

Flash point

Not applicable. Contains no Flammable Components

Evaporation rate

Not applicable.

Evaporation factor

Not applicable.

Upper/lower flammability or explosive limits

Not applicable.

Vapour pressure

Not applicable.

Vapour density

Not applicable.

Relative density

1.18 @ 20°C

Bulk density

Not applicable.

Solubility(ies)

Soluble in water.

Partition coefficient

Not applicable. Technically not feasible.

Auto-ignition temperature

Not applicable.

Decomposition Temperature

Not applicable.

Viscosity

Not determined.

Explosive properties

Not applicable.

Explosive under the influence of a flame

Not considered to be explosive.

Oxidising properties

Not applicable. Does not meet the criteria for classification as oxidising.

9.2. Other information

Refractive index

Not applicable.

Particle size

Not applicable.

Molecular weight

Not applicable.

Volatility

Not applicable.

Saturation concentration

Not applicable.

Critical temperature

Not applicable.

Volatile organic compound

Not applicable.

Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 to + 40 Degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions. Stable under normal temperature conditions and recommended use. Avoid contact with caustic/alkaline material; this will generate heat and potentially corrosive vapour. Avoid contact with Hypochlorite based products; this will produce toxic Chlorine gas.

10.2. Chemical stability

Stability

Stable at normal ambient temperatures and when used as recommended. - See note 10.6.

10.3. Possibility of hazardous reactions

Refer to section 10.1.
Do not mix with Hypochlorite based chemicals, this will result in the generation of toxic chlorine gas.

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid

Contact with chlorinated products will liberate toxic chlorine gas.

10.6. Hazardous decomposition products

Does not decompose when used and stored as recommended. - See section 10.5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Respiratory sensitisation

No evidence of respiratory sensitisation for any component of this formulation.

Skin sensitisation

No evidence of skin sensitisation for any component of this formulation.

Carcinogenicity

The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility

The components of this formulation will not be systemically available in the body under normal conditions of use and handling. As a consequence it is not expected to be toxic to the reproductive system or developing foetus.

General information

See section 4.2.

Inhalation

Inhalation of Neat Product is unlikely.
Inhalation of vapour or liquid droplets from high concentrations of working strength foams may cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Ingestion

May cause chemical burns in mouth, oesophagus and stomach.

Skin contact

Causes burns.

Eye contact

Risk of serious damage to eyes. May cause permanent eye injury. - See section 4.2.

SECTION 12: Ecological Information

Ecotoxicity

This product is not classified as hazardous to the environment. However it contains a component (or components) that is (are) classified as very toxic to the aquatic environment in their neat form. Normal use is unlikely to pose a risk to the environment.

12.1. Toxicity

Acute toxicity - fish

Normal use is unlikely to pose a hazard to the environment.
It is advisable to check discharge permits for Phosphate limitations. See note 12.0.

12.2. Persistence and degradability

Persistence and degradability

The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European

MAXIFOAM ACID

Detergents Regulation No 648/2004 as amended.

12.3. Bioaccumulative potential

Not expected to bioaccumulate.

Partition coefficient

Not applicable. Technically not feasible.

12.4. Mobility in soil

Mobility

The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1805
UN No. (IMDG)	1805
UN No. (ICAO)	1805

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (IMDG)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (ICAO)	PHOSPHORIC ACID, SOLUTION
Proper shipping name (ADN)	PHOSPHORIC ACID, SOLUTION

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID subsidiary risk	
ADR/RID label	8
IMDG class	8
IMDG subsidiary risk	
ICAO class/division	8
ICAO subsidiary risk	

Transport labels

MAXIFOAM ACID

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	2R
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

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

EU legislation

European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service.
PBT - Persistent, Bioaccumulative & Toxic.
vPvB - Very Persistent, Very bioaccumulative.
REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006).
DNEL - Derived No Effect Limit.
PNEC - Predicted No Effect Concentration.
COSHH - Control of Substances Hazardous to Health.
Industry - Refers in section 8 to application of the substance in an industrial process.
Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.

General information

This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment.
Only trained personnel should use this material.

The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.

Revision comments

Review in line with CLP Regulation.

MAXIFOAM ACID

Revision date	30/03/2015
Risk phrases in full	
	R34 Causes burns. R36 Irritating to eyes. R50 Very toxic to aquatic organisms.
Hazard statements in full	
	H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life. H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H319 Causes serious eye irritation. H400 Very toxic to aquatic life.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.

SAFETY DATA SHEET
MAXIFOAM PLUS

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name MAXIFOAM PLUS

Product number HLM5

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

Identified uses Caustic Detergent. For professional use only.

Uses advised against Not for direct contact with Food or Beverage stuffs. Not for oral consumption. Not for use by hand.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD

+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.
This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards Met. Corr. 1 - H290

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Pictogram

MAXIFOAM PLUS

Signal word	Danger
Hazard statements	H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage.
Precautionary statements	P234 Keep only in original container. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303+P361+P353 IF ON SKIN (or hair): 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. P313 Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations.
Contains	SODIUM HYDROXIDE, ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT, ALKYL DIMETHYL AMINE OXIDE, SODIUM ALKYL ETHER SULPHATE, SODIUM OCTANOATE
Detergent labelling	5 - < 15% anionic surfactants, < 5% amphoteric surfactants, < 5% EDTA and salts thereof, < 5% non-ionic surfactants, < 5% polycarboxylates
Supplementary precautionary statements	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Note:- H290 May be Corrosive to Metals Classification relates to Soft Metals such as Aluminium and Copper, when used correctly this product is not expected to be corrosive to 304 and 316 Stainless Steel.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

SODIUM HYDROXIDE **5-10%**

CAS number: 1310-73-2 | EC number: 215-185-5 | REACH registration number: 01-2119457892-27

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318	C;R35

SODIUM ARYL SULPHONATE **5-10%**

CAS number: 1300-72-7 | EC number: 215-090-9 | REACH registration number: 01-2119513350-56-XXXX

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi; R36

MAXIFOAM PLUS

ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT **1-5%**

CAS number: 64-02-8 EC number: 200-573-9 REACH registration number: 01-2119486762-27

Classification
Met. Corr. 1 - H290
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Eye Dam. 1 - H318
STOT RE 2 - H373

Classification (67/548/EEC or 1999/45/EC)
Xn;R20,R22. Xi;R41.

ALKYL DIMETHYL AMINE OXIDE **1-5%**

CAS number: 308062-28-4 EC number: 931-292-6 REACH registration number: 01-2119490061-47

M factor (Acute) = 1

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Dam. 1 - H318
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC)
Xn; R22. Xi; R38, R41. N; R50/53

SODIUM ALKYL ETHER SULPHATE **1-5%**

CAS number: 68891-38-3 EC number: 500-234-8 REACH registration number: 01-2119488639-16

Classification
Skin Irrit. 2 - H315
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC)
Xi; R38, R41

SODIUM OCTANOATE **1-5%**

CAS number: 1984-06-1 EC number: 217-850-5 REACH registration number: 01-2119552491-41-0000

Classification
Skin Corr. 1B - H314

Classification (67/548/EEC or 1999/45/EC)
Xi;R36/37/38.

SODIUM DECANOATE **1-5%**

CAS number: 1002-62-6 EC number: 213-688-4

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
STOT SE 3 - H335

Classification (67/548/EEC or 1999/45/EC)
Xi;R36/37/38.

MAXIFOAM PLUS

1-DODECANOL			**<1%**
CAS number: 112-53-8	EC number: 203-982-0	REACH registration number: 01-2119485976-15	
M factor (Acute) = 1			

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Eye Irrit. 2 - H319 Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411	Xi;R36. N;R50.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH. Note:- Corrosion to Metals H290 statement refers to Soft Metals such as Aluminium or Copper, this product is not expected to corrode 304 or 316 Stainless Steel.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.

Skin contact Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

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

General information Neat product may cause chemical burns and permanent eye damage. Dilute product may cause irritation to the skin and eyes.

Inhalation Inhalation of neat product is unlikely. However, inhalation of mists or vapours of diluted product may result in soreness, irritation or burns to the mouth, nose and respiratory tract.

Ingestion Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. If dilute chemical is ingested, soreness of mouth, throat and GI tract may occur together with redness and blistering.

Skin contact May cause serious chemical burns to the skin.

Eye contact May result in permanent eye damage.

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

Notes for the doctor Contains Chelating Agents and Sodium Hydroxide in Aqueous Solution. Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

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5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is non-combustible. If heated, corrosive vapours may be formed. In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Mixing with Hypochlorite based chemicals could result in a dangerous heating of the solution and evolution of Carbon Dioxide and Oxygen.

5.3. Advice for firefighters

Protective actions during firefighting Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep only in the original container. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Keep above chemical's freezing (melting) point. Store away from the following materials: Acids. Store between 0 and 40 Degrees C.

7.3. Specific end use(s)

Specific end use(s) Detergent, refer to Product Information Sheet for full details.

