Neogen® MLS UHT Beverage Screen Kit

Kit Product

Kit identification

Trade name	:	Neogen® MLS UHT Beverage Screen Kit
Product code	:	BEV600
Part Number(s)	:	700002226|BEV600

Details of the supplier of the Kit safety information sheet

Neogen Corporation
620 Lesher 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
Beverage LL1 Enzyme	Eye Irrit. 2A, H319 Skin Sens. 1, H317
Beverage LL1 Buffer	Not classified
Beverage ATPase	Not classified
Beverage ATPase Buffer	Not classified
Beverage Extractant	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

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

SECTION 1: Identification

1.1. Product identifier

Trade name : Beverage LL1 Enzyme
Name : Beverage LL1 Enzyme
Product code 400001118

1.2. Other means of identification

Part Number(s) : 400001118

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 Lesher 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 2A H319
Skin sensitization, Category 1 H317

2.2. Label elements

Hazard pictograms (GHS PH) :

Signal word (GHS PH) : Warning
Contains : Stabilizer; DL-Dithiothreitol
Hazard statements (GHS PH) : H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
Precautionary statements (GHS PH) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
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.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS PH classification
Excipient	-	≥ 50 – < 75	Not classified
Stabilizer	-	≥ 10 – < 15	Eye Irrit. 2A, H319
HEPES	CAS-No.: 7365-45-9	≥ 10 – < 15	Not classified
Salt-bioluminence 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
DL-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
Recombinant Luciferase	CAS-No.: 61970-00-1	< 0.1	Not classified
Sodium pyrophosphate tetrabasic	CAS-No.: 7722-88-5	< 0.1	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:dust,mist), H331

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 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. 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 : 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.

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.

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

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	:	Powder.
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
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

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))

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

Salt-bioluminence co-factor	
LD50 oral rat	> 4000 mg/kg (Rat, Oral)

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

Stabilizer	
LD50 oral rat	> 10000 mg/kg Source: TOMES
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	≥ 4.9 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Sodium pyrophosphate tetrabasic (7722-88-5)	
LD50 oral rat	300 – 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
LD50 oral	1000 mg/kg
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))
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: other:, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 0.58 mg/l Source: ECHA

DL-Dithiothreitol (3483-12-3)	
LD50 oral rat	400 mg/kg (Rat, Oral)

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

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified

DL-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

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

Stabilizer	
NOAEL (oral,rat,90 days)	12764 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Sodium pyrophosphate tetrabasic (7722-88-5)	
NOAEL (oral,rat,90 days)	500 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

Beverage LL1 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

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

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

Chelating agent	
LC50 - Fish [1]	159 mg/l (US EPA, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	140 mg/l (DIN 38412-11, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
EC50 72h - Algae [1]	> 60 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP)
LOEC (chronic)	50 mg/l Test organisms (species): Daphnia magna 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), 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)

Salt-bioluminence co-factor	
LC50 - Fish [1]	15500 mg/l (96 h, Gambusia affinis, Anhydrous form)
EC50 - Crustacea [1]	1700 mg/l (24 h, Daphnia magna, Anhydrous form)
EC50 72h - Algae [1]	2700 mg/l (Scenedesmus subspicatus, Anhydrous form)

Stabilizer	
LC50 - Fish [1]	≥ 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	> 120 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 120 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Sodium pyrophosphate tetrabasic (7722-88-5)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	100 mg/l
NOEC chronic algae	100 mg/l
Partition coefficient n-octanol/water (Log Pow)	-10.45 Source: EPISUITE

DL-Dithiothreitol (3483-12-3)	
EC50 - Crustacea [1]	34.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	24.3 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	8.66 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

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)

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

12.2. Persistence and degradability

Beverage LL1 Enzyme	
Persistence and degradability	Not rapidly degradable

HEPES (7365-45-9)	
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

Salt-bioluminence co-factor	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Stabilizer	
Persistence and degradability	Not rapidly degradable

Recombinant Luciferase (61970-00-1)	
Persistence and degradability	Not rapidly degradable

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

Stabilizer	
Persistence and degradability	Not rapidly degradable

Sodium pyrophosphate tetrabasic (7722-88-5)	
Persistence and degradability	Not rapidly degradable

DL-Dithiothreitol (3483-12-3)	
Persistence and degradability	Biodegradability in water: no data available.

d-Luciferin (2591-17-5)	
Persistence and degradability	Not readily biodegradable in water.

