SAFETY DATA SHEET

In accordance with 2015/830 and 1272/2008

(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 2018-06-19
Replaces issued SDS 2017-12-19

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>LifeClean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other names or synonyms</td>
<td>LifeClean Disinfectant</td>
</tr>
<tr>
<td></td>
<td>LifeClean Disinfectant Plus</td>
</tr>
<tr>
<td></td>
<td>LifeClean Agri</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>Disinfection and cleaning of surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses that are advised against</td>
<td>All other use is prohibited unless specifically permitted</td>
</tr>
</tbody>
</table>

1.3. Details of the supplier of the safety data sheet

Company

LifeClean International AB
Kärnanäsvägen 24
SE-451 76 UDDEVALLA
Sweden

Contact person
Thomas Lööw

Telephone
+46 522-104 04

E-mail
info@lifeclean.se

Website
www.lifeclean.se

1.4. Emergency telephone number

In case of emergency contact toxicological information, emergency tel 112.
For non-emergency poison information, see http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Upon assessment, this mixture is not classified as hazardous according to 1272/2008.

2.2. Label elements

Label information in accordance with 1272/2008

<table>
<thead>
<tr>
<th>Hazard pictograms</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal words</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard statements</td>
<td>Not applicable</td>
</tr>
<tr>
<td>P102</td>
<td>Keep out of reach of children</td>
</tr>
</tbody>
</table>

2.3. Other hazards

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a homogeneous aqueous solution.

3.2. Mixtures

Note that the table shows known hazards of the ingredients in pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d. LifeClean Disinfectant is more than 99.6 % homogeneous aqueous solution.
Constituent | Classification | Concentration
---|---|---
CHLORINE DIOXIDE | Homogeneous aqueous solution of chlorine dioxide dilution | < 0.2%

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b. Also contains component(s) not necessary to label.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Upon breathing in

Fresh air and rest. If symptoms persist seek medical advice.

Upon eye contact

Rinse the eye for several minutes with lukewarm water. If irritation persists call a doctor/ophthalmologist.

Upon skin contact

Normal washing of the skin is considered sufficient; If nevertheless symptoms do occur, contact a physician. Remove clothes which have been splattered, because prolonged exposure can cause skin irritation.

Upon ingestion

First rinse the mouth thoroughly with water and SPIT OUT the rinse water. Then drink at least half a litre of water and contact a doctor if complaints persist. DO NOT induce VOMITING.

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

Ingestion of large amounts of the product may cause discomfort or health deterioration. Inhalation of heated product may cause airway irritation. Splashes in eyes may cause burning pain.

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

Symptomatic treatment.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguish with materials intended for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Corrosive gases can be spread during fire and substantial heating. The product is not hazardous in the flammable sense.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure good ventilation.

Avoid direct inhalation of fumes from the product. Avoid contact with eyes.

6.2. Environmental precautions

Avoid that larger spills reach drains, fields or waterways.

6.3. Methods and material for containment and cleaning up

Smaller spills, clean up with cloth or similar and wash with water. For larger spills cover potential drains and wall in with absorbent inert material such as sand, dirt, vermiculite or diatomaceous earth.

Collect in appropriate containers.

See also section 8 and 13.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.
SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Avoid direct inhalation of fumes from the product. Avoid contact with eyes.
Handle between 4 - 40 °C.

7.2. Conditions for safe storage, including any incompatibilities
Shelf life at room temperature and in original carton, up to 9 months.
Shelf life in refrigerator for long-term storage (below 8 °C, but not minus degrees), up to 12 months.
Opened bottle is valid for 4 weeks from opening day.
Store cool and avoid exposure to direct sunlight.
Store only in the original package.

7.3. Specific end uses
Liquid disinfectant for surface disinfection and cleaning.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
8.1.1. OSHA (Occupational Safety & Health Administration) limit values
Time-weighted-average exposure limit (TWA) 0.1 ppm / 0.83 mg/m³ Short term exposure limit (STEL) 0.3 ppm / 0.83 mg/m³
Other ingredients (cf. Section 3) have no occupational exposure limit values.

8.2. Exposure controls
In terms of minimizing risks, no special attention is needed for this product besides the general obligations that follow EU directive 89/391 and national occupational legislation.
Eye protection should be worn if there is any danger of direct exposure or splashing.
Protective gloves are normally not needed due to the properties of this product, but may be necessary for other reasons, e.g. mechanical risks, temperature conditions or microbiological risks. Very sensitive persons can use gloves labelled “Low Chemical resistant” or “Waterproof” or with the pictogram indicated here.
Respiratory protection is not normally required. In case of inadequate ventilation, full or half mask with filter B (gray for inorganic gases and vapors) should be used.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

a) Appearance
Form: liquid
Colour: light yellow

b) Odour
Weak smell chlorine

c) Odour threshold
Not applicable

d) pH
2pH

e) Melting point/freezing point
0 °C

f) Initial boiling point and boiling range
100 °C at atmospheric pressure (101325 Pa)

g) Flash point
Not applicable

h) Evaporation rate
Not applicable

i) Flammability (solid, gas)
Not applicable

j) Upper/lower flammability or explosive limits
Not applicable

k) Vapour pressure
0.01kPa

l) Vapour density
Not applicable

m) Relative density
1 kg/L

n) Solubility
Not applicable

o) Partition coefficient: n-octanol/water
Not applicable

p) Auto-ignition temperature
Not applicable

q) Decomposition temperature
Not applicable
SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
In alkaline solution chlorite and chlorate is formed.