Usage description This product is suitable for cleaning food process plants, it is not suitable for direct food contact.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

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SODIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m³
WEL = Workplace Exposure Limit

Ingredient comments

As a requirement of REACH we have considered all of the components of this formulation. We believe that Sodium Hydroxide (NaOH) is the most hazardous component of this formulation. Sodium Hydroxide is not expected to be systemically available to the body under normal handling and use conditions, therefore systemic effects of Sodium Hydroxide after Dermal or Inhalation Exposure are not expected to occur. Based on data from our raw material suppliers, we understand that if the risk management measures outlined in section 8.2 are followed , the inhalation exposure is below the DNEL of 1mg/m3. Where an exposure level is quoted, a risk assessment should consider if there is a need to monitor the atmosphere of the working environment. Results should be compared against the WEL and/or DNEL information provided. The Long Term WEL refers to total exposure of a worker to a specific substance averaged out over an 8 hour period.
The Short Term WEL refers to a single exposure of a worker to a specific substance over a 15 minute period.
If the Short Term WEL is exceeded and no Long Term Limit is set, further exposure during the working shift is not permitted. Further controls should be implemented to ensure that future exposure to the substance is reduced below the levels set before the activity is repeated/continued. Where no Short Term WEL exists, guidance from the HSE is to use a value of three times the Long Term WEL.
The WEL limits are laid down in the EH40 list as supplied by the HSE. This is taken from the Chemical Agents Directive (98/24/EC). Where a worker is exposed to levels approaching a limit, further exposure control measures should be considered to reduce exposure to the substance. DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2. Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL

Industry - Inhalation; Long term local effects: 1.0 mg/m³
DNEL data for Professional users is not yet available, but it is assumed to be the same as for Industrial users.
Industry - Dermal; Short term local effects: 2%

PNEC

No information is available for PNEC data for Sodium Hydroxide

SODIUM ARYL SULPHONATE (CAS: 1300-72-7)

DNEL

Professional - Dermal; Long term systemic effects: 7.6 mg/kg/day
Professional - Inhalation; Long term systemic effects: 53.6 mg/m3 8h

PNEC

- Fresh water; 1000 mg/l
- Intermittent release; 2.3 mg/l
- STP; 100 mg/l

ETHYLENEDIAMINETETRAACETIC ACID TETRASODIUM SALT (CAS: 64-02-8)

DNEL

Professional - Inhalation; Long term systemic effects: 1.5 mg/m³

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PNEC

- Fresh water; 2.86 mg/l
- Marine water; 0.286 mg/l
- Intermittent release; 1.56 mg/l
- Soil; 0.937 mg/kg, mg/kg dwt
- STP; 55.94 mg/kg

ALKYL DIMETHYL AMINE OXIDE (CAS: 308062-28-4)

DNEL

Professional - Dermal; Long term systemic effects: 11 mg/kg/day
Professional - Inhalation; Long term systemic effects: 15.5 mg/m3 8h
Professional - Dermal; Long term local effects: 0.27 %
General population - Dermal; Long term systemic effects: 5.5 mg/kg/day
General population - Inhalation; Long term systemic effects: 3.8 mg/m³
General population - Oral; Long term systemic effects: 0.44 mg/kg/day

PNEC

- Fresh water; 0.0335 mg/l
- Marine water; 0.00335 mg/l
- Intermittent release; 0.0335 mg/l
- Sediment (Freshwater); 1.02 mg/kg
- Sediment (Marinewater); 24 mg/kg
- Soil; 1.02 mg/kg
- STP; 24 mg/kg

SODIUM ALKYL ETHER SULPHATE (CAS: 68891-38-3)

DNEL

Professional - Dermal; Long term systemic effects: 2750 mg/kg/day
Professional - Inhalation; Long term systemic effects: 175 mg/m³
General population - Oral; Long term systemic effects: 15 mg/kg/day
General population - Dermal; Long term systemic effects: 1650 mg/kg/day
General population - Inhalation; Long term systemic effects: 52 mg/m³

PNEC

- Fresh water; 0.24 mg/l
- Marine water; 0.024 mg/l
- Intermittent release; 0.071 mg/l
- Sediment (Freshwater); 5.45 mg/kg
- Sediment (Marinewater); 0.545 mg/kg
- Soil; 0.946 mg/kg
- STP; 10 g/l

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

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Eye/face protection	The following protection should be worn: Full face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.
Hand protection	Impervious Chemical Resistant Gloves of Butyl Rubber, PVC, Polychloroprene with a natural latex liner, all with a minimum material thickness 0.5mm and a breakthrough time of >480mins. Alternatively Nitrile Rubber, Fluorinated Rubber, both with a minimum thickness of 0.35 - 0.4mm and a breakthrough time of >480minutes. Refer to Standard EN 374.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.
Hygiene measures	Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Provide eyewash station and safety shower.
Respiratory protection	No specific recommendation made, but respiratory protection must be used if the general level exceeds the Workplace Exposure Limit. In the case of dust or aerosol formation (eg spraying), or vapour from hot vessels, use respiratory protection with an approved filter (P2).
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13. Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted. Users of this product should consult local drainage and permitting authorities to ensure that any restrictions or discharge consents are adhered to.
General Health and Safety Measures.	The above requirements refer to the neat product. A 10% solution of this product would not be classified. However, we would recommend eye protection if there is a risk of splashing, also use of glovesA full Risk Assessment should be carried out before handling any chemical(s). Risk Assessments should refer to COSHH, and any other relevant legislation or industry specific guidelines governing the use of chemicals.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless to pale yellow.
Odour threshold	Not applicable.
pH	pH (diluted solution): 12 - 13 (5% solution)
Melting point	Not applicable.
Initial boiling point and range	Not applicable.
Flash point	Not available.
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.

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Relative density	1.09 @ 20 Degrees C
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not determined.
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 to +40 degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions. Reactions with the following materials may generate heat: Strong acids.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. - See note 10.6.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Refer to section 10.1. Do not mix with Hypochlorite based chemicals, this could result in a dangerous heating of the solution. Do not mix with acids, this will generate heat and give off corrosive vapours.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Strong acids. Reaction with Aluminium, Zinc, Tin, Copper or their alloys produces flammable Hydrogen Gas.

10.6. Hazardous decomposition products

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Hazardous decomposition products	Does not decompose when used and stored as recommended. - See section 10.5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	16,079.11

Acute toxicity - inhalation

ATE inhalation (dusts/mists mg/l)	49.34

Respiratory sensitisation

Respiratory sensitisation	No evidence of respiratory sensitisation for any component of this formulation.

Skin sensitisation

Skin sensitisation	No evidence of skin sensitisation for any component of this formulation.

Carcinogenicity

Carcinogenicity	The components of this formulation are corrosive to skin and the respiratory tract, but will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility	The components of this formulation are corrosive to the skin and respiratory tract, but will not be systemically available in the body under normal conditions of use and handling. As a consequence it is not expected to be toxic to the reproductive system or the developing foetus.

General information	Toxic effect linked with corrosive properties. See section 4.2.
Inhalation	Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. - See section 4.2.
Ingestion	May cause chemical burns in mouth, oesophagus and stomach.
Skin contact	Causes severe burns.
Eye contact	Risk of serious damage to eyes. May cause permanent eye injury.

SECTION 12: Ecological Information

Ecotoxicity	This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Normal use is unlikely to pose a risk to the environment.

12.1. Toxicity

Acute toxicity - fish	This mixture is not classified as toxic to aquatic organisms. Note:- pH values greater than 10.5 may be fatal to fish and other aquatic organisms, there may also be damage to aquatic plants. Normal use of the diluted product is not expected to pose any risk. See note 12.0

12.2. Persistence and degradability

Persistence and degradability	The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European Detergents Regulation No 648/2004 as amended.

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12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

Partition coefficient Not applicable.

12.4. Mobility in soil

Mobility The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. |

Consideration should be given to water authority effluent permits.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1824

UN No. (IMDG) 1824

UN No. (ICAO) 1824

14.2. UN proper shipping name

Proper shipping name (ADR/RID) SODIUM HYDROXIDE SOLUTION

Proper shipping name (IMDG) SODIUM HYDROXIDE SOLUTION

Proper shipping name (ICAO) SODIUM HYDROXIDE SOLUTION

Proper shipping name (ADN) SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID label 8

IMDG class 8

ICAO class/division 8

Transport labels

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14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-A, S-B
Emergency Action Code	2R
Hazard Identification Number (ADR/RID)	80

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

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

EU legislation	European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service. vPvB - Very Persistent, Very bioaccumulative. PBT - Persistent, Bioaccumulative & Toxic. REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006). DNEL - Derived No Effect Limit. PNEC - Predicted No Effect Concentration. COSHH - Control of Substances Hazardous to Health. Industry - Refers in section 8 to application of the substance in an industrial process. Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.

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General information	This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment. The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.
Revision comments	Review in line with new raw material information. No change to classification.
Revision date	22/02/2016
Risk phrases in full	R35 Causes severe burns.
Hazard statements in full	H290 May be corrosive to metals. H302 Harmful if swallowed. 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. H335 May cause respiratory irritation. H373 May cause damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.

SAFETY DATA SHEET

Revision Date 06/11/2018 **REVISION NUMBER:** 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product name ML-27

Other means of identification
Product code 119143
UN/ID No. 2922
Synonyms None
Registration Number(s) 527-105

Recommended use of the chemical and restrictions on use
Recommended Use Antimicrobial solution.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Rochester Midland Corporation
155 Paragon Drive
Rochester, New York 14624 USA

Emergency telephone number
EMERGENCY TELEPHONE INFOTRAC: 1-800-535-5053
OUTSIDE U.S.: +1-352-323-3500
CANUTEC: 613-996-6666

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
This chemical is considered hazardous by the WHMIS 2015 Hazardous Products Regulation.

