SECTION 1. IDENTIFICATION

Product identifier

Trade name : APPLIED BIOCHEMISTS FILTER BLASTER

Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture : Water treatment chemical

Details of the supplier of the safety data sheet	**Emergency telephone number**
Innovative Water Care, LLC D/B/A Applied Biochemists 1400 Bluegrass Lakes Parkway Alpharetta, GA 30004 United States of America (USA) EHSProductSafetyTeam@solenis.com	1-800-654-6911 (Outside the USA:1-423-780-2970) **Product Information** 1-800-511-6737 (Outside the USA:1-423-780-2347)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion : Category 1

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT

induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (%)
2-butoxyethanol	111-76-2	Flam. Liq. 4; H227 Acute Tox. 4; H302 Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2A; H319	>= 5 - < 10
NONYLPHENOL ETHOXYLATE	9016-45-9	Skin Irrit. 2; H315 Eye Irrit. 2A; H319	>= 5 - < 10
(1-HYDROXYETHYLIDENE) BISPHOSPHONIC ACID	2809-21-4	Met. Corr. 1; H290 Acute Tox. 4; H302 Eye Dam. 1; H318	>= 1.5 - < 5
CITRIC ACID	77-92-9	Eye Irrit. 2A; H319 STOT SE 3; H335	>= 1.5 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.

Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
Wash contaminated clothing before re-use.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.

If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Causes serious eye damage.
Causes severe burns.
Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
Bloody urine
Difficulty in breathing

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air

and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	Carbon monoxide Carbon dioxide (CO2) Aldehydes Ketones Organic acids Oxides of phosphorus Hydrocarbons
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Container hazardous when empty. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-butoxyethanol	111-76-2	TWA	20 ppm	ACGIH
		TWA	5 ppm 24 mg/m3	NIOSH REL
		TWA	50 ppm 240 mg/m3	OSHA Z-1
		TWA	25 ppm 120 mg/m3	OSHA P0

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-butoxyethanol		Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible after exposure ceases)	200 mg/g Creatinine	ACGIH BEI

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Hand protection

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Eye protection	:	Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist. Maintain eye wash station in immediate work area.
Skin and body protection	:	Wear as appropriate: Impervious clothing Chemical resistant apron Safety shoes Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear resistant gloves (consult your safety equipment supplier). Discard gloves that show tears, pinholes, or signs of wear.
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat or drink. Ensure that eyewash stations and safety showers are close to the workstation location. When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	1.0 - 3.0
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	215.1 °F / 101.7 °C
Flash point	:	> 200.3 °F / > 93.5 °C
Evaporation rate	:	1
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	22.7 hPa
Relative vapour density	:	0.6
Relative density	:	1.138 (68 °F / 20 °C)
Density	:	Not applicable
Solubility(ies)		
Water solubility	:	soluble in cold water
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	Do not allow evaporation to dryness. Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
Incompatible materials	:	Acids Alkaline earth metals aluminum Amines Ammonia Bases carbonates chlorates Chlorine Cyanides metal nitrates Oxidizing agents

salts of strong bases
steel
strong bases
strong reducing agents
sulfides
sulphites

Hazardous decomposition products : Aldehydes
Carbon monoxide
Carbon dioxide (CO_2)
Ketones
Organic acids
Oxides of phosphorus
Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Components:

2-butoxyethanol:

Acute oral toxicity : LD50 (guinea pig): 1,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Guinea pig): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

(1-HYDROXYETHYLIDENE) BISPHOSPHONIC ACID:

Acute oral toxicity : LD50 (Rat): 1,878 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 6,000 mg/kg

CITRIC ACID:

Acute oral toxicity : LD50 (Mouse): 5,040 mg/kg

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks : Causes severe skin burns and eye damage.

Components:

2-butoxyethanol:

Result : Irritating to skin

NONYLPHENOL ETHOXYLATE:

Species : Rabbit
Result : Irritating to skin

(1-HYDROXYETHYLIDENE) BISPHOSPHONIC ACID:

Result : Slightly irritating to skin

CITRIC ACID:

Result : Slightly irritating to skin

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : May cause irreversible eye damage.

Components:

2-butoxyethanol:

Result : Irritating to eyes

NONYLPHENOL ETHOXYLATE:

Species : Rabbit
Result : Irritating to eyes

(1-HYDROXYETHYLIDENE) BISPHOSPHONIC ACID:

Result : Corrosive to eyes

CITRIC ACID:

Result : Severely irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

Components:

CITRIC ACID:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Acute aquatic toxicity Category 3; Harmful to aquatic life.

Chronic aquatic toxicity : Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

Components:

2-butoxyethanol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,474 mg/l

Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,490 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,550 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 911 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 204

NONYLPHENOL ETHOXYLATE:

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

(1-HYDROXYETHYLIDENE) BISPHOSPHONIC ACID:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 368 mg/l
Exposure time: 96 h

LC50 (Pimephales promelas (fathead minnow)): 868 mg/l
Exposure time: 96 h

Persistence and degradability

Components:

NONYLPHENOL ETHOXYLATE:

Biodegradability : Result: Readily biodegradable.

CITRIC ACID:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 97 %
Exposure time: 28 d

Method: OECD Test Guideline 301E

Bioaccumulative potential

Components:

2-butoxyethanol:

Partition coefficient: n-octanol/water : log Pow: 0.83

NONYLPHENOL ETHOXYLATE:

Partition coefficient: n-octanol/water : log Pow: 3.7 (77 °F / 25 °C)

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN number : UN 3265
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s. (1-

		HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID)
Class	:	8
Packing group	:	III
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 3265
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-HYDROXYETHYLIDENE-1,1-DIPHOSPHONIC ACID)
Class	:	8
Packing group	:	III
EmS Code	:	F-A, S-B
Marine pollutant	:	no

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

Not applicable for product as supplied.

National Regulations

49 CFR

Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.
Product not regulated for ground transport in the USA per exception permitted in 49 CFR 173.154(d).

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	Skin corrosion or irritation Serious eye damage or eye irritation
SARA 313	:	The following components are subject to reporting levels established by SARA Title III, Section 313:

2-butoxyethanol	111-76-2	>= 5 - < 10 %

US State Regulations

Massachusetts Right To Know

2-butoxyethanol	111-76-2

Pennsylvania Right To Know

WATER	7732-18-5
2-butoxyethanol	111-76-2
NONYLPHENOL ETHOXYLATE	9016-45-9
etidronic acid	2809-21-4

New Jersey Right To Know

WATER	7732-18-5
2-butoxyethanol	111-76-2
NONYLPHENOL ETHOXYLATE	9016-45-9
etidronic acid	2809-21-4
Citric Acid	77-92-9

California Prop. 65

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

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	All components are listed on the inventory, regulatory obligations/restrictions apply
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:

NONYLPHENOL ETHOXYLATE	9016-45-9

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

NONYLPHENOL ETHOXYLATE	9016-45-9

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 05/30/2024

Full text of H-Statements

H227	:	Combustible liquid.
H290	:	May be corrosive to metals.
H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H335	:	May cause respiratory irritation.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Met. Corr.	:	Corrosive to metals
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -

International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This SDS has been prepared by the Solenis Environmental Health and Safety Department.

US / EN