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

12.3. Bioaccumulative potential

Beverage LL1 Enzyme	
Bioaccumulative potential	No additional information available

HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

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).

Salt-bioluminence co-factor	
Bioaccumulative potential	No bioaccumulation data available.

Excipient	
Bioaccumulative potential	No bioaccumulation data available.

Sodium pyrophosphate tetrabasic (7722-88-5)	
Partition coefficient n-octanol/water (Log Pow)	-10.45 Source: EPISUITE

DL-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).

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

12.4. Mobility in soil

Beverage LL1 Enzyme	
Mobility in soil	No additional information available

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

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.

Sodium pyrophosphate tetrabasic (7722-88-5)	
Partition coefficient n-octanol/water (Log Pow)	-10.45 Source: EPISUITE

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.

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

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		

IMDG	IATA	UNRTDG
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

No additional information available

15.2. International regulations

No additional information available

SECTION 16: Other information

Version	:	4.0
Issue date	:	04/09/2025
Revision date	:	30/06/2026
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.

SECTION 1: Identification

1.1. Product identifier

Trade name : Beverage LL1 Buffer
Name : Beverage LL1 Buffer
Product code 400001056

1.2. Other means of identification

Part Number(s) : 400001056

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 Lesher 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
Solvent	-	≥95	Not classified
HEPES	CAS-No.: 7365-45-9	≥ 1 – < 5	Not classified
Potassium hydroxide, 45%	CAS-No.: 1310-58-3	≥ 0.1 – < 0.5	Acute Tox. 3 (Oral), H301 Skin Corr. 1, H314 Eye Dam. 1, H318

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.

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.

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	:	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.

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	:	Liquid
Appearance	:	No data available
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

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))

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

Potassium hydroxide, 45% (1310-58-3)	
LD50 oral rat	273 mg/kg (Rat, Oral)
LD50 oral	273 mg/kg

Solvent	
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
Specific target organ toxicity – repeated exposure : Not classified

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

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.

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.

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

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)

Potassium hydroxide, 45% (1310-58-3)	
LC50 - Fish [1]	80 mg/l (96 h, Gambusia affinis, Pure substance)
EC50 - Crustacea [1]	660 mg/l
ErC50 algae	1337 mg/l

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

12.2. Persistence and degradability

Beverage LL1 Buffer	
Persistence and degradability	Not rapidly degradable

HEPES (7365-45-9)	
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)

Potassium hydroxide, 45% (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Potassium hydroxide, 45% (1310-58-3)	
BOD (% of ThOD)	Not applicable

Solvent	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

Beverage LL1 Buffer	
Bioaccumulative potential	No additional information available

HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

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)
Bioaccumulative potential	Not bioaccumulative.

Potassium hydroxide, 45% (1310-58-3)	
Bioaccumulative potential	Not bioaccumulative.

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

12.4. Mobility in soil

Beverage LL1 Buffer	
Mobility in soil	No additional information available

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

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.

Potassium hydroxide, 45% (1310-58-3)	
Ecology - soil	No (test)data on mobility of the component(s) available.

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

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

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	

Priority Chemical List (PCL) and Chemical Control Orders (CCO)		
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) SODIUM AZIDE (26628-22-8) CAUSTIC POTASH (1310-58-3) Solvent
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 use as food processing	Potassium hydroxide, 45% (1310-58-3)
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Applicable	Potassium hydroxide (1310-58-3)

15.2. International regulations

No additional information available

SECTION 16: Other information

Version : 4.0
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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.

SECTION 1: Identification

1.1. Product identifier

Trade name : Beverage ATPase
Name : Beverage ATPase
Product code 400001119

1.2. Other means of identification

Part Number(s) : 400001119

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 Lesher 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
D-(+)-Trehalose dihydrate	CAS-No.: 6138-23-4	≥95	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

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.

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.

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.

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.

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	:	No data available
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

SECTION 11: Toxicological information

11.1. Acute toxicity

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

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

D-(+)-Trehalose dihydrate (6138-23-4)	
LD50 oral rat	4600 mg/kg (Rat, Oral)

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

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

Beverage ATPase	
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

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

Beverage ATPase	
Persistence and degradability	Not rapidly degradable

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

Enzyme	
Persistence and degradability	Not rapidly degradable

D-(+)-Trehalose dihydrate (6138-23-4)	
Persistence and degradability	Biodegradability in soil: no data available.

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

12.3. Bioaccumulative potential

Beverage ATPase	
Bioaccumulative potential	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)
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.