10.2. Chemical stability
Chlorine dioxide slowly decomposes in aqueous solution to among other things hydrochloric acid and chloric acid.

10.3. Possibility of hazardous reactions
Not indicated

10.4. Conditions to avoid
Protect from heat and direct sunlight.
Avoid exposure to non-noble metallic materials longer than what is necessary for exterior disinfection.

10.5. Incompatible materials
Avoid contact with alkaline products.
Avoid contact with sulfur compounds.
Avoid contact with oxidizers and reducing agents.

10.6. Hazardous decomposition products
Not indicated

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
General or unspecific toxicity
Ingestion of larger quantities of product may cause discomfort or it may impact the general health condition.

Corrosive and irritating effects
Eye contact may cause burning pain or irritation.
Can cause skin irritation after repeated or prolonged contact.
Irritation of the mouth, pharynx, and/or respiratory system may occur through inhalation or ingestion.

Relevant toxicological properties
CHLORINE DIOXIDE ...
LD50 rat (Orally) 24h = 292 mg/kg
LC50 rat (Inhalation) 2h = 0.73 mg/L

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
LC50 fathead minnow (Pimephales promelas) 96h = 0.02 mg/L
EC50 Water flea (Daphnia pulex) 48h = 1.8 mg/L
IC50 Algae 72h = 1.31 mg/L
The product is not classified as an environmental hazard according to current regulations, but it does contain environmentally hazardous substances in quantities below the labelling limit.
Avoid larger spills in soil, water and drains.

12.2. Persistence and degradability
The surfactants used in this product comply with the criteria for biodegradability under Regulation 648/2004.

12.3. Bioaccumulative potential
This product or its ingredients do probably not accumulate in nature.

12.4. Mobility in soil
The product is miscible with water and is therefore variable in soil and water.

12.5. Results of PBT and vPvB assessment
This product does not contain any substances that are assessed to be a PBT or a vPvB.
12.6. Other adverse effects
No known effects or hazards.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste handling of the product
The product is not classified as hazardous waste.
Also take local regulations for dealing with waste into account.
Avoid larger spills of undiluted product in drains. Smaller quantities of undiluted product can be washed into drains.

Classification according to 2006/12
Recommended LoW-code: 07 06 99 Wastes not otherwise specified.

Recycling of product and packaging
Empty, rinsed packaging is sent for recycling where practicable.

SECTION 14: TRANSPORT INFORMATION

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number
Not classified as dangerous goods

14.2. UN proper shipping name
Not applicable

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable

14.5. Environmental hazards
Not applicable

14.6. Special precautions for user
Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Not applicable.

15.2. Chemical safety assessment
Assessment and chemical safety report in accordance with 1907/2006 Annex I has not yet been performed.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet
Revisions of this document

Earlier versions
2016-05-20 Revisions of this document have, where not otherwise stated, been caused by changes in the regulations
2015-04-30 The composition of this product was changed
2014-06-26 The composition of this product was changed

16b. Legend to abbreviations and acronyms used in the safety data sheet
Full texts for Hazard Class and Category Code mentioned in section 3
No phys haz Non-assigned physical hazard
Acute Tox 3oral Acute toxicity (Category 3 oral)
Skin Corr 1B Corrosive (Category 1B)
Aquatic Acute 1 Very toxic to aquatic life (Category Acute 1)
Explanations of the abbreviations in Section 14
ADR European Agreement concerning the International Transport of Dangerous Goods by Road
RID Regulations concerning the International Transport of Dangerous Goods by Rail
ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG International Maritime Dangerous Goods Code
ICAO International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA The International Air Transport Association

16c. Key literature references and sources for data
Sources for data
Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2016-05-31.
Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion.
If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet
89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
2006/12 DIRECTIVE 2006/12/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 April 2006 on waste

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification
Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I, where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements
Full texts for hazard statements mentioned in section 3
H301 Toxic if swallowed
H314 Causes severe skin burns and eye damage
H400 Very toxic to aquatic life

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment
Other relevant information
Editorial information
This material safety data sheet has been prepared and checked by KemRisk®️, KemRisk Sweden AB, Teknikringen 10, SE-583 30 Linköping, Sweden, www.kemrisk.se. The document has undergone a review and is based on information provided by the manufacturer and available to us.