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Conforms to EU Regulation 1907/2006/EC as amended.

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

1.1 Product identifier

Trade name : HTH GREEN ALGAECIDE MICRO

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

Use of the Substance/Mixture : Swimming Pool Sanitizer


<p>1.3 Details of the supplier of the safety data sheet Innovative Water Care SA Holding (Pty) Ltd NCP Factory Site, 9 Hytor Street, Chloorkop 1624 Kempton Park South Africa</p> <p>E-mail address of person responsible for the SDS: EHSProductSafetyTeam@solenis.com</p> <p>Product Information Contact your local Solenis representative</p>	<p>1.4 Emergency telephone number Europe: NCEC +44 (0)1235 239 670, Africa, and Middle East: NCEC +44 (0)1235 239 671 , or contact your local emergency telephone number at 112</p>
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

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2.2 Label elements

Classification (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.

Prevention:

P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 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/ doctor.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:


didecyldimethylammonium chloride

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides

Aluminiumhydroxidechloride

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
didecyldimethylammonium chloride	7173-51-5 230-525-2	Flam. Liq. 3; H226 Acute Tox. 3; H301 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 10	>= 10 - < 15
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1 939-253-5 01-2119965180-41-xxxx	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 10 - < 15
ethanol	64-17-5 200-578-6 01-2119457610-43-xxxx	Flam. Liq. 2; H225 Eye Irrit. 2; H319	>= 1 - < 2,5
Aluminiumhydroxidechloride	1327-41-9 215-477-2 01-2119531563-43-xxxx	Eye Dam. 1; H318 Met. Corr. 1; H290	>= 1 - < 2,5


For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.

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If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
Wash contaminated clothing before re-use.
If on clothes, remove clothes.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed


Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
confusion
irregular heartbeat
respiratory failure

Risks : Harmful if swallowed.
Causes serious eye damage.
Causes severe burns.

Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No hazards which require special first aid measures.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Water spray
 Foam
 Carbon dioxide (CO₂)
 Dry chemical
- Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.
 Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : toxic fumes
 Carbon monoxide
 Carbon dioxide (CO₂)
 Nitrogen oxides (NO_x)
 formaldehyde-like
 Hydrocarbons
 hydrogen chloride


5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Specific extinguishing methods : Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
 Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Remove all sources of ignition.
 Use personal protective equipment.
 Persons not wearing protective equipment should be excluded

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from area of spill until clean-up has been completed.
 Comply with all applicable federal, state, and local regulations.
 Suppress (knock down) gases/vapours/mists with a water spray jet.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
 Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For further information see Section 8 and Section 13 of the safety data sheet.

SECTION 7: Handling and storage

7.1 Precautions for safe handling


Advice on safe handling : Avoid formation of aerosol.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Do not breathe vapours/dust.
 Do not smoke.
 Container hazardous when empty.
 Avoid contact with skin and eyes.
 Smoking, eating and drinking should be prohibited in the application area.
 For personal protection see section 8.
 Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : No sparking tools should be used. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : Wash hands before breaks and at the end of workday. When using do not eat or drink. Ensure that eyewash stations and safety showers are close to the workstation location. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. No smoking. Electrical installations / working

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materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
ethanol	64-17-5	OEL- RL STEL/C	2.000 ppm	ZA OEL
Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents				

8.2 Exposure controls

Engineering measures

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.


Personal protective equipment

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
Maintain eye wash station in immediate work area.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:
Impervious clothing
Chemical resistant apron
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).
Discard gloves that show tears, pinholes, or signs of wear.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: green
Odour	: slight
Odour Threshold	: No data available
pH	: 7 - 8 Concentration: 1 %
Melting point/freezing point	: No data available
Boiling point/boiling range	: 100 °C
Flash point	: > 65 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0,96 - 1,01 g/ml
Solubility(ies)	
Water solubility	: miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: No data available

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Viscosity, kinematic : No data available

Oxidizing properties : No data available

9.2 Other information

Self-ignition : No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under recommended storage conditions.


10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

excessive heat
Protect from frost.
Heat, flames and sparks.**10.5 Incompatible materials**Materials to avoid : Acids
Alkali metals
aluminum
Ammonia
Bases
brass
Copper
galvanized metals
halogens
inorganic materials
Iron
Oxidizing agents
Reducing agents
sodium
steel
Zinc**10.6 Hazardous decomposition products**Hazardous decomposition products : Carbon monoxide
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
Formaldehyde

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Hydrocarbons
Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Components:

didecyldimethylammonium chloride:

Acute oral toxicity : LD50 (Rat): 238 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute dermal toxicity : LD50 (Rabbit): 3.342 mg/kg

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Acute oral toxicity : LD50 (Rat): 358 mg/kg

ethanol:

Acute oral toxicity : LD50 (Rat): 7.060 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 117 - 125 mg/l
Exposure time: 4 h
Test atmosphere: vapour

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LDLo (Rabbit): 20 g/kg

Aluminiumhydroxidechloride:

Acute oral toxicity : LD50 (Rat): 12.800 mg/kg

Skin corrosion/irritation

Causes severe burns.


Product:

Remarks : Causes severe skin burns and eye damage.

Components:

didecyldimethylammonium chloride:

Method : OECD Test Guideline 404

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Result : Corrosive to skin
 GLP : yes

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Species : Rabbit
 Result : Causes burns.

ethanol:

Result : Slightly irritating to skin

Aluminiumhydroxidechloride:

Species : Rabbit
 Method : OECD Test Guideline 404
 Result : Not irritating to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : May cause irreversible eye damage.