D-(+)-Trehalose dihydrate (6138-23-4)	
Bioaccumulative potential	No bioaccumulation data available.

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

12.4. Mobility in soil

Beverage ATPase	
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

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	

Priority Chemical List (PCL) and Chemical Control Orders (CCO)		
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	Stabilizer Buffer salt .alpha.-D-Glucopyranoside, .alpha.-D-glucopyranosyl, dihydrate (6138-23-4) 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 : 4.0
Issue date : 04/09/2025
Revision date : 30/06/2026
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.

SECTION 1: Identification

1.1. Product identifier

Trade name : Beverage ATPase Buffer
Name : Beverage ATPase Buffer
Product code 400001080

1.2. Other means of identification

Part Number(s) : 400001080

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 Lesher 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	≥85	Not classified
Stabilizer	-	≥ 5 – < 10	Not classified
HEPES	CAS-No.: 7365-45-9	≥ 1 – < 5	Not classified
Nonylphenoxypolyethoxy ethanol	CAS-No.: 127087-87-0	≥ 0.1 – < 0.5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Eye Irrit. 2, H319
Enzyme co-factor	-	≥ 0.1 – < 0.5	Not classified

Name	Product identifier	%	GHS PH classification
Potassium hydroxide, 45%	CAS-No.: 1310-58-3	≥ 0.1 – < 0.5	Acute Tox. 3 (Oral), H301 Skin Corr. 1, H314 Eye Dam. 1, H318
5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of	CAS-No.: 55965-84-9	< 0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Acute Tox. 3 (Inhalation:gas), H331 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT RE 1, H372 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=10)

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.

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.

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 : 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.

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	:	Liquid
Appearance	:	No data available
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

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))

Enzyme co-factor	
LD50 oral rat	> 4000 mg/kg (Rat, Oral)

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
LD50 oral rat	66 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Calculated by reference to active substance, Oral, 14 day(s))
LD50 dermal rat	> 141 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Calculated by reference to active substance, Dermal, 14 day(s))
LD50 dermal rabbit	87.12 mg/kg
LC50 Inhalation - Rat	0.17 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Calculated by reference to active substance, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	0.33 mg/l Source: US EPA
LC50 Inhalation - Rat (Vapors)	0.171 mg/l/4h

Stabilizer	
LD50 oral rat	> 2000 mg/kg (Rat, Oral)

Potassium hydroxide, 45% (1310-58-3)	
LD50 oral rat	273 mg/kg (Rat, Oral)
LD50 oral	273 mg/kg

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

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)

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

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
LOAEL (dermal,rat/rabbit,90 days)	0.1 mg/kg bw/day
NOAEL (oral,rat,28 days)	0.4 mg/kg bw/day
NOAEC (inhalation, rat, 90 days)	0.34 mg/m³
Specific target organ toxicity – repeated exposure	Causes damage to organs through prolonged or repeated exposure.

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.

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

Enzyme co-factor	
LC50 - Fish [1]	15500 mg/l (96 h, Gambusia affinis, Anhydrous form)
EC50 - Crustacea [1]	1700 mg/l (24 h, Daphnia magna, Anhydrous form)
EC50 72h - Algae [1]	2700 mg/l (Scenedesmus subspicatus, Anhydrous form)

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
LC50 - Fish [1]	0.19 mg/l (EPA OPP 72-1, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, GLP)
LC50 - Fish [2]	0.28 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	0.007 mg/l (48 h, Acartia tonsa, Salt water, Experimental value, GLP)
ErC50 algae	19.9 µg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Skeletonema costatum, Static system, Salt water, Experimental value, GLP)
NOEC (chronic)	0.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
NOEC chronic fish	0.098 mg/l
NOEC chronic crustacea	3.6 µg/l
BCF - Fish [1]	41 – 54 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.32 – 0.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.81 – 1 (log Koc, Calculated value)

Stabilizer	
LC50 - Fish [1]	> 10000 mg/l (96 h, Leuciscus idus)
EC50 96h - Algae [1]	4762.252 mg/l Source: ECOSAR
Partition coefficient n-octanol/water (Log Pow)	-2.78 (Experimental value)

Potassium hydroxide, 45% (1310-58-3)	
LC50 - Fish [1]	80 mg/l (96 h, Gambusia affinis, Pure substance)
EC50 - Crustacea [1]	660 mg/l
ErC50 algae	1337 mg/l

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

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

Beverage ATPase Buffer	
Persistence and degradability	Not rapidly degradable

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

Enzyme co-factor	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Enzyme co-factor	
BOD (% of ThOD)	Not applicable

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
Persistence and degradability	Not readily biodegradable in water.

