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

1.1 Product identifier

Product name	Eradicate
Product number	ERD-0500
Brand	ReefX®

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

Disinfectant and antiseptic used to treat common pests on corals in marine aquaria, and for disinfecting nets and other items that are used with aquaria.

1.3 Details of the supplier of the safety data sheet

Name	Live Reef Ltd
Address	8-9 Mountbatten Road EX16 6SW Tiverton Devon UK
Telephone	+44 (0)800 8620270
email	info@livereef.uk

1.4 Emergency telephone number

Live Reef Distribution Ltd
+44 (0)800 8620270

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

- Flammable liquids (chapter 2.6), Cat. 3, H226
- Skin corrosion/irritation (chapter 3.2), Cat. 2, H315
- Serious eye damage/eye irritation (chapter 3.3), Cat. 2, H319

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms

Signal word **Warning**

Hazard statement(s)

H226	Flammable liquid and vapor
H319	Causes serious eye irritation
H315	Causes skin irritation

Precautionary statement(s)

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P241	Use explosion-proof electrical/ventilating/lighting/and all material-handling equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P403+P235	Store in a well-ventilated place. Keep cool.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

There are no additional ingredients present, which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Components

1. Isopropanol

Concentration	5 - 10 % (weight)
Other names / synonyms	2-HYDROXYPROPANE; 2-Propanol; 2-PROPYL ALCOHOL; ALCOJEL; ALCOSOLVE; ALCOSOLVE 2; AVANTIN; AVANTINE; CHROMAR; COMBI-SCHUTZ; DIMETHYLCARBINOL; HARTOSOL; IMSOL A; ISOHOL; Isopropyl alcohol; LUTOSOL; N-PROPAN-2-OL; PETROHOL; PRO; PROPAN-2-OL; Propan-2-ol, isopropanol; PROPOL; reaction mass of: bis(1S,2S,4S)-(1-benzyl-4-tert-butoxycarboxamido-2-hydroxy-5-phenyl)pentylammonium succinate; SEC-PROPYL ALCOHOL; SPECTRAR; STERISOL HAND DISINFECTANT; TAKINEOCOL; UN 1219
EC no.	414-810-0
CAS no.	67-63-0
Index no.	607-403-00-6

- Flammable liquids (chapter 2.6), Cat. 2
- Serious eye damage/eye irritation (chapter 3.3), Cat. 2A
- Specific target organ toxicity following single exposure (chapter 3.8), Cat. 3

H225	Highly flammable liquid and vapor

H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness

2. Terpineol

Concentration	5 - 10 % (weight)
Other names / synonyms	p-Menthenol (mixed isomers);
CAS no.	8000-41-7

3. Castor oil

Concentration	<= 5 % (weight)
Other names / synonyms	AROMATIC CASTOR OIL; CASTOR OIL AROMATIC; CASTOROIL; COSMETOL; CRYSTAL O; GOLD BOND; NCI-C55163; NEOLOID; OIL OF PALMA CHRISTI; OLEUM RICINI; PHORBYOL; Ricini oleum; Ricinus communis seed oil; RICINUS OIL; RICIRUS OIL; TANGANTANGAN OIL
EC no.	232-293-8
CAS no.	8001-79-4

4. 4-chloro-3,5-dimethylphenol

Concentration	<= 5 % (weight)
Other names / synonyms	Chloroxylenol; Phenol, 4-chloro-3,5-dimethyl-
EC no.	201-793-8
CAS no.	88-04-0
Index no.	604-038-00-4

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Serious eye damage/eye irritation (chapter 3.3), Cat. 2
- Skin sensitizer (chapter 3.4), Cat. 1

H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

5. (+/-)-1-Methyl-4-(1-methylvinyl)cyclohexene; trans-1-Methyl-4-(1-methylvinyl)cyclohexene

Concentration	< 1 % (weight)
Other names / synonyms	(+/-)-1-Methyl-4-(1-methylvinyl)cyclohexene; 1-Methyl-4-methylvinyl-cyclohexene; trans-1-Methyl-4-(1-methylvinyl)cyclohexene
CAS no.	7705-14-8

SECTION 4: First aid measures

4.1 Description of first aid measures

Following inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medica addition of adverse health effects persist, or are severe. In unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Following skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shows. Continue to rinse for at least 10 minutes. Get medical addition if needed. Wash clothing and shoes before reuse.
Following eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Seek medicate attention immediately.
Following ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms and effects, both acute and delayed

Eye contact: Causes serious eye irritation.
Inhalation: No known significant effects or critical hazards.
Skin contact: Causes skin irritation.
Ingestion: Irritating to mouth, throat and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Use dry chemical, CO2, water spray (fog) or foam.
Do not use water jet.

