



Microbial Luminescence System Ultra High Temperature Dairy Screen Kit

Kit Product

Kit identification

Trade name : Microbial Luminescence System Ultra High Temperature Dairy Screen Kit
Product code : 3000DPQCOG
Part Number(s) : 700002022|3000DPQCOG

Details of the supplier of the Kit safety information sheet

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

General information

Restrictions on use : Do not use kit components from one kit with any other kit.
General description : This is a test kit that is comprised of several individual components, listed below, each of which may have its own Safety Data Sheet (SDS). Articles, and otherwise immobilized and inaccessible chemicals, do not have a Safety Data Sheet in this packet.

Kit contents

Name	GHS classification
Extractant	Eye Irrit. 2, H319
LL1 Enzyme	Skin Sens. 1, H317
LL1 Buffer	Not classified
ATPase Enzyme	Not classified
ATPase Buffer	Not classified

Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
UN number		
Not regulated for transport		
Proper Shipping Name		
Not regulated	Not regulated	Not regulated
Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
Packing group		
Not regulated	Not regulated	Not regulated

Microbial Luminescence System Ultra High Temperature Dairy Screen Kit

Kit Safety Information Sheet (SIS)

IMDG	IATA	UNRTDG
Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

Special precautions for user

UN RTDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable



Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
Issue date: 08/09/2025 Revision date: 27/08/2026 Supersedes: 27/08/2026 Version: 5.0

SECTION 1: Identification

1.1. Product identifier

Trade name : Extractant
Name : Extractant
Product code 400001103

1.2. Other means of identification

Part Number(s) : 400001103

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Scientific research and development, Laboratory chemicals
Restrictions on use : Do not use kit components from one kit with any other kit.

1.4. Details of the supplier of the safety data sheet

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency telephone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Serious eye damage/eye irritation, Category 2 H319

2.2. Label elements

Hazard pictograms (GHS PH) :



Signal word (GHS PH) : Warning
Contains : Alcohols, C11-15-secondary, ethoxylated
Hazard statements (GHS PH) : H319 - Causes serious eye irritation
Precautionary statements (GHS PH) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Water	CAS-No.: 7732-18-5	≥95	Not classified
Detergent	-	≥ 1 – < 5	Aquatic Chronic 2, H411
Alcohols, C11-15-secondary, ethoxylated	CAS-No.: 68131-40-8	≥ 1 – < 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Buffer salt	-	≥ 0.5 – < 1	Not classified
HEPES	CAS-No.: 7365-45-9	≥ 0.1 – < 0.5	Not classified
Polyethylene glycol	CAS-No.: 25322-68-3	<0.1	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters.
Absorb spillage to prevent material-damage.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up : Take up liquid spill into absorbent material.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : 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

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Keep cool. Protect from sunlight.
Storage temperature : 2 – 8 °C
Packaging materials : Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

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

8.4. Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Aqueous solution.
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: None under recommended storage and handling conditions (see section 7)
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Acute toxicity

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

Detergent

LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Guideline: other:

Water (7732-18-5)

LD50 oral rat	90000 mg/kg
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Buffer salt

LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg

HEPES (7365-45-9)

LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Alcohols, C11-15-secondary, ethoxylated (68131-40-8)

LD50 oral rat	≥ 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity), Guideline: other:
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Polyethylene glycol (25322-68-3)

LD50 oral rat	30200 mg/kg (Rat, Literature study, Oral)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Reproductive toxicity : Not classified

Polyethylene glycol (25322-68-3)	
NOAEL (animal/female, F0/P)	1690 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

HEPES (7365-45-9)	
NOAEL (oral, rat, 28 days)	320 mg/kg bw/day

Polyethylene glycol (25322-68-3)	
LOAEL (oral, rat, 90 days)	16000 mg/kg body weight Animal: rat, Guideline: other:
NOAEL (oral, rat, 90 days)	8000 mg/kg body weight Animal: rat, Guideline: other:
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	1 mg/l air Animal: rat, Guideline: other:

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Ecotoxicity

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

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified.