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1B

Label elements

Emergency Overview

DANGER

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer

Appearance Clear Yellow **Physical state** Liquid **Odor** Pungent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No information available
Other Information
• Toxic to aquatic life with long lasting effects.
• Toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS No.	%	TRADE SECRET
5-Chloro-2-Methyl-4-isothiazolin-3-one	26172-55-4	2 max.	
Magnesium nitrate	10377-60-3	1.87	
2-Methyl-4-isothiazolin-3-one	2682-20-4	< 1	

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4. FIRST AID MEASURES

First aid measures

General advice Immediately call a POISON CENTER or doctor/physician.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or

doctor/physician.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Ingestion IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Adsorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deac tivate any residual active ingredient.Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material. See Section 13, "Disposal Considerations", for information regarding the disposal of contained materials.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with eyes, skin and clothing. Do not breathe mist or vapors. Read and follow label instructions. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Do not contaminate water, food, or feed. Store in a cool, dry area. Store in a well ventilated area.

Incompatible materials Avoid contact with:. OXIDIZERS. Reducing agents. Amines. Mercaptans.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

ENGINEERING CONTROLS General mechanical and/or local exhaust as needed to meet exposure limits if mist in air. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/face protection Goggles and face shield are recommended to minimize eye contact.

Skin and body protection Chemical resistant gloves are recommended to minimize skin contact. Appropriate protective clothing as needed to prevent skin contact. It is the responsibility of the end user of this product to determine level of PPE required that is consistent with safe use of this product.

RESPIRATORY PROTECTION Use approved NIOSH respiratory protection if TLV/PEL exceeded or if over exposure is likely.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Clear Yellow	**Odor**	Pungent
Color	Colorless or Yellow	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	2.0	(2.0 - 4.0)
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	-	None to boiling.
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	1.01 - 1.046	
Water solubility	No information available	
Solubility in other solvents	No information available	

Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
VOC (EPA METH.24) (G/L):	No information available
Density	8.62 lbs/gal
Bulk density	No information available

10. STABILITY AND REACTIVITY

REACTIVITY
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

CONDITIONS TO AVOID
Extremes of temperature and direct sunlight.

Incompatible materials
Avoid contact with:. OXIDIZERS. Reducing agents. Amines. Mercaptans.

Hazardous Decomposition Products
When heated to high temperatures, the following may be produced:. Hydrogen chloride gas. Oxides of Sulfur. Oxides of Nitrogen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Causes severe skin burns and eye damage.
Inhalation	Causes burns.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes burns.
Ingestion	Causes burns.

PRODUCT COMPOSITION	Oral LD50	Dermal LD50	Inhalation LC50
5-Chloro-2-Methyl-4-isothiazolin-3-one 26172-55-4	= 481 mg/kg (Rat)	-	= 1.23 mg/L (Rat) 4 h
Magnesium nitrate 10377-60-3	= 5440 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

PRODUCT COMPOSITION	ACGIH	IARC	NTP	OSHA
Magnesium nitrate 10377-60-3	-	Group 2A	-	X

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 6345 mg/kg
ATEmix (dermal) 20000 mg/kg
ATEmix (inhalation-dust/mist) 33.4 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

1.87% of the mixture consists of components(s) of unknown hazards to the aquatic environment

PRODUCT COMPOSITION	Algae/aquatic plants	Fish	Crustacea
5-Chloro-2-Methyl-4-isothiazolin-3-one 26172-55-4	0.11 - 0.16: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.03 - 0.13: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	1.6: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	4.71: 48 h Daphnia magna mg/L EC50 0.12 - 0.3: 48 h Daphnia magna mg/L EC50 Flow through 0.71 - 0.99: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability
No information available.

Bioaccumulation

PRODUCT COMPOSITION	Partition coefficient
5-Chloro-2-Methyl-4-isothiazolin-3-one 26172-55-4	0.75

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DEPT. OF TRANSPORTATION

UN/ID No.	2922
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S., (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
Hazard Class	8
Subsidiary class	6.1
Packing Group	II
Description	1 Liter (0.26 Gallons) and Less may be classed as LTD. QTY.

TDG

UN/ID No.	2922
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S., (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
Hazard Class	8
Subsidiary class	6.1
Packing Group	II
Description	1 Liter (0.26 Gallons) and Less may be classed as LTD. QTY.

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

PRODUCT COMPOSITION	SARA 313 - Threshold Values %
Magnesium nitrate - 10377-60-3	1.0

SARA 311/312 Hazard Categories

ACUTE HEALTH HAZARD	YES
CHRONIC HEALTH HAZARD	YES
FIRE HAZARD	No
Sudden release of pressure hazard	No
REACTIVE HAZARD	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

PRODUCT COMPOSITION	NJRTK:	MARTK:	PARTK:
Magnesium nitrate 10377-60-3	Listed Listed	Listed	Listed

U.S. EPA Label Information
EPA Pesticide Registration Number 527-105
EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label
DANGER
Corrosive.
Causes eye damage and skin burns. May cause allergic skin reaction. Harmful if inhaled. Harmful if swallowed.
This pesticide is toxic to fish and wildlife.

16. OTHER INFORMATION

NFPA
Health hazards 3
Flammability 0
Instability 0
Physical and Chemical Properties CORR
HMIS
Health hazards 3
Flammability 0
Physical hazards 0
Personal protection C

Prepared By EH&S DEPARTMENT
Revision Date 06/11/2018
Revision Note
Revised the physical properties in Section 9.
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

***** END OF SDS *****

SAFETY DATA SHEET
ML-30

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name ML-30

Product number 6256

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

Identified uses Biocides for water treatment.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Rochester Midland Corporation Ltd.
Unit 24 Nine Mile Point Ind. Est
Cwmfelinfach
Crosskeys
NP11 7HZ
UK
T: +44 (0) 1495 200005
E: hq@rmcorp.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0) 1495 200005
Monday - Friday 09:00 - 17:00h (UK)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC) N; R50/53

2.2. Label elements

Pictogram

Signal word Warning

Hazard statements H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements P273 Avoid release to the environment.
P280 Wear protective gloves, eye and face protection.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Polymer of epichlorohydrin and dimethylamine **10 - <25%**

CAS number: —

M factor (Acute) = 10 M factor (Chronic) = 1

Classification
Acute Tox. 4 - H302
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

Ingestion Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact Rinse with water.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

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

General information See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

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Skin contact Prolonged contact may cause dryness of the skin.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

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Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment

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Appropriate engineering controls	Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Blue.
Odour threshold	Not determined.
pH	pH (concentrated solution): 5.0 - 7.0
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.

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Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.024 - 1.044
Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Other information	No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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Notes (oral LD_{50})	Based on available data the classification criteria are not met.
ATE oral (mg/kg)	3,929.74

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Prolonged inhalation of high concentrations may damage respiratory system.
Ingestion	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	May cause temporary eye irritation.
Route of entry	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.

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Toxicological information on ingredients.

Polymer of epichlorohydrin and dimethylamine

Acute toxicity - oral

Notes (oral LD_{50})	Acute Tox. 4 - H302 Harmful if swallowed. Converted acute toxicity point estimate (cATpE)
ATE oral (mg/kg)	500.0

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

Polymer of epichlorohydrin and dimethylamine

Toxicity	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

$LE(C)_{50}$	$0.01 < L(E)C50 \leq 0.1$
M factor (Acute)	10

Chronic aquatic toxicity

M factor (Chronic)	1

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Polymer of epichlorohydrin and dimethylamine)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Polymer of epichlorohydrin and dimethylamine)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Polymer of epichlorohydrin and dimethylamine)

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Polymer of epichlorohydrin and dimethylamine)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M6

ADR/RID label 9

IMDG class 9

ICAO class/division 9

ADN class 9

Transport labels

14.4. Packing group

ML-30

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). 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 (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008	Aquatic Acute 1 - H400, Aquatic Chronic 2 - H411: Calculation method.

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Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision date	28/05/2015
Revision	3
Supersedes date	07/12/2004
SDS number	3172
Risk phrases in full	R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Hazard statements in full	H302 Harmful if swallowed. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET
ML-60

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name ML-60

Product number 6260

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

Identified uses Biocides for water treatment.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Rochester Midland Corporation Ltd.
Unit 24 Nine Mile Point Ind. Est
Cwmfelinfach
Crosskeys
NP11 7HZ
UK
T: +44 (0) 1495 200005
E: hq@rmcorp.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0) 1495 200005
Monday - Friday 09:00 - 17:00h (UK)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318

Environmental hazards Aquatic Acute 1 - H400

Classification (67/548/EEC or 1999/45/EC) Xi; R41, R38. N; R50

2.2. Label elements

Pictogram

Signal word Danger

ML-60

Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage. H400 Very toxic to aquatic life.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves, eye and face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER/doctor. P501 Dispose of contents/container in accordance with national regulations.
Contains	Bronopol
Supplementary precautionary statements	P264 Wash contaminated skin thoroughly after handling. P332+P313 If skin irritation occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P391 Collect spillage.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Bronopol **10 - <25%**

CAS number: 52-51-7 EC number: 200-143-0

M factor (Acute) = 10

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Acute Tox. 4 - H312 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335 Aquatic Acute 1 - H400	Xn; R21/22. Xi; R41, R37/38. N; R50

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

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Ingestion Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact Rinse with water.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion May cause irritation.

