According to Regulation (EC) No 1907/2006
Version 3 / Revision date: 11/12/2020
Date of issue: 11/12/2020

Section 1: Identification of the mixture and of the company/undertaking

1.1. **Product identifier:**
Product name: Mosgo Algae Remover Dual Active
Product number: P2305 (1L), P2304 (2.5L), P1005 (5L), G1006 (20L)

1.2. **Relevant identified uses of the mixture and uses advised against:**
Biocide product.

1.3. **Details of the supplier of the safety data sheet:**
Hygeia Chemicals Limited
Carrowmoneash, Oranmore, County Galway
Ireland
Tel: 091-794722
Fax: 091-794738

1.3.1. Responsible person:
E-mail: info@hygeia.ie

1.4. **Emergency telephone number:** National Poisons Information Centre (NPI)
Tel: 353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)
Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

Section 2: Hazards identification

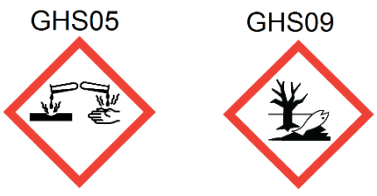
2.1. **Classification of the mixture:**

Classification according to Regulation (EC) No 1272/2008 (CLP):
Skin corrosion/irritation, Hazard Category 2 – H315
Serious eye damage/eye irritation, Hazard Category 1 – H318
Hazardous to the aquatic environment – Acute Hazard, Category 1 – H400
Hazardous to the aquatic environment – Chronic Hazard, Category 3 – H412

Hazard statements:
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H400 – Very toxic to aquatic life.
H412 – Harmful to aquatic life with long lasting effects.

2.2. **Label elements:**

Components that define the hazards: Didecyldimethyl ammonium chloride



DANGER

Hazard statements:
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H400 – Very toxic to aquatic life.
H412 – Harmful to aquatic life with long lasting effects.

Precautionary statements:
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 – IF ON SKIN: Wash with plenty of soap and 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.
P362 + P364 – Take off contaminated clothing and wash it before reuse.
P391 – Collect spillage.
P501 – Dispose of contents/container to a household waste recycling centre as hazardous waste except for triple rinsed empty containers which can be disposed of by recycling. Contact your local council for details.

Note:
Biocide product, observe Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products during disposal/labelling.

2.3. Other hazards:
The product has no other known specific hazards for human or environment.
The ingredients of the product do not meet the criteria for PBT or vPvB substances.

Section 3: Composition/information on ingredients

3.1. Substances:
Not applicable.

3.2. Mixtures:

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
Didecyldimethyl ammonium chloride* Index number: 612-131-00-6	7173-51-5	230-525-2	-	1-5	GHS06 GHS05 GHS09 Danger	Acute Tox. 3 Skin Corr. 1B Eye Dam. 1 Aquatic Acute 1 M-Factor=10 Aquatic Chronic 2	H301 H314 H318 H400 H411
Propan-2-ol** Index number: 603-117-00-0	67-63-0	200-661-7	-	< 3	GHS02 GHS07 Danger	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336
N-(3-Amino-propyl)-N-dodecyl--1,3-diamine-propane***	2372-82-9	219-145-8	-	< 1	GHS06 GHS05 GHS08 GHS09 Danger	Acute Tox. 3 Skin Corr. 1A STOT RE 2 Aquatic Acute 1 M-Factor=10 Aquatic Chronic 1 M-Factor=1	H301 H314 H373 H400 H410

*: Classification specified by the manufacturer that includes other classification in addition to the classification specified by Regulation (EC) No 1272/2008.
**: Substance having occupational exposure limit value.
***: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

For the full text of hazard statements, see Section 16.

Section 4: First aid measures

4.1. Description of first aid measures:

Ingestion:

Measures:

- If ingestion is suspected, obtain medical attention immediately.
- Clean mouth with water.
- Do not induce vomiting without medical advice (show this safety data sheet).

Inhalation:

Measures:

- Move to fresh air.
- If there is breathing difficulty or coughing, keep patient at rest seated in position of maximum comfort.
- Obtain medical attention immediately (show this safety data sheet).

Skin contact:

Measures:

- Remove contaminated clothing immediately.
- If skin contamination occurs wash immediately with plenty of clean, gently flowing water for at least 10 minutes.

Eye contact:

Measures:

- If substance has got into the eyes, immediately wash out with plenty of water for at least 10 minutes, maintaining eyelids open.
- Protect unharmed eye.
- Take care not to wash the chemical from one eye into the other.
- Obtain medical attention immediately.

