BIOREM® CIP

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 10/14/2022 Revision date: 10/14/2022 Supersedes: 2/3/2022 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : BIOREM® CIP
Product code : LIQ1610

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

REALZYME
S Pioneer BLVD, 223
Springboro, - OH 45066
United States of America
T +1 937 350 56 60 - F +1 937 350 56 60
info@realzyme.com - www.realzyme.com

1.4. Emergency telephone number

Emergency number : +1- 800 - 222 - 1222 (United States only) 011-32-70-245-245 (Canada and all other areas)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Pure Product

Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage

Product used at recommended concentration (1%)
Not classified as hazardous
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H318 - Causes serious eye damage
Precautionary statements (GHS US) : 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.
P310 - Immediately call a poison center or doctor.

Product used at recommended concentration (1%)
Labelling not applicable. Product not classified as hazardous

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
C6 Alkyl Glucoside	CAS-No.: 54549-24-5	1 - 5	Eye Dam. 1, H318
2-Ethylhexanol ethoxylate	CAS-No.: 26468-86-0	1 - 5	Eye Dam. 1, H318
Alcools, C12-C14, étoxylés, propoxylés	CAS-No.: 68439-51-0	1 - 5	Eye Irrit. 2, H319
subtilisin	CAS-No.: 9014-01-1	0.1 - 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Resp. Sens. 1, H334 STOT SE 3, H335
cellulase	CAS-No.: 9012-54-8	0.1 - 1	Resp. Sens. 1, H334
amylase, α-	CAS-No.: 9000-90-2	0. 1 - 1	Resp. Sens. 1, H334
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	CAS-No.: 55965-84-9	<0.1	Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314 Skin Sens. 1, H317

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If on skin, take off contaminated clothing. Wash clothing before re-using. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air. Allow affected person to breathe fresh air.

First-aid measures after skin contact : Rinse with plenty of water. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/effects after skin contact : Redness. Repeated or prolonged skin contact may cause irritation.

Symptoms/effects after eye contact : Redness, pain.

Symptoms/effects after ingestion : Abdominal pain, nausea.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : All extinguishing media allowed. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : None.

5.2. Specific hazards arising from the chemical

Fire hazard : Not combustible.
Explosion hazard : Product is not explosive.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Wear proper protective equipment.
Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment : Personal protection. See Heading 8.
Emergency procedures : Ventilate spillage area. Evacuate area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. Personal protection. See Heading 8. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Mark the danger area. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Dike for recovery or absorb with appropriate material.
Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Dilute residue with water.
Other information : Spill area may be slippery. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store in a well-ventilated place. Keep cool.

Storage temperature : 4 – 25 °C

Heat-ignition : Store away from direct sunlight or other heat sources.

Special rules on packaging : Keep only in original container.

Packaging materials : PEHD.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

BIOREM® CIP

No additional information available

C6 Alkyl Glucoside (54549-24-5)

No additional information available

2-Ethylhexanol ethoxylate (26468-86-0)

No additional information available

Alcools, C12-C14, étoxylés, propoxylés (68439-51-0)

No additional information available

subtilisin (9014-01-1)

USA - NIOSH - Occupational Exposure Limits

NIOSH REL STEL	0.00006 mg/m³ 60 minutes average value

cellulase (9012-54-8)

No additional information available

amylase, α- (9000-90-2)

No additional information available

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure adequate ventilation. Ensure good ventilation of the work station.

Environmental exposure controls : Prevent entry to sewers and public waters. Avoid release to the environment. Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Safety glasses.

Hand protection:
In case of repeated or prolonged contact wear gloves. (EN 134)

Eye protection:
Chemical goggles or safety glasses. Eye protection (standard EN 166). Safety glasses

Skin and body protection:
No special clothing/skin protection equipment is recommended under normal conditions of use

Respiratory protection:
No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

Thermal hazard protection:
Not applicable.

Other information:
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. The equipment must be cleaned thoroughly after each use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	light brown
Odor	:	characteristic
Odor threshold	:	Not determined
pH	:	9 – 10
Melting point	:	Not applicable
Freezing point	:	The product has not been tested
Boiling point	:	The product has not been tested
Critical temperature	:	The product has not been tested
Flash point	:	The product has not been tested
Relative evaporation rate (butyl acetate=1)	:	The product has not been tested
Flammability (solid, gas)	:	Not applicable Not applicable.
Vapor pressure	:	The product has not been tested
Relative vapor density at 20°C	:	The product has not been tested
Relative density	:	1.025 – 1.125
Solubility	:	Material highly soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	The product has not been tested
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not applicable
Viscosity, kinematic	:	The product has not been tested
Viscosity, dynamic	:	The product has not been tested

Explosion limits : No data available
Explosive properties : Product is not explosive.
Oxidizing properties : Not applicable.

9.2. Other information

Additional information : None

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under use and storage conditions as recommended in section 7.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None under normal conditions.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

None to our knowledge.

10.6. Hazardous decomposition products

In the event of fire, may decompose : Carbon oxides (CO, CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

2-Ethylhexanol ethoxylate (26468-86-0)	
LD50 oral	2000 – 5000 mg/kg
LD50 dermal	2000 – 5000 mg/kg
LC50 Inhalation - Rat	> 20 mg/l

Alcools, C12-C14, étoxylés, propoxylés (68439-51-0)	
LD50 oral rat	> 2000 mg/kg

subtilisin (9014-01-1)	
LD50 oral	1800 mg/kg body weight
ATE US (oral)	500 mg/kg body weight

cellulase (9012-54-8)	
LD50 oral	> 2000 mg/kg

amylase, α- (9000-90-2)	
LD50 oral	> 2000 mg/kg (OECD TG 401,420)

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9)	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified
pH: 9 – 10

Serious eye damage/irritation : Causes serious eye damage.
pH: 9 – 10

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

subtilisin (9014-01-1)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : The product has not been tested

Symptoms/effects after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/effects after skin contact : Redness. Repeated or prolonged skin contact may cause irritation.