Skin contact Redness. Irritating to skin.

Eye contact Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

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Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

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Storage precautions Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

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Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Orange.
Odour threshold	Not determined.
pH	pH (concentrated solution): 5.0 - 6.0
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.0472
Bulk density	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information

Other information	No information required.

SECTION 10: Stability and reactivity

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10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Based on available data the classification criteria are not met.

ATE oral (mg/kg) 2,774.13

Acute toxicity - dermal

Notes (dermal LD_{50}) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 10,005.07

Acute toxicity - inhalation

Notes (inhalation LC_{50}) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Eye Dam. 1 - H318 Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

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Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Prolonged inhalation of high concentrations may damage respiratory system.
Ingestion	May cause irritation.
Skin contact	Redness. Irritating to skin.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of entry	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.

Toxicological information on ingredients.

Bronopol

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	305.0
Species	Rat
Notes (oral LD_{50})	REACH dossier information.
ATE oral (mg/kg)	305.0

Acute toxicity - dermal

Notes (dermal LD_{50})	Acute Tox. 4 - H312 Converted acute toxicity point estimate (cATpE)
ATE dermal (mg/kg)	1,100.0

Acute toxicity - inhalation

Notes (inhalation LC_{50})	$LC_{50} \geq 0.588$ mg/l, Dust/Mist, Rat 4 hours REACH dossier information.

Skin corrosion/irritation

Animal data	Dose: 0.5 g, 4 hours, Rabbit Primary dermal irritation index: 6.2 REACH dossier information. Irritating.

Serious eye damage/irritation

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Serious eye damage/irritation	Dose: 0.1 ml (0.5%, 2%, 5%), 24 hours, Rabbit REACH dossier information. Eye Dam. 1 - H318 Causes serious eye damage.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information.

Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information.

Carcinogenicity

Carcinogenicity	Dose level: 7 mg/kg/day, Oral, Rat REACH dossier information.

Reproductive toxicity

Reproductive toxicity - fertility	One-generation study - NOAEL > 40 mg/kg/day, Oral, Rat P, F1 REACH dossier information.
Reproductive toxicity - development	Maternal toxicity: - LOAEL: 30 mg/kg/day, Oral, Rat REACH dossier information.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Aquatic Acute 1 - H400 Very toxic to aquatic life.

Ecological information on ingredients.

Bronopol

Acute aquatic toxicity

M factor (Acute)	10
Acute toxicity - fish	LC_{50}, 96 days: 35.7 mg/l, Lepomis macrochirus (Bluegill) NOEC, 96 hours: > 20 mg/l, Lepomis macrochirus (Bluegill) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{0}, 48 hours: 0.56 mg/l, Daphnia magna EC_{50}, 48 hours: 1.4 mg/l, Daphnia magna EC_{100}, 48 hours: 3.2 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 0.25 mg/l, Skeletonema costatum NOEC, 72 hours: 0.08 mg/l, Skeletonema costatum REACH dossier information.
Acute toxicity - microorganisms	EC_{20}, 150 minutes: 2 mg/l, Activated sludge REACH dossier information.
Acute toxicity - terrestrial	LC_{50}, EC_{50}, 14 days: > 500 mg/kg, Eisenia Fetida (Earthworm) NOEC, 14 days: 12.8 mg/kg, Eisenia Fetida (Earthworm) REACH dossier information.

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Chronic toxicity - fish early life stage	NOEC, 49 days: 21.5 mg/l, Onchorhynchus mykiss (Rainbow trout) LOEC, 49 days: 40 mg/l, Onchorhynchus mykiss (Rainbow trout) LC_{50}, 49 days: 39.1 mg/l, Onchorhynchus mykiss (Rainbow trout) REACH dossier information.
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.27 mg/l, Daphnia magna LOEC, 21 days: 0.88 mg/l, Daphnia magna EC_{50}, 21 days: 0.27 - 0.88 mg/l, Daphnia magna REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Ecological information on ingredients.

Bronopol

Phototransformation	Air - DT_{50} : 12.1 days, Calculation method. Water - Degradation (50%): 2 days REACH dossier information.
Stability (hydrolysis)	pH4 - Half-life : 120 hours @ 25°C pH7 - Half-life : 2.4 hours @ 25°C pH9 - Half-life : 2.4 hours @ 25°C REACH dossier information.
Biodegradation	Water - Degradation (70 - 80%): 28 days Water and sediment - Degradation (99%): 1 hour Water and sediment - Half-life : 8.3 minutes REACH dossier information. The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

Bronopol

Partition coefficient	log Pow: -0.34 - 0.22 REACH dossier information.

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems.

Ecological information on ingredients.

Bronopol

Adsorption/desorption coefficient	Koc: 5 REACH dossier information. Calculation method.
Henry's law constant	0.00000116 Pa m^3/mol @ 25°C REACH dossier information. Calculation method.
Surface tension	72 mN/m @ 20°C REACH dossier information.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

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Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Bronopol)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Bronopol)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Bronopol)

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS Bronopol)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M6

ADR/RID label 9

IMDG class 9

ICAO class/division 9

ADN class 9

Transport labels

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14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). 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 (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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Classification procedures according to Regulation (EC) 1272/2008	Eye Dam. 1 - H318, Skin Irrit. 2 - H315, Aquatic Acute 1 - H400: Calculation method.
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision comments	Classification according to EC 1272/2008 (CLP).
Revision date	28/05/2015
Revision	4
Supersedes date	01/01/2011
SDS number	3173
Risk phrases in full	R21/22 Harmful in contact with skin and if swallowed. R37/38 Irritating to respiratory system and skin. R38 Irritating to skin. R41 Risk of serious damage to eyes. R50 Very toxic to aquatic organisms.
Hazard statements in full	H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation. H400 Very toxic to aquatic life.

MSDS

WATER CLARIFICATION 71687

Document number: DOC32523_-
Language: ENG
Date: March, 2017

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SAFETY DATA SHEET

PRODUCT

NALCO 71687

EMERGENCY TELEPHONE NUMBER(S)

See section 16, for Emergency Telephone Numbers.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME : **NALCO 71687**

APPLICATION : WATER CLARIFICATION AID

COMPANY IDENTIFICATION : NALCO EUROPE B.V.
Postbus 627
2300 AP Leiden, The Netherlands

EMERGENCY TELEPHONE NUMBER(S) : See section 16, for Emergency Telephone Numbers.

Date issued : 30.06.2010
Version Number : 1.6

COMPANY CONTACT TELEPHONE NUMBERS.

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For Product Safety information please contact Jacqueline Bland, e-mail EUProductSafety@nalco.com

2. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION :

This product is not classified as dangerous in accordance with Directives 67/548/EEC or 1999/45/EC.

HUMAN HEALTH HAZARDS - ACUTE :

INHALATION :

Not a likely route of exposure. No adverse effects expected.

SKIN CONTACT :
No adverse effects expected.

EYE CONTACT :
No adverse effects expected.

INGESTION :
Not a likely route of exposure. If swallowed a jelly mass may form which in digestion may cause blockage.

PHYSICAL AND CHEMICAL HAZARDS :
Water in contact with the product will cause slippery floor conditions.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is not classified as dangerous in accordance with Directives 67/548/EEC or 1999/45/EC.

4. FIRST AID MEASURES

INHALATION :
Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

SKIN CONTACT :
Flush affected area with water. If symptoms develop, seek medical advice.

EYE CONTACT :
Flush affected area with water. Get medical attention.

INGESTION :
Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water.

NOTE TO PHYSICIAN :
Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition. If swallowed a jelly mass may form which in digestion may cause blockage.

5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

EXTINGUISHING MEDIA :
Foam, Carbon dioxide, Dry powder, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material.
Water mist may be used to cool closed containers.

FIRE AND EXPLOSION HAZARD :
May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. HCl May form explosive dust-air mixtures. Dusts in sufficient concentration may be ignitable by static discharge. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :
In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :
Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Spills of this product are very slippery. Remove sources of ignition.

METHODS FOR CLEANING UP :
Remove as much as possible with broom, scoop or vacuum, as the addition of water causes slippery floor conditions. Reclaim into recovery or salvage drums. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS :
Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING :
Prevent contact with skin, eyes and clothing. Use with adequate ventilation. Avoid generating dusts. Keep the containers closed when not in use. Ensure all containers are labeled. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. Do not use, store, spill or pour near heat, sparks or open flame.

STORAGE CONDITIONS :
Store in suitable labeled containers. Store the containers tightly closed. Store separately from oxidizers. Keep in dry place. Store away from heat and sources of ignition. Connections must be grounded to avoid electrical charges.