Detergent	
LC50 - Fish [1]	2.08 mg/kg
EC50 - Crustacea [1]	87 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	81 mg/l
BCF - Fish [1]	42 mg/l
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	> 3.9

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

Buffer salt	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	> 0.1 g/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 - Crustacea [2]	> 0.1 g/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	> 100 mg/l
Partition coefficient n-octanol/water (Log Pow)	< -3.88 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)

HEPES (7365-45-9)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	> 0.1 g/l Test organisms (species): Daphnia magna

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

HEPES (7365-45-9)	
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	3237.037 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	> 100 mg/l
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
Alcohols, C11-15-secondary, ethoxylated (68131-40-8)	
LC50 - Fish [1]	3 mg/l Source: The ECOTOXicology database
NOEC (chronic)	0.2 mg/l Test organisms (species): Duration: '21 d'
Partition coefficient n-octanol/water (Log Pow)	2.83 Source: Quantitative Structure Activity Relation
Polyethylene glycol (25322-68-3)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Poecilia reticulata, Static system, Fresh water, Experimental value, Nominal concentration)
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	> 100 mg/l Test organisms (species): other:
NOEC (chronic)	17475.27 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	13671.59 mg/l Test organisms (species): other: Duration: '28 d'
BCF - Fish [1]	3.2 (Other, Pisces, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	-0.96 – -0.7 (Weight of evidence approach, Other, 30 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1 (log Koc, Other, Calculated value)
12.2. Persistence and degradability	
Extractant	
Persistence and degradability	Not rapidly degradable
Detergent	
Persistence and degradability	Not readily biodegradable.
Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable
Buffer salt	
Persistence and degradability	Not readily biodegradable in water.
HEPES (7365-45-9)	
Persistence and degradability	Not rapidly degradable
Alcohols, C11-15-secondary, ethoxylated (68131-40-8)	
Persistence and degradability	Not rapidly degradable
Polyethylene glycol (25322-68-3)	
Persistence and degradability	Readily biodegradable in water.

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

12.3. Bioaccumulative potential

Extractant

Bioaccumulative potential	No additional information available
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Detergent

BCF - Fish [1]	42 mg/l
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	> 3.9
Bioaccumulative potential	Not determined.

Water (7732-18-5)

Partition coefficient n-octanol/water (Log Pow)	-1.38
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Buffer salt

Partition coefficient n-octanol/water (Log Pow)	< -3.88 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

HEPES (7365-45-9)

Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
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Alcohols, C11-15-secondary, ethoxylated (68131-40-8)

Partition coefficient n-octanol/water (Log Pow)	2.83 Source: Quantitative Structure Activity Relation
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Polyethylene glycol (25322-68-3)

BCF - Fish [1]	3.2 (Other, Pisces, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	-0.96 – -0.7 (Weight of evidence approach, Other, 30 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1 (log Koc, Other, Calculated value)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Extractant

Mobility in soil	No additional information available
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Detergent

Mobility in soil	No information available about this product.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	> 3.9

Water (7732-18-5)

Partition coefficient n-octanol/water (Log Pow)	-1.38
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Buffer salt

Surface tension	63 mN/m (20 °C, Experimental value, 1.001 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Partition coefficient n-octanol/water (Log Pow)	< -3.88 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Ecology - soil	No (test)data on mobility of the substance available.

HEPES (7365-45-9)

Mobility in soil	0.01354 Source: EPI Suite
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Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
Alcohols, C11-15-secondary, ethoxylated (68131-40-8)	
Partition coefficient n-octanol/water (Log Pow)	2.83 Source: Quantitative Structure Activity Relation
Polyethylene glycol (25322-68-3)	
Partition coefficient n-octanol/water (Log Pow)	-0.96 – -0.7 (Weight of evidence approach, Other, 30 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1 (log Koc, Other, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

UN RTDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

Extractant

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

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. National regulations

Priority Chemical List (PCL) and Chemical Control Orders (CCO)

Initial List of Single Substances and Compounds Covered under Chemical Control Order (CCO) and Priority Chemical List (PCL) DENR Administrative Order 2015-09	Not applicable	
Priority Chemical List DENR Administrative Order 2005-27	Not applicable	
Chemical Control Orders	Not applicable	
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others

Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	CRAON 17-502 (7732-18-5) 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) ALCOHOLS, C11-15, SECONDARY, ETHOXYLATED (68131-40-8) .alpha.-HYDRO-.omega.-HYDROXYPOLY(OXY-1,2-ETHANEDIYL) (25322-68-3)
Controlled Chemical for Manufacture of Explosives or Explosives Ingredients Presidential Decree No.1866	Not applicable	
Comprehensive Dangerous Drugs Act of 2002	Not applicable	
Fertilizers and Pesticides Regulation (Decree No. 1144)	Not applicable	
Food Additives Regulation	Additives approved only for limited number of food categories	POLYETHYLENE GLYCOL (25322-68-3)
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Not applicable	

15.2. International regulations

No additional information available

SECTION 16: Other information

Version : 5.0
Issue date : 08/09/2025
Revision date : 27/08/2026
Supersedes : 27/08/2026

Safety Data Sheet (SDS), Philippines

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.