Symptoms/effects after eye contact : Redness, pain.

Symptoms/effects after ingestion : Abdominal pain, nausea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

C6 Alkyl Glucoside (54549-24-5)	
LC50, Fish, Oncorhynchus mykiss (Rainbow trout)	> 100 mg/l (96 Hours)
EC50, daphnia, Daphnia magna	> 100 mg/l (48 Hours)
EC50, algae, Scenedesmus quadricauda	> 100 mg/l (72 Hours)
EC50	> 1000 mg/l (4 Hours)

2-Ethylhexanol ethoxylate (26468-86-0)	
LC50, Fish	13 mg/l (96 Hours)
EC50, daphnia, Daphnia magna	6,5 mg/l (48 Hours)
EC50, algae, Scenedesmus subspicatus	6,6 mg/l (72 Hours)
EC50	680 mg/l (4 Hours)

Alcools, C12-C14, étoxylés, propoxylés (68439-51-0)	
LC50, Fish, Cyprinus carpio	1 - 10 mg/l (96 Hours, (OCDE 203))
EC50, aquatic invertebrates, Daphnia magna	1 - 10 mg/l (48 Hours, (OCDE 202))
EC10, aquatic plants, Desmodesmus subspicatus	1 - 10 mg/l (72 Hours, (OCDE 201))
EC50, aquatic plants, Desmodesmus subspicatus	1 - 10 mg/l (72 Hours, (OCDE 201))
EC50, microorganisms, Activated sludge	990 mg/l (3 Hours, (OCDE 209))

subtilisin (9014-01-1)	
LC50 - Fish [1]	8.2 mg/l (OECD 203 method)
EC50 - Crustacea [1]	586 µg/l (Daphnie sp.)
ErC50 algae	0.83 mg/l (OECD 201 method)

cellulase (9012-54-8)	
LC50 - Fish [1]	> 39.5 mg/l (OECD 203 method)
EC50 - Crustacea [1]	> 39.5 mg/l (OECD 202 method)

amylase, α- (9000-90-2)	
LC50 - Fish [1]	58.3 – 326.7 mg/l
EC50 - Crustacea [1]	31.7 – 457 mg/l
EC50 72h - Algae [1]	≥ 5.2 mg/l (OCDE 201)
ErC50 algae	≥ 5.2 mg/l
EC50, daphnia	31,7 - 457 mg/l (48 Hours, (OCDE 202))
ErC50, algae	≥ 5,2 mg/l (72 Hours, (OCDE 201))
LC50, fish	58,3 - 326,7 mg/l (96 Hours, (OCDE 203))

12.2. Persistence and degradability

C6 Alkyl Glucoside (54549-24-5)	
Persistence and degradability	Biodegradable.

2-Ethylhexanol ethoxylate (26468-86-0)	
Persistence and degradability	Biodegradable. Not established.

Alcools, C12-C14, étoxylés, propoxylés (68439-51-0)	
Persistence and degradability	Biodegradable.
Biodegradation	> 60 % 28 days

subtilisin (9014-01-1)	
Persistence and degradability	(OECD 301B method). Biodegradable.

cellulase (9012-54-8)	
Persistence and degradability	Readily biodegradable, according to appropriate OECD test. (OECD 301F method). (OECD 301E method).

amylase, α- (9000-90-2)	
Persistence and degradability	Biodegradable. (OECD 301F method).

amylase, α- (9000-90-2)	
Biodegradation	(OECD 301F method)

12.3. Bioaccumulative potential

BIOREM® CIP	
Partition coefficient n-octanol/water (Log Pow)	The product has not been tested

C6 Alkyl Glucoside (54549-24-5)	
Bioaccumulative potential	Slightly or not bioaccumulative.

2-Ethylhexanol ethoxylate (26468-86-0)	
Bioaccumulative potential	Slightly or not bioaccumulative. Not established.

subtilisin (9014-01-1)	
Partition coefficient n-octanol/water (Log Pow)	< 0
Bioaccumulative potential	not bioaccumulable.

cellulase (9012-54-8)	
Partition coefficient n-octanol/water (Log Pow)	< 0
Bioaccumulative potential	not bioaccumulable.

amylase, α- (9000-90-2)	
Partition coefficient n-octanol/water (Log Pow)	< 0
Bioaccumulative potential	not bioaccumulable.

12.4. Mobility in soil

cellulase (9012-54-8)	
Ecology - soil	Soluble.

12.5. Other adverse effects

Product at recommended concentration (1%) : Non-hazardous for the environment (non-hazardous mixture)

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Dispose in a safe manner in accordance with local/national regulations.

Waste treatment methods : Refer to manufacturer/supplier for information on recovery/recycling. Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point. When totally empty, containers are recyclable like any other packing.

Ecology - waste materials : Collect all waste in suitable and labeled containers and dispose according to local legislation. Avoid release to the environment.

Product at recommended concentration (1%) : Non-hazardous for the environement. No special requirements for waste disposal.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

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. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Alcools, C12-C14, étoxylés, propoxylés	CAS-No. 68439-51-0	1 - 5%
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	CAS-No. 55965-84-9	<0.1%

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

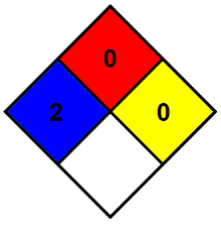
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date : 10/14/2022

Full text of H-phrases	
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Indication of changes:			
Section	**Changed item**	**Change**	**Comments**
1	Name	Modified	No additional information available

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.