SUITABLE CONSTRUCTION MATERIAL :
Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., HDPE (high density polyethylene)

SPECIFIC USE(S) :
WATER CLARIFICATION AID

For specific dosages and customized applications please contact your representative.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Country/Source	Substance(s)	Category:	ppm	mg/m3
BELGIUM	Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	TWA		3
	Inhalable (Total Dust) Nuisance Particulates (Inhalable fraction.)	TWA		10
BULGARIA	Inhalable (Total Dust) Nuisance Particulates (Inhalable fraction.)	TWA		10
	Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	TWA		4
	Inhalable (Total Dust) Nuisance Particulates (Inhalable fraction.)	TWA		5

	Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	TWA	3.5
FINLAND	Inhalable (Total Dust) Nuisance Particulates (Dust)	HTP 8H	2
		HTP 8H	10
FRANCE	Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	VME	5
	Inhalable (Total Dust) Nuisance Particulates (Inhalable fraction.)	VME	10
GERMANY	Inhalable (Total Dust) Nuisance Particulates (Inhalable dust)	AGW	10
	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	AGW	3
IRELAND	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	TWA	4
	Inhalable (Total Dust) Nuisance Particulates (Total inhalable dust.)	TWA	10
ITALY	Inhalable (Total Dust) Nuisance Particulates (Inhalable particles.)	TWA	10
	Inhalable (Total Dust) Nuisance Particulates (Respirable particles.)	TWA	3
NORWAY	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	ADM. NORM	5
	Inhalable (Total Dust) Nuisance Particulates (Total dust.)	ADM. NORM	10
SPAIN	Inhalable (Total Dust) Nuisance Particulates (Inhalable fraction.)	VLA-ED	10
	Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	VLA-ED	3
SWEDEN	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	NGV	5
	Inhalable (Total Dust) Nuisance Particulates (Inhalable dust)	NGV	10
SWITZERLAND	Inhalable (Total Dust) Nuisance Particulates (Inhalable dust)	TWA	10
	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	TWA	3
UNITED KINGDOM	Inhalable (Total Dust) Nuisance Particulates (Inhalable dust)	TWA	10
	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	TWA	4
POLAND	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	MAC-NDS	2
		MAC-NDS	1
	Inhalable (Total Dust) Nuisance Particulates (Total dust.)	MAC-NDS	6
		MAC-NDS	4
		MAC-NDS	10
HUNGARY	Inhalable (Total Dust) Nuisance Particulates (Respirable dust)	ÁK	6
	Inhalable (Total Dust) Nuisance Particulates (Total inhalable dust.)	ÁK	10
LATVIA	Inhalable (Total Dust) Nuisance Particulates	TWA	4
	Inhalable (Total Dust) Nuisance Particulates (Dust)	TWA	2
	Inhalable (Total Dust) Nuisance Particulates	TWA	2
	Inhalable (Total Dust) Nuisance Particulates (Dust)	TWA	4
		TWA	1
	Inhalable (Total Dust) Nuisance Particulates	TWA	6
CZECH REPUBLIC	Inhalable (Total Dust) Nuisance Particulates (Dust)	PEL	5
RUSSIAN FEDERATION	Inhalable (Total Dust) Nuisance Particulates (Dust)	TWA	6
		TWA	8
	Inhalable (Total Dust) Nuisance Particulates as protein (Dust)	TWA	0.5
	Inhalable (Total Dust) Nuisance Particulates (Particulate.)	TWA	2
	Inhalable (Total Dust) Nuisance Particulates (Fiber or dust)	TWA	2
	Inhalable (Total Dust) Nuisance Particulates (Dust)	TWA	10
		TWA	4
	Inhalable (Total Dust) Nuisance Particulates (Particulate.)	CEIL	6
	Inhalable (Total Dust) Nuisance Particulates (Fiber or dust)	CEIL	4
SLOVAKIA	Inhalable (Total Dust) Nuisance Particulates	TWA	10
	Inhalable (Total Dust) Nuisance Particulates (Aerosol.)	TWA	2
		TWA	6
		TWA	3
	Inhalable (Total Dust) Nuisance Particulates (Respirable aerosol fraction)	TWA	2

Inhalable (Total Dust) Nuisance Particulates (Aerosol.)	TWA	4
Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	TWA	2
Inhalable (Total Dust) Nuisance Particulates (Total)	TWA	10
Inhalable (Total Dust) Nuisance Particulates (Aerosol.)	TWA	10
	TWA	5
Inhalable (Total Dust) Nuisance Particulates (Respirable aerosol fraction)	CALC FIB>5	
Inhalable (Total Dust) Nuisance Particulates (Respirable fraction.)	CALC FIB>5	

* A skin notation refers to the potential significant contribution to overall exposure by the cutaneous route, including mucous membranes and the eyes.

ENGINEERING MEASURES :
General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

PERSONAL PROTECTION

GENERAL ADVICE :
The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields. The applicable European standard can be found in EN 166.

RESPIRATORY PROTECTION :
At ambient temperature none needed for vapour. If product is heated or if aerosol generation is likely, the use of a half face filter mask is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: A-P The applicable European standard can be found in EN 140, EN 137, EN 143 and EN 14387. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

HAND PROTECTION :
When handling this product, the use of chemical gloves is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers. The applicable European standard can be found in EN 374.

SKIN PROTECTION :
See general advice. The applicable European standard can be found in EN ISO 20345.

EYE PROTECTION :
When handling this product, the use of safety glasses with side shields is recommended. The applicable European standard can be found in EN 166.

HYGIENE RECOMMENDATIONS :
Use good work and personal hygiene practices to avoid exposure. Consider the provision in the work area of a safety shower and eyewash. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

ENVIRONMENTAL EXPOSURE CONTROL PRECAUTIONS :
Consider the provision of containment around storage vessels.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE Powder

APPEARANCE White

ODOR None

FLASH POINT :	Not applicable
BULK DENSITY	0.85 kg/m3
SOLUBILITY IN WATER	Complete
pH (0.5 %)	3.5
VISCOSITY	3.2 - 3.8 cps

Note: These physical properties are typical values for this product and are subject to change.

10. STABILITY AND REACTIVITY

STABILITY :
Stable under normal conditions.

HAZARDOUS POLYMERIZATION :
Hazardous polymerization will not occur.

CONDITIONS TO AVOID :
Avoid extremes of temperature. Moisture Heat and sources of ignition including static discharges. Avoid generating dusts.

MATERIALS TO AVOID :
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

HAZARDOUS DECOMPOSITION PRODUCTS :
Under fire conditions: Oxides of carbon, Oxides of nitrogen, HCl

11. TOXICOLOGICAL INFORMATION

The following results are for the product.

ACUTE ORAL TOXICITY :

Species:	Rat
LD50:	> 5,000 mg/kg
Test Descriptor:	Product

SENSITIZATION :
This product is not expected to be a sensitizer.

CARCINOGENICITY :
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

For additional information on the hazard of the preparation, please consult section 2 and 12.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS :

The tests for (representative polymers) were performed in environmentally relevant water with dissolved organic carbon (DOC: 4.5 mg/l). The effects on the aquatic organisms are due to external (non-systemic) mode of action, e.g., suffocation or immobilization. In the presence of suspended material, e.g., DOC, the polymers are bound to suspended material and the bioavailability is substantially reduced. As a result, the effects are expected to be lower.

ACUTE FISH RESULTS :

Species	Exposure	LC50	NOEC	Method	Test Descriptor
Zebra Danio	96 hrs	1 - 10 mg/l			Representative polymer tested in water with DOC

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Method	Test Descriptor
Daphnia magna	48 hrs	10 - 100 mg/l			Representative polymer tested in water with DOC

ADDITIONAL ECOLOGICAL DATA
NOEC on earthworm: > 1000 mg/l (representative polymer) AOX information: Product contains no organic halogens. Discharge in minor quantity into adapted biological units of sewage treatment plants is not expected to affect the efficiency of the activated sludge process.

MOBILITY :
The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	Water	Soil/Sediment
<5%	< 5%	> 90%

The product is eliminated via abiotic process (adsorption on activated sludge) to a large amount from the aqueous phase.

PERSISTENCY AND DEGRADATION :

Chemical Oxygen Demand (COD) : 1,500,000 mg/l

Biological Oxygen Demand (BOD) : Biological degradation: Approx OECD 301 B (Modified Strum Test) 40-50%

Abiotic degradation: Hydrolysis > 70 % 28 d at pH 6-8, which is equivalent to ready biodegradability according to DSD 67/548 Annex VI. Method EU C7, OECD 111

BIOACCUMULATION POTENTIAL
Elimination from the aqueous phase via precipitation or flocculation is possible. No bioaccumulation will occur. The large size of the polymer is incompatible with transport across the cellular membranes.

13. DISPOSAL CONSIDERATIONS

If this preparation becomes a waste, the final user must define and assign the appropriate European Waste Catalogue code. Use only authorized contractors. Ensure compliance with EC, national and local regulations.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage. This product is ashless and can be burned directly in appropriate equipment. Any chemical waste is a potential environmental pollutant and is NOT suitable for disposal via ground, municipal sewers, drains, natural streams or rivers.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

EUROPE WASTE CODE :
16 03 06 - OFF SPECIFICATION BATCHES AND UNUSED PRODUCTS - Organic wastes other than those mentioned in 16 03 05. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code.

14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT
Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA)
Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO)
Proper Shipping Name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. REGULATORY INFORMATION

CLASSIFICATION AND LABELLING :

This preparation is not regulated, however, we recommend the following safety precautions:

SAFETY PHRASES

S24/25 - Avoid contact with skin and eyes.
S37/39 - Wear suitable gloves and eye/face protection.
S57 - Use appropriate containment to avoid environmental contamination.

NATIONAL REGULATIONS HOLLAND
ABM RESULT

ABM RESULT	Substance(s)	% (w/w)
7 B		

INTERNATIONAL CHEMICAL CONTROL LAWS
EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

Safety Data Sheet according to Regulation (EC) No 1907/2006.