SECTION 1: Identification

1.1. Product identifier

Trade name : LL1 Enzyme
Name : LL1 Enzyme
Product code 400001093

1.2. Other means of identification

Part Number(s) : 400001093

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemicals, Scientific research and development
Restrictions on use : Do not use kit components from one kit with any other kit.

1.4. Details of the supplier of the safety data sheet

Manufacturer

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency telephone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin sensitization, Category 1 H317

2.2. Label elements

Hazard pictograms (GHS PH) : 

Signal word (GHS PH) : Warning

Contains : 1,4-dithiothreitol

Hazard statements (GHS PH) : H317 - May cause an allergic skin reaction

Precautionary statements (GHS PH) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P302+P352 - IF ON SKIN: Wash with plenty of water.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P317 - If skin irritation or rash occurs: Get medical help.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Excipient	-	≥ 75	Not classified
HEPES	CAS-No.: 7365-45-9	≥ 10 – < 15	Not classified
Polyvinylpyrrolidone	CAS-No.: 9003-39-8	≥ 1 – < 5	Not classified
Salt-bioluminescence co-factor	-	≥ 1 – < 5	Not classified
Water	CAS-No.: 7732-18-5	≥ 1 – < 5	Not classified
Chelating agent	-	≥ 0.5 – < 1	Eye Irrit. 2, H319
Stabilizer	-	≥ 0.5 – < 1	Not classified
1,4-dithiothreitol	CAS-No.: 3483-12-3	≥ 0.1 – < 0.5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411
d-Luciferin	CAS-No.: 2591-17-5	≥ 0.1 – < 0.5	Not classified
Enzyme	-	< 0.1	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: 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	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up	: Mechanically recover the product.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.
Hygiene measures	: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Keep cool. Protect from sunlight.
Storage temperature	: 2 – 8 °C
Packaging materials	: Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

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

8.4. Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Pellet.
Color	: Light green
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available

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according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Relative density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: None under recommended storage and handling conditions (see section 7)
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Acute toxicity

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

Polyvinylpyrrolidone (9003-39-8)	
LD50 oral rat	100000 mg/kg (Rat, Oral)
LD50 dermal rat	> 12000 mg/kg (Rat, Dermal)
Excipient	
LD50 oral rat	4600 mg/kg (Rat, Oral)
HEPES (7365-45-9)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
Salt-bioluminescence co-factor	
LD50 oral rat	> 4000 mg/kg (Rat, Oral)
Water (7732-18-5)	
LD50 oral rat	90000 mg/kg
Chelating agent	
LD50 oral rat	4500 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	2580 mg/kg
1,4-dithiothreitol (3483-12-3)	
LD50 oral rat	400 mg/kg (Rat, Oral)
Skin corrosion/irritation	: Not classified

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Polyvinylpyrrolidone (9003-39-8)

IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

1,4-dithiothreitol (3483-12-3)

Specific target organ toxicity – single exposure	May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified

HEPES (7365-45-9)

NOAEL (oral, rat, 28 days)	320 mg/kg bw/day
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Chelating agent

LOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.015 mg/l air Animal: rat, Animal sex: female, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (oral, rat, 90 days)	≥ 500 mg/kg body weight Animal: rat
NOAEL (subchronic, oral, animal/male, 90 days)	≥ 500 mg/kg body weight Animal: , Animal sex: male

Aspiration hazard	: Not classified
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LL1 Enzyme

Viscosity, kinematic	Not applicable
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SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

Polyvinylpyrrolidone (9003-39-8)

LC50 - Fish [1]	> 10000 mg/l (96 h, <i>Leuciscus idus</i>)
EC50 96h - Algae [1]	162000 mg/l Source: Ecological Structure Activity Relationships
Partition coefficient n-octanol/water (Log Pow)	0.29 Source: Quantitative Structure Activity Relation

HEPES (7365-45-9)