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

Causes skin irritation.
Causes serious eye damage.

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

No special treatment needed; treat symptomatically.

Section 5: Firefighting measures

5.1. Extinguishing media:

5.1.1. Suitable extinguishing media:

Dry powder, water spray, foam.

5.1.2. Unsuitable extinguishing media:

No data available.

5.2. Special hazards arising from the substance or mixture:

In case of fire, fume and other toxic combustion products may be formed; the inhalation of such combustion products can have serious adverse effects on health.

5.3. Advice for firefighters:

Wear full protective clothing and self-contained breathing apparatus.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

6.1.1. **For non-emergency personnel:**

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. **For emergency responders:**
Wear appropriate protective clothing (see Section 8).

6.2. Environmental precautions:
Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. Methods and material for containment and cleaning up:
Soak up with inert absorbent material, place in suitable labelled containers and dispose hazardous waste.

6.4. Reference to other sections:
For further and detailed information see Sections 8 and 13.

Section 7: Handling and storage

7.1. Precautions for safe handling:
Observe conventional hygiene precautions.
Do not eat, drink or smoke during use.
Avoid contact with skin and eyes.
Technical measures:
No special measures required.
Precautions against fire and explosion:
No special measures required.

7.2. Conditions for safe storage, including any incompatibilities:
Technical measures and storage condition:
Keep containers tightly closed in a dry, cool and well-ventilated place to which children do not have access.
Keep product away from food, drink and animal feedstuffs.
Keep away from sources of ignition
Incompatible materials: See Section 10.5
Packaging material: No special prescriptions.

7.3. Specific end use(s):
No specific instructions available.

Section 8: Exposure controls/Personal protection

8.1. Control parameters:

Occupational exposure limit values (2020 Code of Practice for the Safety, Health and Welfare at Work):
Propan-2-ol (CAS: 67-63-0):
8 hours: 200 ppm
15 minutes: 400 ppm

DNEL values		**Oral exposure**		**Dermal exposure**		**Inhalative exposure**	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Marine water	no data	no notes
Freshwater sediment	no data	no notes
Marine water sediment	no data	no notes
Sewage Treatment Plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

8.2. **Exposure controls:**

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**

In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.

8.2.2. **Individual protection measures, such as personal protective equipment:**

The usual precautionary measures for handling chemicals should be observed.
Avoid contact with eyes and clothing.
Do not eat, drink or smoke during use.
Shower or bathe at the end of work.
The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** Use appropriate eye protection/face protection (EN 166).
2. **Skin protection:**
    a. **Hand protection:** Use appropriate, chemical-resistant protective gloves (EN 374).
    b. **Other:** Use appropriate protective clothing.
3. **Respiratory protection:** Use appropriate respiratory protective device.

8.2.3. **Environmental exposure controls:**

No special measures required.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

Section 9: Physical and chemical properties

9.1. **Information on basic physical and chemical properties:**

Parameter	Value / Test method / Remarks
1. **Appearance:**	**off-white liquid**
2. **Odour:**	**slightly alcoholic odour**
3. Odour threshold:	no data*
4. pH:	7 (typical)
5. Melting point/freezing point:	not applicable; aqueous solution
6. Initial boiling point and boiling range:	ca. 100 °C
7. Flash point:	Didecyldimethyl ammonium chloride: 29 °C (closed cup)
8. Evaporation rate:	no data*
9. Flammability (solid, gas):	no data*
10. Upper/lower flammability or explosive limits:	no data*
11. Vapour pressure:	solvent: 43 hPa
12. Vapour density:	no data*
13. Relative density:	no data*
14. Solubility(ies):	soluble in water

15. Partition coefficient: n-octanol/water:	no data*
16. Auto-ignition temperature:	no data*
17. Decomposition temperature:	no data*
18. Viscosity:	Didecyldimethyl ammonium chloride: 25 mPa.s (at 20 °C)
19. Explosive properties:	no explosive properties known
20. Oxidizing properties:	no oxidizing properties known

9.2. Other information:

Density: 1.00 g/ml (at 20 °C, typical)

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

Section 10: Stability and reactivity

10.1. Reactivity:

No reactivity known.

10.2. Chemical stability:

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions:

No dangerous reaction known.

10.4. Conditions to avoid:

Avoid direct heat and protect from frost.

10.5. Incompatible materials:

Strong oxidizing agents, reducing agents.

10.6. Hazardous decomposition products:

Nitrogen oxides, hydrogen chloride gas, carbon oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects:

Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. Summaries of the information derived from the test conducted:

No data available.