5.2 Special hazards arising from the substance or mixture
Flammable liquid and vapour. In a fire, or if heated, a pressure increase will occur and the container may burst with the risk of subsequent explosion.
Runoff to sewer may create fire or explosion hazard,
Carbon oxides and halogenated compounds.

5.3 Advice for firefighters
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.
More containers from fire area if this can be done without risk.
Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Evacuate surrounding areas.
Keep unecessary and unprotected peronnel from entering.
Do not touch or walk through spilled material.
Shut off all ignition sources.
No flares, smoking or flames in hazard area.
Avoid breathing vapour or mist.
Provide adequate ventilation.

6.2 Environmental precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up
Stop leak if without risk.
Move containers from spill area.
Use spark-proof tools and explosion-proof equipment.
Dilute with water and mop up if water-soluble. Alternatively, if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.
Dispose of via a licensed waste disposal contractor.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Put on appropriate personal protective equipment (see Section 8).
Do not ingest.
Avoid contact with eyes, skin and clothing.
Avoid breathing vapour or mist.
Use only with adequate ventilation.
Wear appropriate respirator when ventilation is inadequate.

Do not enter storage areas and confined spaces unless adequately ventilated.
Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.
Store and use away from heat, sparks, open flame or any other ignition source.
Use explosion-proof electrical (ventilation, lighting and material handling) equipment. Use only non-sparking tools.
Take precautionary measures against electrostatic discharged.
Empty containers retain product residue and can be hazardous.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.
Store in a segregated and approved area.
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
Eliminate all ignition sources.
Separate from oxidising materials.
Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not store in unlabelled containers.
Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Castor Oil (CAS: 8001-79-4 EC: 232-293-8)

Parameter	REL-TWA
Value	5 mg/m3 (Resp)
Source	NIOSH
Parameter	REL-TWA
Value	10 mg/m3 (Total)
Source	NIOSH

2. Isopropanol (CAS: 67-63-0)

Parameter	PEL
Route of exposure	Inhalation
Value	400 ppm, (ST) 500 ppm
Source	Cal/OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	PEL
Route of exposure	Inhalation
Value	980 mg/m3
Source	OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	PEL
Route of exposure	Inhalation
Value	400 ppm
Source	OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	PEL
Route of exposure	Inhalation
Value	400 ppm, (ST) 500 ppm

Source	Cal/OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	PEL
Route of exposure	Inhalation
Value	980 mg/m3
Source	OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	PEL
Route of exposure	Inhalation
Value	400 ppm
Source	OSHA
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	REL
Route of exposure	Inhalation
Value	400 ppm, (ST) 500 ppm
Source	NIOSH
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Parameter	REL
Route of exposure	Inhalation
Value	400 ppm, (ST) 500 ppm
Source	NIOSH
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Country	USA
Parameter	TLV®
Route of exposure	Inhalation
Value	200 ppm, (ST) 400 ppm
Source	ACGIH
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov
Country	USA
Parameter	TLV®
Route of exposure	Inhalation
Value	200 ppm, (ST) 400 ppm
Source	ACGIH
Basis / monitoring / notes	OSHA Annotated Table Z-1, www.osha.gov

8.2 Exposure controls

Appropriate engineering controls
Use only with adequate ventillation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below and lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection equipment

Pictograms

Eye and face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicated this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
If contact is possible, the following protection should be worn, unless the assessment indicated a higher degree of protection: chemical splash goggles.

Skin protection
Chemical-resistant, impervious gloves complying with than approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Respiratory protection
Use a properly fitted, air-purifying or air-red respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Clear-amber liquid
Odour	Characteristic
Odour threshold	No data available
pH	9.9 - 10.15
Melting point / freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	Closed cup, 40 °C (Eradicate has a flashpoint of 40 °C and a fire point of 60 °C, but does not support combustion at 60 °C and 75 °C)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	0.969 to 1.009
Solubilit(ies)	Easily soluble in water.
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information
Product does not support combustion.

SECTION 10: Stability and reactivity

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
This product is stable.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Avoid all possible sources of ignition (spark or flame).
do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to heat or sources of ignition.