LC50 - Fish [1]	> 100 mg/l Test organisms (species): <i>Danio rerio</i> (previous name: <i>Brachydanio rerio</i>)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 - Crustacea [2]	> 0.1 g/l Test organisms (species): <i>Daphnia magna</i>
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): <i>Raphidocelis subcapitata</i> (previous names: <i>Pseudokirchneriella subcapitata</i> , <i>Selenastrum capricornutum</i>)
EC50 96h - Algae [1]	3237.037 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	> 100 mg/l
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Salt-bioluminescence co-factor	
LC50 - Fish [1]	15500 mg/l (96 h, <i>Gambusia affinis</i> , Anhydrous form)
EC50 - Crustacea [1]	1700 mg/l (24 h, <i>Daphnia magna</i> , Anhydrous form)
EC50 72h - Algae [1]	2700 mg/l (<i>Scenedesmus subspicatus</i> , Anhydrous form)
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
Chelating agent	
LC50 - Fish [1]	159 mg/l (US EPA, 96 h, <i>Lepomis macrochirus</i> , Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	140 mg/l (DIN 38412-11, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Read-across, Locomotor effect)
EC50 72h - Algae [1]	> 60 mg/l Test organisms (species): <i>Raphidocelis subcapitata</i> (previous names: <i>Pseudokirchneriella subcapitata</i> , <i>Selenastrum capricornutum</i>)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, <i>Pseudokirchneriella subcapitata</i> , Static system, Fresh water, Weight of evidence, GLP)
LOEC (chronic)	50 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d'
NOEC chronic fish	≥ 25.7 mg/l Test organisms (species): Duration: '35 d'
NOEC chronic crustacea	5.5 mg/l
BCF - Fish [1]	1.1 – 1.8 (28 day(s), <i>Lepomis macrochirus</i> , Flow-through system, Fresh water, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	0.13 (Weight of evidence approach)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.495 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
1,4-dithiothreitol (3483-12-3)	
EC50 - Crustacea [1]	34.8 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 72h - Algae [1]	24.3 mg/l Test organisms (species): <i>Raphidocelis subcapitata</i> (previous names: <i>Pseudokirchneriella subcapitata</i> , <i>Selenastrum capricornutum</i>)
EC50 72h - Algae [2]	8.66 mg/l Test organisms (species): <i>Raphidocelis subcapitata</i> (previous names: <i>Pseudokirchneriella subcapitata</i> , <i>Selenastrum capricornutum</i>)
d-Luciferin (2591-17-5)	
BCF - Fish [1]	3.162 l/kg (BCFBAF v3.01, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	2.72 (Estimated value, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.827 – 3.378 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
12.2. Persistence and degradability	
LL1 Enzyme	
Persistence and degradability	Not rapidly degradable
Polyvinylpyrrolidone (9003-39-8)	
Persistence and degradability	Not readily biodegradable in water.
Excipient	
Persistence and degradability	Biodegradability in soil: no data available.

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

HEPES (7365-45-9)	
Persistence and degradability	Not rapidly degradable
Salt-bioluminescence co-factor	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable
Chelating agent	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O ₂ /g substance
Chemical oxygen demand (COD)	0.85 g O ₂ /g substance
ThOD	1.09 g O ₂ /g substance
BOD (% of ThOD)	0.0091
Stabilizer	
Persistence and degradability	Not rapidly degradable
1,4-dithiothreitol (3483-12-3)	
Persistence and degradability	Biodegradability in water: no data available.
Enzyme	
Persistence and degradability	Not rapidly degradable
d-Luciferin (2591-17-5)	
Persistence and degradability	Not readily biodegradable in water.
12.3. Bioaccumulative potential	
LL1 Enzyme	
Bioaccumulative potential	No additional information available
Polyvinylpyrrolidone (9003-39-8)	
Partition coefficient n-octanol/water (Log Pow)	0.29 Source: Quantitative Structure Activity Relation
Bioaccumulative potential	No bioaccumulation data available.
Excipient	
Bioaccumulative potential	No bioaccumulation data available.
HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
Salt-bioluminescence co-factor	
Bioaccumulative potential	No bioaccumulation data available.
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Chelating agent	
BCF - Fish [1]	1.1 – 1.8 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	0.13 (Weight of evidence approach)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.495 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

1,4-dithiothreitol (3483-12-3)	
Bioaccumulative potential	No bioaccumulation data available.

d-Luciferin (2591-17-5)	
BCF - Fish [1]	3.162 l/kg (BCFBAF v3.01, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	2.72 (Estimated value, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.827 – 3.378 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

LL1 Enzyme	
Mobility in soil	No additional information available

Polyvinylpyrrolidone (9003-39-8)	
Partition coefficient n-octanol/water (Log Pow)	0.29 Source: Quantitative Structure Activity Relation

HEPES (7365-45-9)	
Mobility in soil	0.01354 Source: EPI Suite
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

Chelating agent	
Partition coefficient n-octanol/water (Log Pow)	0.13 (Weight of evidence approach)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.495 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

d-Luciferin (2591-17-5)	
Partition coefficient n-octanol/water (Log Pow)	2.72 (Estimated value, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.827 – 3.378 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for mobility in soil.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 13: Disposal considerations

Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

UN RTDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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. National regulations

Priority Chemical List (PCL) and Chemical Control Orders (CCO)

Initial List of Single Substances and Compounds Covered under Chemical Control Order (CCO) and Priority Chemical List (PCL) DENR Administrative Order 2015-09	Not applicable	
Priority Chemical List DENR Administrative Order 2005-27	Not applicable	
Chemical Control Orders	Not applicable	

LL1 Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Priority Chemical List (PCL) and Chemical Control Orders (CCO)

Chemical Control Order for Ozone Depleting Substances	Not applicable	
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Others

Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	2-Pyrrolidinone, 1-ethenyl-, homopolymer (9003-39-8) Excipient 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) Salt-bioluminescence co-factor CRAON 17-502 (7732-18-5) Chelating agent Stabilizer 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel- (3483-12-3)
Controlled Chemical for Manufacture of Explosives or Explosives Ingredients Presidential Decree No.1866	Not applicable	
Comprehensive Dangerous Drugs Act of 2002	Not applicable	
Fertilizers and Pesticides Regulation (Decree No. 1144)	Not applicable	
Food Additives Regulation	Additives permitted for use in food in general	Polyvinylpyrrolidone (9003-39-8)
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Applicable	Chelating agent

15.2. International regulations

No additional information available

SECTION 16: Other information

Version : 4.0
Issue date : 09/09/2025
Revision date : 27/08/2026
Supersedes : 20/01/2026

Safety Data Sheet (SDS), Philippines

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.



LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
Issue date: 09/09/2025 Revision date: 27/08/2026 Supersedes: 20/01/2026 Version: 4.0

SECTION 1: Identification

1.1. Product identifier

Trade name : LL1 Buffer
Name : LL1 Buffer
Product code 400001067

1.2. Other means of identification

Part Number(s) : 400001067

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Scientific research and development, Laboratory chemicals
Restrictions on use : Do not use kit components from one kit with any other kit.

1.4. Details of the supplier of the safety data sheet

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency telephone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified

2.2. Label elements

No additional information available

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Water	CAS-No.: 7732-18-5	≤99	Not classified
HEPES	CAS-No.: 7365-45-9	≥ 0.5 – < 1	Not classified

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according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Name	Product identifier	%	GHS PH classification
Sodium azide	CAS-No.: 26628-22-8	< 0.1	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Inhalation:dust,mist), H330 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: 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	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

6.1.1. For non-emergency personnel

- | | |
|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Ventilate spillage area. |

6.1.2. For emergency responders

- | | |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Stop leak if safe to do so. |

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|---|
| For containment | : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. |

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- | | |
|-------------------------------|---|
| Precautions for safe handling | : Ensure good ventilation of the work station. Wear personal protective equipment. |
| Hygiene measures | : 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

- | | |
|---------------------|---|
| Technical measures | : Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : Keep cool. Protect from sunlight. |
| Storage temperature | : 2 – 8 °C |
| Packaging materials | : Always store product in container of same material as original container. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

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

8.4. Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

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Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Aqueous solution.
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: None under recommended storage and handling conditions (see section 7)
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 11: Toxicological information

11.1. Acute toxicity

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

Sodium azide (26628-22-8)	
LD50 oral rat	27 mg/kg body weight (Rat, Experimental value, Oral)
LD50 oral	45 mg/kg
LD50 dermal rabbit	19 – 48 mg/kg body weight (Rabbit, Inconclusive, insufficient data, Dermal)
LD50 dermal	20 mg/kg
LC50 Inhalation - Rat	0.05 – 0.52 mg/l (EPA OPPTS 870.1300: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	0.054 – 0.52 mg/l/4h

Water (7732-18-5)	
LD50 oral rat	90000 mg/kg

HEPES (7365-45-9)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified

Sodium azide (26628-22-8)	
NOAEL (oral,rat,28 days)	10 mg/kg bw/day
Specific target organ toxicity – repeated exposure	Causes damage to organs through prolonged or repeated exposure.

HEPES (7365-45-9)	
NOAEL (oral,rat,28 days)	320 mg/kg bw/day

Aspiration hazard	: Not classified
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SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified.

LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Sodium azide (26628-22-8)	
LC50 - Fish [1]	2.75 – 3.28 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)
EC50 - Crustacea [1]	4.2 mg/l
EC50 - Other aquatic organisms [1]	5 mg/l Test organisms (species): Gammarus fasciatus
EC50 96h - Algae [1]	0.35 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers)
ErC50 algae	0.348 mg/l
Partition coefficient n-octanol/water (Log Pow)	0.16 Source: NIOSH
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.63 (log Koc, Calculated value)

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

HEPES (7365-45-9)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	> 0.1 g/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	3237.037 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	> 100 mg/l
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

12.2. Persistence and degradability

LL1 Buffer	
Persistence and degradability	Not rapidly degradable

Sodium azide (26628-22-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

HEPES (7365-45-9)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

LL1 Buffer	
Bioaccumulative potential	No additional information available

Sodium azide (26628-22-8)	
Partition coefficient n-octanol/water (Log Pow)	0.16 Source: NIOSH
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.63 (log Koc, Calculated value)

LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Sodium azide (26628-22-8)	
Bioaccumulative potential	Not bioaccumulative.
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

12.4. Mobility in soil

LL1 Buffer	
Mobility in soil	No additional information available
Sodium azide (26628-22-8)	
Surface tension	No data available (test not performed)
Partition coefficient n-octanol/water (Log Pow)	0.16 Source: NIOSH
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.63 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption in soil.
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
HEPES (7365-45-9)	
Mobility in soil	0.01354 Source: EPI Suite
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated

LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

IMDG	IATA	UNRTDG
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

UN RTDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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. National regulations

Priority Chemical List (PCL) and Chemical Control Orders (CCO)		
Initial List of Single Substances and Compounds Covered under Chemical Control Order (CCO) and Priority Chemical List (PCL) DENR Administrative Order 2015-09	Not applicable	
Priority Chemical List DENR Administrative Order 2005-27	Not applicable	
Chemical Control Orders	Not applicable	
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	SODIUM AZIDE (26628-22-8) CRAON 17-502 (7732-18-5) 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9)
Controlled Chemical for Manufacture of Explosives or Explosives Ingredients Presidential Decree No.1866	Not applicable	
Comprehensive Dangerous Drugs Act of 2002	Not applicable	
Fertilizers and Pesticides Regulation (Decree No. 1144)	Not applicable	
Food Additives Regulation	Not applicable	
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Not applicable	

LL1 Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

15.2. International regulations

No additional information available

SECTION 16: Other information

Version	: 4.0
Issue date	: 09/09/2025
Revision date	: 27/08/2026
Supersedes	: 20/01/2026

Safety Data Sheet (SDS), Philippines

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.



ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
Issue date: 23/09/2025 Revision date: 27/08/2026 Supersedes: 20/01/2026 Version: 3.0

SECTION 1: Identification

1.1. Product identifier

Trade name : ATPase Enzyme
Name : ATPase Enzyme
Product code 400001074

1.2. Other means of identification

Part Number(s) : 400001074

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemicals, Scientific research and development
Restrictions on use : Do not use kit components from one kit with any other kit.

1.4. Details of the supplier of the safety data sheet

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency telephone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified

2.2. Label elements

No additional information available

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Excipient	-	≤90	Not classified
Stabilizer	-	≥ 1 – < 5	Not classified
Buffer salt	-	≥ 1 – < 5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Buffer salt	-	≥ 0.5 – < 1	Eye Dam. 1, H318
Water	CAS-No.: 7732-18-5	≥ 0.5 – < 1	Not classified

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Name	Product identifier	%	GHS PH classification
Enzyme	-	< 0.1	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact	: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact	: None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: 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	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area.

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up	: Mechanically recover the product.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures	: 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

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Do not freeze.
Storage temperature	: 2 – 8 °C
Packaging materials	: Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
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8.4. Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Pellet.
Color	: White
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: None under recommended storage and handling conditions (see section 7)
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 11: Toxicological information

11.1. Acute toxicity

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

Excipient	
LD50 oral rat	4600 mg/kg (Rat, Oral)

Buffer salt	
LD50 oral rat	> 5000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LD50 dermal rabbit	5900 mg/kg Source: Corporate Solution From Thomson Micromedex

Buffer salt	
LD50 oral rat	> 6740 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 10 day(s))
LC50 Inhalation - Rat	> 1.28 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, (maximum achievable concentration), Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	> 5 mg/l Source: OSHRI GLP toxicity test

Water (7732-18-5)	
LD50 oral rat	90000 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

Buffer salt	
Specific target organ toxicity – single exposure	May cause respiratory irritation.