11.1.2. Relevant toxicological properties:

Data about the ingredients:

Didecyldimethyl ammonium chloride (CAS: 7173-51-5):
- Acute toxicity:
LD50 (oral, rat): 238 mg/kg (OECD 401)
LD50 (dermal, rabbit): 3342 mg/kg
- Skin corrosion/irritation:
Irritating (species: rabbit; exposure time: 2 minutes) (OECD 404)
- Sensitization:
Not sensitizing (species: guinea pig) (Buehler test, US-EPA)
- Genotoxicity in vitro:
Negative (Ames test, Salmonella typhimurium) (OECD 471)
Negative (chromosome aberration test in vitro, CHO cells)
Negative (gene mutation, CHO cells)
- Genotoxicity in vivo:
Negative (chromosome aberration test in vivo (oral, rat)) (OECD 475)

11.1.3. Information on likely routes of exposure:

Ingestion, inhalation, skin contact, eye contact.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:
No data available.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:
Causes skin irritation.
Causes serious eye damage.

11.1.6. Interactive effects:
No data available.

11.1.7. Absence of specific data:
No information.

11.1.8. Other information:
No data available.

Section 12: Ecological information

12.1. Toxicity:
Acute toxicity: Very toxic to aquatic life.
Chronic toxicity: Harmful to aquatic life with long lasting effects.
Data about the ingredients:
Didecyldimethyl ammonium chloride (CAS: 7173-51-5):
LC50 (Pimephales promelas): 0.19 mg/l/96h (US-EPA)
NOEC (Danio rerio): 0.032 mg/l/34d
EC50 (Daphnia magna): 0.062 mg/l/48h (EPA-FIFRA)
NOEC (Daphnia magna): 0.010 mg/l/21d (OECD 211)
ErC50 (Pseudokirchneriella subcapitata): 0.026 mg/l/96h (OECD 201)
EC50 (activated sludge): 11 mg/l/3h (OECD 209)

12.2. Persistence and degradability:
No data available.

12.3. Bioaccumulation potential:
No data available.

12.4. Mobility in soil:
No data available.

12.5. Results of PBT and vPvB assessment:
The ingredients of the product do not meet the criteria for PBT or vPvB substances.

12.6. Other adverse effects:
Do not flush into surface water or sanitary sewer system.
Discharge into the environment must be avoided.

Section 13: Disposal considerations

13.1. Waste treatment methods:
Disposal according to the local regulations.

13.1.1. Information regarding the disposal of the product:
Dispose of according to local and national regulations.

13.1.2. Information regarding the disposal of the packaging:
Triple rinse containers with water and dispose of according to local and national regulations.

13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:
No data available.

13.1.4. Sewage disposal:
No data available.

13.1.5. Special precautions for any recommended waste treatment:
No data available.

Section 14: Transport information

14.1. **UN Number:**
UN 3082

14.2. **UN proper shipping name:**
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3. **Transport hazard class(es):**
9

14.4. **Packing group:**
III

14.5. **Environmental hazards:**
Environmentally hazardous substance.

14.6. **Special precautions for user:**
No relevant information available.

14.7. **Transport in bulk according to Annex II of MARPOL and the IBC Code:**
Not applicable.

Section 15: Regulatory information

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

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), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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

COMMISSION REGULATION (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products

15.2. **Chemical safety assessment:** No information.

Section 16: Other information

Information regarding the revision of the safety data sheet:
The safety data sheet has been revised according to Regulation (EU) 2015/830 (Section 1-16).
The composition and hazard classification of the mixture did not change compared to the previous version.

This safety data sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:
Previous version of the safety data sheet (20. 02. 2015, version 1).

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Skin corrosion/irritation, Hazard Category 2 – H315	Based on calculation method
Serious eye damage/eye irritation, Hazard Category 1 – H318	Based on calculation method
Hazardous to the aquatic environment – Acute Hazard, Category 1 – H400	Based on calculation method
Hazardous to the aquatic environment – Chronic Hazard, Category 3 – H412	Based on calculation method

Relevant hazard statements (code and full text) of Sections 2 and 3:
H225 – Highly flammable liquid and vapour.
H301 – Toxic if swallowed.
H314 – Causes severe skin burns and eye damage.
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H319 – Causes serious eye irritation.
H336 – May cause drowsiness or dizziness.
H373 – May cause damage to organs <*or state all organs affected, if known*> through prolonged or repeated exposure <*state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard*>.
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.

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.

LC50: Lethal concentration resulting in 50 % mortality.
LD50: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.
The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.
The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.
Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.
It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.