Stabilizer	
Persistence and degradability	Not rapidly degradable

Potassium hydroxide, 45% (1310-58-3)	
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

Nonylphenoxypolyethoxy ethanol (127087-87-0)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Beverage ATPase Buffer	
Bioaccumulative potential	No additional information available

HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

Enzyme co-factor	
Bioaccumulative potential	No bioaccumulation data available.

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
BCF - Fish [1]	41 – 54 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.32 – 0.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.81 – 1 (log Koc, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Stabilizer	
Partition coefficient n-octanol/water (Log Pow)	-2.78 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

Potassium hydroxide, 45% (1310-58-3)	
Bioaccumulative potential	Not bioaccumulative.

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

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)
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).

12.4. Mobility in soil

Beverage ATPase Buffer	
Mobility in soil	No additional information available

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

5-Chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] {3 parts of} and 2-Methyl-4-isothiazolin-3-0ne [EC No 220-239-6] {1 part of}, mixture of (55965-84-9)	
Mobility in soil	12.08 Source: EPISUITE
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	-0.32 – 0.7 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.81 – 1 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

Stabilizer	
Partition coefficient n-octanol/water (Log Pow)	-2.78 (Experimental value)

Potassium hydroxide, 45% (1310-58-3)	
Ecology - soil	No (test)data on mobility of the component(s) available.

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

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.

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

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	

Priority Chemical List (PCL) and Chemical Control Orders (CCO)		
Chemical Control Order for Ozone Depleting Substances	Not applicable	

Others		
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Applicable	1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) Enzyme co-factor 3(2H)-Isothiazolone, 5-chloro-2-methyl-, mixt. with 2-methyl-3(2H)-isothiazolone (55965-84-9) Stabilizer CAUSTIC POTASH (1310-58-3) CRAON 17-502 (7732-18-5) 4-NONYLPHENOL POLYETHYLENE GLYCOL ETHER BRANCHED (127087-87-0)
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 use as food processing	Potassium hydroxide, 45% (1310-58-3)
Management of Hazardous Waste (Republic Act No. 6969)	Not applicable	
Philippines Clean Air Act	Not applicable	
High Volume Chemicals List	Applicable	Potassium hydroxide (1310-58-3)

15.2. International regulations

No additional information available

SECTION 16: Other information

Version : 4.0
Issue date : 04/09/2025
Revision date : 01/07/2026
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.

SECTION 1: Identification

1.1. Product identifier

Trade name : Beverage Extractant
Name : Beverage Extractant
Product code 400001120

1.2. Other means of identification

Part Number(s) : 400001120

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 Lesher 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	≤95	Not classified
Detergent	-	≥ 1 – < 5	Aquatic Chronic 2, H411
Buffer salt	-	≥ 0.5 – < 1	Not classified
Detergent	-	> 0.638	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411

Name	Product identifier	%	GHS PH classification
HEPES	CAS-No.: 7365-45-9	≥ 0.1 – < 0.5	Not classified
Detergent	-	< 0.02	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.

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.

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.

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	:	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.

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	:	Liquid
Appearance	:	No data available
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

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))

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

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

Detergent	
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))

Detergent	
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 : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Detergent	
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

Detergent	
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.

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

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)

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

Detergent	
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

Detergent	
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

Beverage Extractant	
Persistence and degradability	Not rapidly degradable

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

Buffer salt	
Persistence and degradability	Not readily biodegradable in water.

Detergent	
Persistence and degradability	Not readily biodegradable.

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

Detergent	
Persistence and degradability	Not rapidly degradable

Detergent	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Beverage Extractant	
Bioaccumulative potential	No additional information available

HEPES (7365-45-9)	
Partition coefficient n-octanol/water (Log Pow)	-4.07 Source: National Library of Medicine

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)

Buffer salt	
Bioaccumulative potential	Not bioaccumulative.

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

Detergent	
Partition coefficient n-octanol/water (Log Pow)	2.83 Source: Quantitative Structure Activity Relation

Detergent	
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

Beverage Extractant	
Mobility in soil	No additional information available

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

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.

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

Detergent	
Partition coefficient n-octanol/water (Log Pow)	2.83 Source: Quantitative Structure Activity Relation

Detergent	
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)

Detergent	
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

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	1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (7365-45-9) CRAON 17-502 (7732-18-5) Detergent
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	Detergent
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.