10.5 Incompatible materials
Oxidizing agents, Acid anhydrides, Aluminium, Halogenated compounds, Acids

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions - Carbon oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Isopropyl alcohol, LD50, Rabbit, 12,800 mg/kg (dermal)
Isopropyl alcohol, LD50, Rat, 5,000 mg/kg (oral)
Terpineol, LD50, Rat, 4,300 mg/kg (oral)
Caster oil, LD50, Rat, 10 g/kg (oral)
4-chloro-3,5-dimethylphenol, LD50, Rat, 3,830 mg/kg (oral)

Skin corrosion/irritation
Isopropyl alcohol, Rabbit, 24h, 500 mg, Skin - Mild irritant
Terpineol, Rabbit, 24h, 500 mg, Skin - moderate irritant
Caster oil, Guinea pig, 24h, 500 mg, Skin - Mild irritant
Caster oil, Man, 48h, 50 mg, Skin - Mild irritant
Caster oil, Rat, 24h, 100 mg, Skin - Mild irritant

Serious eye damage/irritation
Isopropyl alcohol, Rabbit, 24h, 100 mg, Eyes - Moderate irritant
Isopropyl alcohol, Rabbit, 24h, 10 mg, Eyes - Moderate irritant
Isopropyl alcohol, Rabbit, 24h, 100 mg, Eyes - Severe irritant
Terpineol, Mammal, 24h, 12.5%, Eyes - Mild irritant
Caster oil, Rabbit, , 24h, 500 mg, Eyes - Mild irritant
4-chloro-3,5-dimethylphenol, Rabbit, 24h, 100 mg, Eyes - Moderate irritant

May cause eye irritation upon direct contact with eyes.

Respiratory or skin sensitization
Non-sensitiser to skin.

Germ cell mutagenicity
No data available.

Carcinogenicity
No data available.

Reproductive toxicity
No data available.

STOT-single exposure
Isopropyl alcohol, Category 3, Narcotic effects

STOT-repeated exposure
No data available.

Aspiration hazard
1-Methyl-4-methylvinyl-cyclohexene, Category 1, Aspiration hazard

SECTION 12: Ecological information

12.1 Toxicity
Isospropyl alcohol, Acute LC50 1,400,000 ug/l Marine water (Crustaceans - Crangon crangon) 48h
Isospropyl alcohol, Acute LC50 4,200 mg/l Fresh water (Fish - Rasbora heteromorpha) 96h
4-chloro-3,5-dimethylphenol, Acute EC50 2.7 ppm Fresh water (Daphnia - Daphnia magna) 48h
4-chloro-3,5-dimethylphenol, Acute LC50 0.36 ppm Fresh water (Fish - Oncorhynchus mykiss) 96h

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
Low potential.

12.4 Mobility in soil
No data available.

12.6 Other adverse effects
No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal of the product
The generation of waste should be avoided or minimised whenever possible.,
Disposal of this product, solutions, and of any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Waste treatment

Waste packaging should be recycled.
Incineration or landfill should only be considered when recycling is not feasible.
Care should be taken when handling empties containers that have not been cleaned or rinsed out.
Vapor from product residues may create a highly flammable or explosive atmosphere inside the container.
Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally.

Sewage disposal
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

14.1	UN Number	1993
14.2	UN Proper Shipping Name	Flammable liquids, n.o.s. (Isopropyl Alcohol, Pine Oil)
14.3	Transport hazard class(es)	3
14.4	Packing group	III

14.6 Special precautions for user

Road (ADR):
Limited quantities: Combination packagings: not more than 5 litres per inner packaging for liquids. A package shall not contain more than 30 litres.

Rail (RID):
Limited quantities: Combination packagings: not more than 5 litres per inner packaging for liquids. A package shall not cotnain more than 30 litres.

Inland waterways (ADN):
Limited quantities: Combination packagings: not more than 5 litres per inner packaging for liquids. A package shall not contain more than 30 litres.

Sea (IMDG/IMSBC):
Limited quantities: Combination packagings: not more than 5 litres per inner packaging for liquids. A package shall not contain more than 30 litres.

Air (ICAO-IT/IATA-DGR):
Passenger limited maximum quantity: Y309 - 10 litres.
Passenger maximum quantity: 309 - Maximum quantity 60 litres.
Packing instruction: 310.
Cargo maximum quantity per packaging: 309 - Maximum quantity 220 litres.

SECTION 15: Regulatory information

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

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components
Isopropyl alcohol
CAS number: 67-63-0

New Jersey Right To Know Components
Isopropyl alcohol
CAS number: 67-63-0

Castor oil
CAS-No. 8001-79-4

Pennsylvania Right To Know Components
Isopropyl alcohol
CAS number: 67-63-0

Castor oil
CAS-No. 8001-79-4

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Isopropyl alcohol
CAS number: 67-63-0

HMIS Rating

Eradicate	
HEALTH	3
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B

NFPA Rating

SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H226	Flammable liquid and vapor
H315	Causes skin irritation

H319	Causes serious eye irritation

Further information/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.