Components:

didecyldimethylammonium chloride:

Result : Corrosive to eyes

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Result : Corrosive to eyes

ethanol:

Result : Irritating to eyes

Aluminiumhydroxidechloride:

Result : Corrosive to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.


Respiratory sensitisation

Not classified based on available information.

Components:

didecyldimethylammonium chloride:

Test Type : Buehler Test

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Species : Guinea pig
Method : OECD Test Guideline 406

Germ cell mutagenicity

Not classified based on available information.

Components:

didecyldimethylammonium chloride:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

Components:

didecyldimethylammonium chloride:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available


SECTION 12: Ecological information

12.1 Toxicity

Components:

didecyldimethylammonium chloride:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0,2 - 0,5 mg/l

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Exposure time: 96 h
Test Type: semi-static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,328 - 0,511 mg/l

Exposure time: 96 h
Test Type: flow-through test

LC50 (Danio rerio (zebra fish)): 0,97 mg/l

Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Daphnia magna (Water flea)): 0,057 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,062 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 10


Toxicity to microorganisms : EC10 (Pseudomonas putida): 0,13 mg/l
Exposure time: 16 h
Test Type: Growth inhibition
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,021 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 0,860 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,923 mg/l
Exposure time: 96 h
Test Type: flow-through test

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,016 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (algae)): 0,049 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 10

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,00415 mg/l
End point: Reproduction Test
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Analytical monitoring: yes
GLP: yes

M-Factor (Chronic aquatic toxicity) : 1

ethanol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 12.000 - 16.000 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10.000 mg/l
Exposure time: 48 h
Test Type: static test

12.2 Persistence and degradability


Components:

didecyldimethylammonium chloride:

Biodegradability : Test Type: aerobic
Result: Readily biodegradable.
Biodegradation: 69 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: yes

Biodegradation: 72 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Biodegradation: 87 - 94 %

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Exposure time: 28 d
Method: OECD Test Guideline 302B
Remarks: This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: The bioaccumulation potential cannot be determined.

Components:

didecyldimethylammonium chloride:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 46 d
Bioconcentration factor (BCF): 81,00

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Bioaccumulation : Species: Bluegill (Lepomis macrochirus)
Exposure time: 60 d
Concentration: 0,25 mg/l
Bioconcentration factor (BCF): 80,4
Method: Flow through

Species: Bluegill (Lepomis macrochirus)
Exposure time: 60 d
Concentration: 0,25 mg/l
Bioconcentration factor (BCF): 33,3
Method: Flow through

ethanol:

Partition coefficient: n-octanol/water : log Pow: -0,31


12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

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12.6 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

14.1 UN number or ID number

ADR: UN1760

ADN: UN1760

RID: UN1760

IMDG-Code: UN1760


IATA-DGR: UN1760

14.2 UN proper shipping name

ADR: CORROSIVE LIQUID, N.O.S. (DIDECYLDIMETHYLAMMONIUM CHLORIDE)

ADN: CORROSIVE LIQUID, N.O.S. (DIDECYLDIMETHYLAMMONIUM CHLORIDE)

RID: CORROSIVE LIQUID, N.O.S. (DIDECYLDIMETHYLAMMONIUM CHLORIDE)

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IMDG-Code: CORROSIVE LIQUID, N.O.S. (DIDECYLDIMETHYLAMMONIUM CHLORIDE)

IATA-DGR: Corrosive liquid, n.o.s. (DIDECYLDIMETHYLAMMONIUM CHLORIDE)

14.3 Transport hazard class(es)

ADR: 8

ADN: 8

RID: 8

IMDG-Code: 8

IATA-DGR: 8

14.4 Packing group

ADR: III

ADN: III

RID: III

IMDG-Code: III

IATA-DGR: III

14.5 Environmental hazards

ADR: Environmentally hazardous

ADN: Environmentally hazardous

RID: Environmentally hazardous

IMDG-Code: Marine pollutant

IATA-DGR: Environmentally hazardous

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments


Not applicable for product as supplied.

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Candidate List of Substances of Very High	:	Not applicable

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Concern for Authorisation (Article 59).

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : didecyldimethylammonium chloride

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.


The components of this product are reported in the following inventories:

- TCSI : On the inventory, or in compliance with the inventory
- TSCA : All substances listed as active on the TSCA inventory
- AIIC : On the inventory, or in compliance with the inventory
- DSL : All components of this product are on the Canadian DSL

- ENCS : On the inventory, or in compliance with the inventory
- KECI : On the inventory, or in compliance with the inventory
- PICCS : On the inventory, or in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

No data available

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SECTION 16: Other information

Further information

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Classification of the mixture:

Acute Tox. 4	H302
Skin Corr. 1B	H314
Eye Dam. 1	H318
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method


Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
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.
H336	: May cause drowsiness or dizziness.
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.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Met. Corr.	: Corrosive to metals
Skin Corr.	: Skin corrosion
STOT SE	: Specific target organ toxicity - single exposure
ZA OEL	: South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
ZA OEL / OEL- RL STEL/C	: Occupational Exposure Limit Restricted limit - Short term occupational exposure limits / ceiling limits

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -

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Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet

Key literature references and sources of data

SOLENIS Internal data

SOLENIS internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

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. This SDS has been prepared by the Solenis Environmental Health and Safety Department.

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