Specific target organ toxicity – repeated exposure	: Not classified
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Buffer salt	
LOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral,rat,90 days)	250 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard	: Not classified
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ATPase Enzyme	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Buffer salt	
LC50 - Fish [1]	955.892 mg/l Source: Ecological Structure Activity Relationships
EC50 - Crustacea [1]	> 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	397 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	163.053 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	397 mg/l (Equivalent or similar to OECD 201, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
Partition coefficient n-octanol/water (Log Pow)	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.34 – 1.87 (log Koc, QSAR)

Buffer salt	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
EC50 96h - Algae [1]	159000 mg/l Source: ECOSAR
Partition coefficient n-octanol/water (Log Pow)	-0.59 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.865 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.2. Persistence and degradability

ATPase Enzyme	
Persistence and degradability	Not rapidly degradable

Excipient	
Persistence and degradability	Biodegradability in soil: no data available.

Stabilizer	
Persistence and degradability	Not rapidly degradable

Buffer salt	
Persistence and degradability	Readily biodegradable in water.

Buffer salt	
Persistence and degradability	Readily biodegradable in water.
ThOD	1.305 g O ₂ /g substance

Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Enzyme	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

ATPase Enzyme	
Bioaccumulative potential	No additional information available

Excipient	
Bioaccumulative potential	No bioaccumulation data available.

Buffer salt	
Partition coefficient n-octanol/water (Log Pow)	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.34 – 1.87 (log Koc, QSAR)
Bioaccumulative potential	Not bioaccumulative.

Buffer salt	
Partition coefficient n-octanol/water (Log Pow)	-0.59 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.865 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Not bioaccumulative.

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.4. Mobility in soil

ATPase Enzyme	
Mobility in soil	No additional information available

Buffer salt	
Partition coefficient n-octanol/water (Log Pow)	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.34 – 1.87 (log Koc, QSAR)
Ecology - soil	Highly mobile in soil.

Buffer salt	
Mobility in soil	19.5 Source: EPA
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	-0.59 (Literature)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.865 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 13: Disposal considerations

Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

UN RTDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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. National regulations

Priority Chemical List (PCL) and Chemical Control Orders (CCO)

Initial List of Single Substances and Compounds Covered under Chemical Control Order (CCO) and Priority Chemical List (PCL) DENR Administrative Order 2015-09	Not applicable	
Priority Chemical List DENR Administrative Order 2005-27	Not applicable	
Chemical Control Orders	Not applicable	

ATPase Enzyme

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Priority Chemical List (PCL) and Chemical Control Orders (CCO)

Chemical Control Order for Ozone Depleting Substances	Not applicable	
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Others

Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	Excipient Stabilizer Buffer salt CRAON 17-502 (7732-18-5)
Controlled Chemical for Manufacture of Explosives or Explosives Ingredients Presidential Decree No.1866	Not applicable	
Comprehensive Dangerous Drugs Act of 2002	Not applicable	
Fertilizers and Pesticides Regulation (Decree No. 1144)	Not applicable	
Food Additives Regulation	Not applicable	
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Not applicable	

15.2. International regulations

No additional information available

SECTION 16: Other information

Version : 3.0
Issue date : 23/09/2025
Revision date : 27/08/2026
Supersedes : 20/01/2026

Safety Data Sheet (SDS), Philippines

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.



ATPase Buffer

Safety Data Sheet

according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual
Issue date: 09/09/2025 Revision date: 27/08/2026 Supersedes: 20/01/2026 Version: 4.0

SECTION 1: Identification

1.1. Product identifier

Trade name : ATPase Buffer
Name : ATPase Buffer
Product code 400001147

1.2. Other means of identification

Part Number(s) : 400001147

1.3. Recommended use of the chemical and restrictions on use

Restrictions on use : Do not use kit components from one kit with any other kit.

1.4. Details of the supplier of the safety data sheet

Neogen Corporation
620 Leshar Place Lansing 48912 Michigan United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency telephone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified

2.2. Label elements

No additional information available

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Water	CAS-No.: 7732-18-5	≥98	Not classified
Nonylphenoxypolyethoxy ethanol	CAS-No.: 127087-87-0	≥ 0.5 – < 1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Eye Irrit. 2, H319
HEPES	CAS-No.: 7365-45-9	< 0.1	Not classified
Calcium acetate hydrate	CAS-No.: 114460-21-8	< 0.1	Not classified

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according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: 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	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

- For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
- Methods for cleaning up : Take up liquid spill into absorbent material.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
- Hygiene measures : 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

- Technical measures : Keep in a cool, well-ventilated place away from heat.
- Storage conditions : Keep cool. Protect from sunlight.
- Packaging materials : Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values of other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