Nalco is committed to and fully supports the Registration, Evaluation, Authorization and restriction of CHemicals (REACH) regulation. It is our intention to pre-register all chemical substances that we manufacture or import into European Union and to work with our suppliers to ensure a smooth transition to this new regulatory environment. Should you require any further information on Nalco's REACH programme please contact us at reach@nalco.com or visit our website.

UNITED STATES :
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADA :
The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

JAPAN
All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

16. OTHER INFORMATION

LIST OF RELEVANT R-PHRASES AND NOTAS IN SECTION 3
- REVISED INFORMATION: section(s):
- 3
- 4
- 6

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

EMERGENCY TELEPHONE NUMBER(S)

Trans-European	**+32-(0)3-575-5555**
Belgium / Luxembourg	+32-(0)3-575-0330
Bulgaria	+32-(0)3-575-5555
Croatia	+385 (0)91-1-25-75-23
Czech Republic	+420-602-669421
Denmark	+47-22-33-69-99
Finland	+358-(0)9-471 977
France / French Switzerland	+33-(0)6-11-07-32-81
Germany / Austria / German Switzerland	+49-(0)6232-130128
Hungary	+36-30-9-506-447
Italy / Italian Switzerland	+39-333-210-7947
Latvia	+32-(0)3-575-5555 & Local emergency telephone number 112
The Netherlands	+32-(0)3-575-0330
Norway	+47-22-33-69-99
Poland	+48-(0)601-66-2626 (SGS) / +48 (0) 14 637 40 81 (SPOT)
Portugal	+351-91-911-1399
Romania	+40-744 -34-14-53
Russia / Belarus	+7-812-449-0474
Saudi Arabia	+966-(3)847-1515
Serbia	+32-(0)3-575-5555
Slovak Republic	+421-(0)905-585-938
Slovenia	+386-41-634-916
Spain	+34-977-551577
Sweden	+47-22-33-69-99
UAE	+44-(0)7071-223-738
UK and Republic of Ireland	+44-(0)7071-223-738
Nalfleet International	+32-(0)3-575-5555

POISON CONTROL CENTER TELEPHONE NUMBERS

Belgium	+32-70-245245
Czech Republic	+420 224 91 92 93
France	+33-(0)145-42-59-59 ORFILA
Hungary	+36-80-201-199 ETTSZ, 1096 Budapest, Nagyvárad tér 2
Latvia	+ 371 67042473
Slovak Republic	+421 (0)2 5477 4166

Prepared By : SHE Department
Date issued : 30.06.2010
Version Number : 1.6

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

SAFETY DATA SHEET
PERBAC FARM

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name PERBAC FARM

Product number HLP17

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

Identified uses Disinfectant. For professional use only.

Uses advised against Not for use by hand. Not for direct contact with Food or Beverage stuffs. Not for Direct Oral Consumption. Must not be used where Hypochlorite based chemicals (Bleach) are present.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD

+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns. This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Ox. Liq. 2 - H272 Met. Corr. 1 - H290

Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1B - H314 STOT SE 3 - H335

Environmental hazards Aquatic Chronic 1 - H410

2.2. Label elements

PERBAC FARM

Pictogram

Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage. H410 Very toxic to aquatic life with long lasting effects. H335 May cause respiratory irritation. H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
Precautionary statements	P234 Keep only in original container. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 IF ON SKIN (or hair): 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. P313 Get medical advice/attention. P501 Dispose of contents/container in accordance with national regulations.
Contains	HYDROGEN PEROXIDE SOLUTION ... %, ACETIC ACID, PERACETIC ACID
Detergent labelling	15 - < 30% oxygen-based bleaching agents,< 5% non-ionic surfactants
Supplementary precautionary statements	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. Note H290 classification relates to the Neat Undiluted Product.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HYDROGEN PEROXIDE SOLUTION ... % **10-30%**

CAS number: 7722-84-1 | EC number: 231-765-0 | REACH registration number: 01-2119485845-22

Classification
Ox. Liq. 1 - H271
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Skin Corr. 1A - H314
STOT SE 3 - H335
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC)
R5 O;R8 C;R35 Xn;R20/22

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ACETIC ACID		10-30%
CAS number: 64-19-7	EC number: 200-580-7	REACH registration number: 01-2119475328-30-0000

Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226 Skin Corr. 1A - H314	C;R35. R10.

PERACETIC ACID		5-10%
CAS number: 79-21-0	EC number: 201-186-8	REACH registration number: 01-2119531330-56-0000
M factor (Acute) = 1	M factor (Chronic) = 10	

Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 3 - H226 Org. Perox. C - H242 Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Corr. 1A - H314 STOT SE 3 - H335 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Xn;R20/21/22. C;R35. O;R7. N;R50. R10.

ALCOHOLS C6-12 ETHOXYLATED	1-5%
CAS number: 68439-45-2	

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Dam. 1 - H318 Acute Tox. 4 - H302	Xn;R22. Xi;R41.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The Biocidally Active components of this product are supported in the Biocidal Products Regulation.,To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH.,Note:- H290 "May be Corrosive to Metals" refers to the neat product.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention.

Ingestion Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention. Rinse mouth thoroughly with water.

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Skin contact	Immediately remove contaminated clothing. Rinse immediately with plenty of water. Get medical attention if any discomfort continues.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention. In case of difficulty of opening eye lids, administer an analgesic eye wash (oxybuprocaine).
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The information given here relates to the neat chemical, dilutions may also cause chemical burns to skin and permanent eye damage.
Inhalation	Severe repiratory irritant. Breathing difficulties will be experienced, together with coughing, pulmonary oedma. On repeated exposure nose bleeds an chronic bonchitis may be experienced. If mixed with Hypochlorite based products (Bleach) Chlorine Gas may be evolved, this can result in irritation to eyes and difficulty in breathing. If inhaled this may result in irritation to the mouth, nose and respiratory tract.
Ingestion	Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, chemical burning of mouth, throat and GI tract will occur. There is potential for perforation of the oesophagus and stomach. Similar but less severe symptoms will be seen if dilute chemical is ingested.
Skin contact	This product is strongly corrosive.
Eye contact	This product is strongly corrosive. May result in permanent eye damage.

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

Notes for the doctor	Strongly Oxidising Acid in Aqueous Solution. Risk of Respiratory disorder. Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire. Water. Water spray, fog or mist.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Strong Oxidiser, may cause fire or explosion. Oxygen released in thermal decomposition may support combustion. In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Contact with Sodium Hypochlorite liberates toxic Chlorine Gas.

5.3. Advice for firefighters

Protective actions during firefighting	Use air respirator if substance is involved in a fire. Cool containers exposed to flames with water until well after the fire is out.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

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Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Keep above the chemical's freezing point. Keep away from chlorinated and alkaline products.

7.3. Specific end use(s)

Specific end use(s) Disinfectant, refer to Product Information Sheet for full details. Use in well ventilated areas.

Usage description This product is suitable for use in food and beverage processing plants, but it is not designed for direct food contact.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

HYDROGEN PEROXIDE SOLUTION ... %

Long-term exposure limit (8-hour TWA): WEL 1 ppm 1.4 mg/m³
Short-term exposure limit (15-minute): WEL 2 ppm 2.8 mg/m³

ACETIC ACID

Short-term exposure limit (15-minute): WEL 15 ppm
Long-term exposure limit (8-hour TWA): WEL 10 ppm

PERACETIC ACID

Short-term exposure limit (15-minute): 0.4 ppm

WEL = Workplace Exposure Limit

Ingredient comments WEL = Workplace Exposure Limits

HYDROGEN PEROXIDE SOLUTION ... % (CAS: 7722-84-1)

DNEL

Professional - Inhalation; Short term local effects: 3 mg/m³
Professional - Inhalation; Long term local effects: 1.4 mg/m³
Consumer - Inhalation; Short term local effects: 1.93 mg/m³
Consumer - Inhalation; Long term local effects: 0.21 mg/m³

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PNEC	- Fresh water; 0.0126 mg/l - Marine water; 0.0126 mg/l - Intermittent release; 0.0138 mg/l - STP; 4.66 mg/l - Sediment (Freshwater); 0.047 mg/kg - Sediment (Marinewater); 0.047 mg/kg - Soil; 0.0023 mg/kg

PERACETIC ACID (CAS: 79-21-0)

DNEL	Professional - Inhalation; Short term systemic effects: 0.6 mg/m³ Professional - Inhalation; Long term systemic effects: 0.6 mg/m³ Professional - Inhalation; Short term local effects: 0.6 mg/m³ Professional - Inhalation; Long term local effects: 0.6 mg/m³ Professional - Dermal; Short term local effects: 0.12 % Consumer - Inhalation; Short term systemic effects: 0.6 mg/m³ Consumer - Inhalation; Long term systemic effects: 0.6 mg/m³ Consumer - Inhalation; Long term local effects: 0.6 mg/m³ Consumer - Inhalation; Short term local effects: 0.3 mg/m³ Consumer - Dermal; Short term local effects: 0.12 %
PNEC	- Fresh water; 0.000224 mg/l - STP; 0.051 mg/l - Sediment (Freshwater); 0.00018 mg/kg - Soil; 0.320 mg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	If use of this product generates dust, mists, vapours or fumes, process enclosures or local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits quoted in this msds or other data sources.
Personal protection	The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.
Eye/face protection	The following protection should be worn: Full face visor or shield. Refer to EN Standard 166 to select appropriate level of protection.
Hand protection	It is recommended that gloves are made of the following material: Butyl rubber. Refer to Standard EN 374. The selected gloves should have a breakthrough time of at least 8 hours.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.
Hygiene measures	Provide eyewash station and safety shower. Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Contaminated clothing and shoes must be discarded.

PERBAC FARM

Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Recommended filter type ABEK-P2. Consult EN133 AND EN141.
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13. Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted.
General Health and Safety Measures.	The above requirements refer to the neat chemical. In-use solutions may have a lower classification, however, a full risk assessment should be carried out before handling any chemical(s). Risk assessments should refer to COSHH and any other relevant legislation or industry specific guidelines governing the use of chemicals.Note a 1% solution would have no health risk classification, but would still have the environmental classification H412 Harmful to aquatic life with long lasting effects.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid. Liquid
Colour	Colourless.
Odour	Strong. Acetic acid.
Odour threshold	Not applicable.
pH	pH (concentrated solution): <1
Melting point	<-30°C
Initial boiling point and range	105 Degrees C
Flash point	74 - 83°C
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	32hPa (calculated) @ 25°C
Vapour density	Not applicable.
Relative density	1.1 @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Miscible with water
Partition coefficient	Not applicable. Technically not feasible.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable. >=60°C Self-Accelerating decomposition temperature (SADT)
Viscosity	Not determined.
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.

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Oxidising properties	Classified as Oxidising.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 to +25 degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions. Stable under normal temperature conditions and recommended use. Avoid contact with caustic/alkaline material; this will generate heat and potentially corrosive vapour. Avoid contact with Hypochlorite based products; this will produce toxic Chlorine gas.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures. Decomposes on heating.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Refer to section 10.1. Contact with combustible material may cause fire or explosions. Contact with flammable material may cause fire or explosions. Risk of explosion if heated under confinement. Fire or intense heat may cause violent rupture or packages. Do not mix with Hypochlorite based chemicals, this will result in the generation of toxic chlorine gas.

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid pressure build up, contamination by dust or combustible materials.

10.5. Incompatible materials

Materials to avoid	Reacts violently with readily oxidisable organic materials, acids, alkalis, reducing agents and other oxidisers. Catalytically decomposed by heavy metals and their salts, enzymes and contaminants such as dirt or rust. Flammable/combustible materials.

10.6. Hazardous decomposition products

Hazardous decomposition products	Oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	300.0

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Species	Rat
Notes (oral LD_{50})	Data is for a 5% PAA solution.
ATE oral (mg/kg)	500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	1,147.0
Species	Rat
Notes (dermal LD_{50})	Data is for a 5% PAA solution.
ATE dermal (mg/kg)	1,147.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	4,080.0
Species	Rat
Notes (inhalation LC_{50})	Units of mg/m3 for 5% PAA mixture as an aerosol.
ATE inhalation (dusts/mists mg/l)	1.5

Carcinogenicity

Carcinogenicity	The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.
General information	See section 4.2.
Inhalation	May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Ingestion	Causes burns. May cause internal injury.
Skin contact	This product is strongly corrosive.
Eye contact	May cause permanent eye injury.

SECTION 12: Ecological Information

Ecotoxicity	This product is classified as very toxic to aquatic life, this refers to the neat product. Normal use is not expected to pose a risk.

12.1. Toxicity

Acute toxicity - fish	See note 12.0.

12.2. Persistence and degradability

Persistence and degradability	The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential	Not expected to bioaccumulate.
Partition coefficient	Not applicable. Technically not feasible.

12.4. Mobility in soil

Mobility	The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

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Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Do not mix with other chemicals. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3149

UN No. (IMDG) 3149

UN No. (ICAO) 3149

14.2. UN proper shipping name

Proper shipping name (ADR/RID) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (IMDG) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (ICAO) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Proper shipping name (ADN) HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

14.3. Transport hazard class(es)

ADR/RID class 5.1

ADR/RID label 5.1 & 8

IMDG class 5.1

ICAO class/division 5.1

ICAO subsidiary risk 8

Transport labels

14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

14.5. Environmental hazards

PERBAC FARM

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	5.1-02
Emergency Action Code	2W
Hazard Identification Number (ADR/RID)	58

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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

EU legislation	European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures. This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service. PBT - Persistent, Bioaccumulative & Toxic. vPvB - Very Persistent, Very bioaccumulative. REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006). DNEL - Derived No Effect Limit. PNEC - Predicted No Effect Concentration. COSHH - Control of Substances Hazardous to Health. Industry - Refers in section 8 to application of the substance in an industrial process. Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.
General information	PCS No - 94466
Revision comments	Review in line with CLP Regulation.
Revision date	30/03/2015

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Risk phrases in full	R10 Flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R20/22 Harmful by inhalation and if swallowed. R22 Harmful if swallowed. R34 Causes burns. R35 Causes severe burns. R37 Irritating to respiratory system. R41 Risk of serious damage to eyes. R5 Heating may cause an explosion. R50 Very toxic to aquatic organisms. R7 May cause fire. R8 Contact with combustible material may cause fire.
Hazard statements in full	H226 Flammable liquid and vapour. H242 Heating may cause a fire. H271 May cause fire or explosion; strong oxidiser. H272 May intensify fire; oxidiser. 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. H332 Harmful if inhaled. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.All composition information is based on suppliers data.

HOLCHEM

SAFETY DATA SHEET
V CLEAN

According to Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.

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

1.1. Product identifier

Product name V CLEAN

Product number HLV1

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

Identified uses General Purpose Alkaline Detergent. For professional use only.

Uses advised against Not for direct contact with Food or Beverage stuffs. Not for oral consumption.

1.3. Details of the supplier of the safety data sheet

Supplier

Holchem Laboratories Limited
Gateway House, Pilsworth Road,
Pilsworth Industrial Estate,
Bury, Lancashire (UK)
BL9 8RD
+44 (0) 1706 222288
+44 (0) 1706 221550
info@holchem.co.uk

1.4. Emergency telephone number

Emergency telephone

Out of Office Hours Emergency Information:-
For accidents and spillages involving this product that pose a threat to the environment, or human health, or require immediate first aid advice call:- +44(0) 7050 265597.
Note:- This number will not accept order queries or calls dealing with equipment breakdowns.
This product is registered with the NPIS. UK Environment Agency 24hour Advisory Service 0800 807060. Irish Environmental Protection Agency 1890 335599 (This is a Lo Call Number)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Pictogram

Signal word Danger

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Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage.
Precautionary statements	P280 Wear protective gloves, eye and face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P332+P313 If skin irritation occurs: Get medical advice/ attention. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P313 Get medical advice/ attention.
Contains	ISO TRIDECANOL ALCOHOL ETHOXYLATE, SODIUM HYDROXIDE
Detergent labelling	< 5% amphoteric surfactants, < 5% non-ionic surfactants
Supplementary precautionary statements	P404 Store in a closed container. P501 Dispose of contents/ container in accordance with national regulations.
Labelling notes	Classification based on specific concentration limits of Sodium Hydroxide.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ISO TRIDECANOL ALCOHOL ETHOXYLATE **1-5%**

CAS number: 69011-36-5 | EC number: 931-138-8 | REACH registration number: 02-2119552461-55-0000

Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412	Xi;R41.

SODIUM HYDROXIDE **1 - 3%**

CAS number: 1310-73-2 | EC number: 215-185-5 | REACH registration number: 01-2119457892-27

Classification	Classification (67/548/EEC or 1999/45/EC)
Met. Corr. 1 - H290 Skin Corr. 1A - H314 Eye Dam. 1 - H318	C;R35

BETA-ALANINE, N-(2 CARBOXYETHYL)-N-DODECYL MONO SODIUM SALT **1-5%**

CAS number: 90170-43-7 | EC number: 290-476-8

Classification	Classification (67/548/EEC or 1999/45/EC)
Eye Irrit. 2 - H319	Xi;R36.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments To the best of our knowledge, all of the substances used in this product are being supported for the relevent application in REACH.

V CLEAN

SECTION 4: First aid measures

4.1. Description of first aid measures

General information When it is safe to do so, remove victim immediately from source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

Inhalation Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if any discomfort continues.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention.

Skin contact Remove contaminated clothing that is not stuck to the skin. Flush area with clean water. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

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

General information Neat product may cause irritation to skin and eyes. Dilute chemical may result in mild irritation to skin. Contact of dilute chemical with eyes should still be treated as outlined above.

Inhalation Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose.

Ingestion Unlikely route of exposure without deliberate abuse. If neat chemical is ingested, irritation of the mouth, throat and GI tract may occur. If dilute chemical is ingested some soreness of the mouth, throat and GI tract may occur.

Skin contact Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Chemical burns are possible after prolonged contact.

Eye contact May cause irritation to the eyes. May result in permanent eye damage.

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

Notes for the doctor Contains, Sodium Hydroxide, Chelants, Polyacrylates and Surfactants in Aqueous Solution Rinse well with water to neutral pH.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards In contact with some metals (Aluminium, Zinc and their Alloys) Hydrogen Gas is formed, which may form an explosive mixture with air. Note - Comment refers to neat product.

5.3. Advice for firefighters

Protective actions during firefighting Protective clothing and respiratory protection should be worn when tackling fires involving this product. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

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6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid or minimise the creation of any environmental contamination.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections See sections 8,12 & 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear suitable protective equipment for prolonged exposure and/or high concentrations of vapours, spray or mist. Read and follow manufacturer's recommendations.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Keep only in the original container. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Store between 0 and 40 Degrees C.