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

8.4. Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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according to the DENR EMB MC 2015-011 and DAO 2015-09 Guidance Manual

Personal protective equipment symbol(s):



Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Aqueous solution.
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability	: Non flammable
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Conditions to avoid	: None under recommended storage and handling conditions (see section 7)
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Acute toxicity

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

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Water (7732-18-5)	
LD50 oral rat	90000 mg/kg
HEPES (7365-45-9)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
Nonylphenoxypolyethoxy ethanol (127087-87-0)	
LD50 oral rat	1890 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	657 mg/kg body weight (Rabbit, Male / female, Experimental value, Oral)
Calcium acetate hydrate (114460-21-8)	
LD50 oral rat	2700 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Anhydrous form, Oral, 14 day(s))
LD50 dermal rabbit	> 20000 mg/kg body weight (Equivalent or similar to OECD 402, 4 h, Rabbit, Female, Experimental value, Anhydrous form, Dermal)
LC50 Inhalation - Rat	> 5.6 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Anhydrous form, Inhalation (aerosol), 14 day(s))
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
HEPES (7365-45-9)	
NOAEL (oral,rat,28 days)	320 mg/kg bw/day
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
HEPES (7365-45-9)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	> 0.1 g/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

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HEPES (7365-45-9)	
EC50 96h - Algae [1]	3237.037 mg/l Source: Ecological Structure Activity Relationships
ErC50 algae	> 100 mg/l
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
Nonylphenoxypolyethoxy ethanol (127087-87-0)	
LC50 - Fish [1]	12 mg/l (48 h, Oryzias latipes, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	14 mg/l (48 h, Daphnia magna, Static renewal, Fresh water, Experimental value)
EC50 72h - Algae [1]	19.48545 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	12 mg/l (US EPA, Selenastrum capricornutum, Static system, Fresh water, Experimental value, Cell numbers)
BCF - Fish [1]	7.9 l/kg (BCFBAF v3.00, 6 week(s), Pisces, Fresh water, Weight of evidence, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	5.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.6 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)

12.2. Persistence and degradability

ATPase Buffer	
Persistence and degradability	Not rapidly degradable
Water (7732-18-5)	
Persistence and degradability	Not rapidly degradable
HEPES (7365-45-9)	
Persistence and degradability	Not rapidly degradable
Nonylphenoxypolyethoxy ethanol (127087-87-0)	
Persistence and degradability	Readily biodegradable in water.
Calcium acetate hydrate (114460-21-8)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

ATPase Buffer	
Bioaccumulative potential	No additional information available
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine
Nonylphenoxypolyethoxy ethanol (127087-87-0)	
BCF - Fish [1]	7.9 l/kg (BCFBAF v3.00, 6 week(s), Pisces, Fresh water, Weight of evidence, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	5.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)

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Nonylphenoxypolyethoxy ethanol (127087-87-0)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.6 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Calcium acetate hydrate (114460-21-8)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

ATPase Buffer	
Mobility in soil	No additional information available

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

HEPES (7365-45-9)	
Mobility in soil	0.01354 Source: EPI Suite
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

Nonylphenoxypolyethoxy ethanol (127087-87-0)	
Surface tension	35.9 mN/m (Calculated)
Partition coefficient n-octanol/water (Log Pow)	5.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.6 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for adsorption in soil.

Calcium acetate hydrate (114460-21-8)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

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IMDG	IATA	UNRTDG
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

UN RTDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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. National regulations

Priority Chemical List (PCL) and Chemical Control Orders (CCO)		
Initial List of Single Substances and Compounds Covered under Chemical Control Order (CCO) and Priority Chemical List (PCL) DENR Administrative Order 2015-09	Not applicable	
Priority Chemical List DENR Administrative Order 2005-27	Not applicable	
Chemical Control Orders	Not applicable	
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	CRAON 17-502 (7732-18-5) 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) 4-NONYLPHENOL POLYETHYLENE GLYCOL ETHER BRANCHED (127087-87-0) ACETATE, CALCIUM, HYDRATE (114460-21-8)

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Others		
Controlled Chemical for Manufacture of Explosives or Explosives Ingredients Presidential Decree No.1866	Not applicable	
Comprehensive Dangerous Drugs Act of 2002	Not applicable	
Fertilizers and Pesticides Regulation (Decree No. 1144)	Not applicable	
Food Additives Regulation	Not applicable	
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Not applicable	

15.2. International regulations

No additional information available

SECTION 16: Other information

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Safety Data Sheet (SDS), Philippines

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.