7.3. Specific end use(s)

Specific end use(s) Detergent, refer to Product Information Sheet for full details.

Usage description This product is suitable for use in food and beverage processing plants, but it is not designed for direct food contact.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

SODIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m³
WEL = Workplace Exposure Limit

V CLEAN

Ingredient comments

Where an exposure level is quoted, a risk assessment should consider if there is a need to monitor the atmosphere of the working environment. Results should be compared against the WEL and/or DNEL information provided. The Long Term WEL refers to total exposure of a worker to a specific substance averaged out over an 8 hour period.
The Short Term WEL refers to a single exposure of a worker to a specific substance over a 15 minute period.
If the Short Term WEL is exceeded and no Long Term Limit is set, further exposure during the working shift is not permitted. Further controls should be implemented to ensure that future exposure to the substance is reduced below the levels set before the activity is repeated/continued. Where no Short Term WEL exists, guidance from the HSE is to use a value of three times the Long Term WEL.
The WEL limits are laid down in the EH40 list as supplied by the HSE. This is taken from the Chemical Agents Directive (98/24/EC). Where a worker is exposed to levels approaching a limit, further exposure control measures should be considered to reduce exposure to the substance. DNEL and/or PNEC information is supplied by manufacturers of substances in accordance with REACH legislation (Regulation (EC) No 1907/2006) , and is used to provide suitable risk reduction measures to limit exposure of the user of the substance to a non hazardous level. If the measured level of exposure by a route divided by the DNEL for the route is greater than 1, then further exposure controls should be implemented as described in section 8.2. Where new information becomes available under REACH, this will be passed on as revisions to the Safety Data Sheet.

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL

Industry - Inhalation; Long term local effects: 1.0 mg/m³
DNEL data for Professional users is not yet available, but it is assumed to be the same as for Industrial users.
Industry - Dermal; Short term local effects: 2%

PNEC

No information is available for PNEC data for Sodium Hydroxide

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Personal protection

The PPE indicated above is not a COSHH assessment. It represents PPE that should be considered during the manufacture, distribution, use and final disposal stages of this product's life cycle. It is the responsibility of employers to conduct a COSHH/risk assessment to determine appropriate PPE levels. The information given below should be used to support this assessment. Where possible replace manual processes with automated or closed processes to minimise contact with the product.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Refer to EN Standard 166 to select appropriate level of protection.

Hand protection

Rubber (natural, latex). Neoprene. Polyvinyl chloride (PVC). Refer to Standard EN 374.

Other skin and body protection

Provide eyewash station. Wear suitable protective clothing as protection against splashing or contamination. Reference to EN 13832 and EN 943 is useful when selecting footwear and clothing.

V CLEAN

Hygiene measures	Promptly remove non-impervious clothing that has become contaminated, provided it is not adhered to the skin. Wash contaminated clothing before reuse. Provide eyewash station and safety shower.
Respiratory protection	No specific recommendation made, but respiratory protection must be used if the general level exceeds the Workplace Exposure Limit. In the case of dust or aerosol formation (eg spraying), or vapour from hot vessels, use respiratory protection with an approved filter (P2).
Environmental exposure controls	Do not allow the substance to contaminate surface water/ground water. See points 6, 12 &13. Discharge of solutions into effluent systems (including municipal drains) or to surface water are expected to cause significant pH changes. Discharge of solutions should be carried out such that pH changes are minimised. Where necessary pH buffering measures should be adopted. Users of this product should consult local drainage and permitting authorities to ensure that any restrictions or discharge consents are adhered to.
General Health and Safety Measures.	The above requirements refer to the neat product. A 5% solution of this product would not be classified. However, we would recommend eye protection if there is a risk of splashing, also use of gloves.A full Risk Assessment should be carried out before handling any chemical(s). Risk Assessments should refer to COSHH, and any other relevant legislation or industry specific guidelines governing the use of chemicals.Risk assessments should refer to COSHH and any other relevant legislation or industry specific guidelines governing the use of Chemicals.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.
Odour	Detergent
Odour threshold	Not applicable.
pH	pH (concentrated solution): >13 pH (diluted solution): 11.5 - 12.5 @1%
Melting point	Not applicable.
Initial boiling point and range	Not applicable.
Flash point	Not applicable. Contains no Flammable Components
Evaporation rate	Not applicable.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	1.09 @ 20 Degrees C
Bulk density	Not applicable.
Solubility(ies)	Soluble in water.
Partition coefficient	Not applicable. Not technically practical for mixtures.

V CLEAN

Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not determined.
Explosive properties	Not available. Contains no Explosive Components.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not applicable. Contains no Oxidising Components.

9.2. Other information

Refractive index	Not applicable.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not applicable.
Saturation concentration	Not applicable.
Critical temperature	Not applicable.
Volatile organic compound	Not applicable.
Explosive Properties	Not Classified as Explosive
Storage Temperature Range	0 to +40 Degrees C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not expected to react when correctly stored and used. Mixing with other chemicals may produce unexpected reactions.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. - See note 10.6.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Refer to section 10.1.

10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid	Strong acids. Reaction with Aluminium, Zinc, Tin, Copper or their alloys produces flammable Hydrogen Gas. - Note: reaction relates to neat product.

10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended. - See section 10.5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Respiratory sensitisation

Respiratory sensitisation	No evidence of respiratory sensitisation for any component of this formulation.

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Skin sensitisation

Skin sensitisation No evidence of skin sensitisation for any component of this formulation.

Carcinogenicity

Carcinogenicity The components of this formulation will not be systemically available in the body under normal conditions of handling. As a consequence it is not expected to cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility The components of this formulation will not be systemically available in the body under normal conditions of use and handling. As a consequence it is not expected to be toxic to the reproductive system or developing foetus.

General information See section 4.2.

Inhalation Unlikely route of exposure. Inhalation of sprayed droplets may result in soreness of the throat, mouth and nose. - See section 4.2.

Ingestion Will cause severe irritation to mouth, throat and GI-Tract.

Skin contact Irritating to skin.

Eye contact Risk of serious damage to eyes. May cause permanent eye injury.

Toxicological information on ingredients.

SODIUM HYDROXIDE

Toxicological effects Will cause immediate corrosion of and damage to the GI Tract, Lethal dose in man is approximately 5g.

SECTION 12: Ecological Information

Ecotoxicity This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1. Toxicity

Acute toxicity - fish This mixture is not classified as toxic to aquatic organisms.
Normal use of diluted product is unlikely to pose a risk.
See note 12.0.

Ecological information on ingredients.

SODIUM HYDROXIDE

Acute toxicity - fish No reliable data is available for this substance. Concentrations greater than 10ppm, or a pH value equal to or greater than 10.5 may be fatal to fish and other aquatic organisms. Can cause damage to other aquatic plants. Can cause damage to vegetation.

12.2. Persistence and degradability

Persistence and degradability The surfactant(s) used in this preparation complies (comply) with the biodegradability criteria as laid down in the European Detergents Regulation No 648/2004 as amended.

12.3. Bioaccumulative potential

Bioaccumulative potential Not expected to bioaccumulate.

Partition coefficient Not applicable. Not technically practical for mixtures.

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12.4. Mobility in soil

Mobility The product contains substances which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Do not mix with other chemicals.

Disposal methods Small volumes of use solution can be disposed of to sewers.

SECTION 14: Transport information

14.1. UN number

No information required.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

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

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

EU legislation European Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures.
This replaces Directive 67/548/EEC - Classification, Packaging and Labelling of Dangerous Substances and Regulation (EC) No. 453/2010 relating to the Classification, Packaging and Labelling of Dangerous Preparations. Also considered is the REACH Regulation (EC) No.1907/2006.

15.2. Chemical safety assessment

V CLEAN

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	(EC) No. 1272/2008 : EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures. NPIS - National Poisons Information Service. vPvB - Very Persistent, Very bioaccumulative. PBT - Persistent, Bioaccumulative & Toxic. REACH - Registration, Evaluation, Authorisation & restriction of CHemicals (Regulation EC 1907/2006). DNEL - Derived No Effect Limit. PNEC - Predicted No Effect Concentration. COSHH - Control of Substances Hazardous to Health. Industry - Refers in section 8 to application of the substance in an industrial process. Professional - Refers in section 8 to application/use of the preparation/product in a skilled trade premises.
General information	This document is a Safety Data Sheet, NOT a CoSHH assessment. It is the customer's responsibility to conduct a full CoSHH assessment, taking into account the information held within this document along with other local factors considered in a risk assessment. The Risk and Hazard statements listed below are the full text of abbreviations used in this document. They are not the final classification, for this refer to section 2.
Revision comments	Review of concentration ranges in section 3. No change to classification.
Revision date	17/10/2016
Risk phrases in full	R35 Causes severe burns. R36 Irritating to eyes. R36/38 Irritating to eyes and skin. R41 Risk of serious damage to eyes.
Hazard statements in full	H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
REACH extended MSDS comments	REACH requires that persons handling chemicals should take the necessary risk management measures, in accordance with assessments from manufacturers and importers of chemical substances. The relevent recommendations must be passed along the supply chain. These assessments are generally reported in Exposure Scenarios. Where Exposure Scenarios have been provided for substances used in this product, the relevent information is incorporated into the safety data sheet.
END OF SAFETY DATA SHEET	