SAFETY DATA SHEET
according to US Regulation 29 CFR 1910.1200 and the Canadian HPA

AB CLEARIGATE

Version 2.0 | Revision Date 2020.03.12 | Print Date 2021.01.11

SECTION 1. IDENTIFICATION

Commercial Product Name	:	Applied Biochemists
Product name	:	AB CLEARIGATE

Manufacturer or supplier's details

Company	:	Innovative Water Care, LLC 1400 Bluegrass Lakes Parkway Alpharetta, GA 30004
Telephone	:	1-800-511-6737 (Outside the USA: 1-423-780-2347)
E-mail address	:	sds@sigurawater.com
Emergency telephone number	:	1-800-654-6911 (Outside the USA: 1-423-780-2970)

Recommended use of the chemical and restrictions on use

Recommended use	:	Water treatment chemical

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 3
Skin corrosion	:	Category 1B
Eye irritation	:	Category 2A
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)
Aspiration hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation.
Precautionary statements	:	**Prevention:** P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. 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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention. P362 Take off contaminated clothing and wash before reuse. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. **Storage:** P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool. 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

Chemical nature : Mixture

Hazardous components

Chemical name / Synonyms	CAS-No.	Concentration (% w/w)
2,2',2''-Nitrilotriethanol	102-71-6	10 - 15
2-Aminoethanol	141-43-5	5 - 10
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1	5 - 10
sodium xylenesulphonate	1300-72-7	3 - 5

SECTION 4. FIRST AID MEASURES

General advice : Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

If inhaled : IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

In case of skin contact : IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

In case of eye contact : IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If swallowed : IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : None known.

Notes to physician : Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water fog Carbon dioxide (CO2) Foam
Specific hazards during firefighting	:	Material may be ignited if preheated to temperatures above the flash point in the presence of a source of ignition.
Further information	:	Use water spray to cool unopened containers. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.
Conditions for safe storage	:	Store in a cool, dry and well ventilated place. Do not expose to direct light. Store between 50°F and 100°F. Avoid freezing.

Materials to avoid : Refer to Section 10, "Incompatible Materials."

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2,2',2''-Nitrilotriethanol	102-71-6	TWA	5 mg/m3	ACGIH
2-Aminoethanol	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		STEL	6 ppm 15 mg/m3	NIOSH/GUIDE
		REL	3 ppm 8 mg/m3	NIOSH/GUIDE
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1	REL (Dust and mist.)	1 mg/m3 (as Cu)	NIOSH/GUIDE
		(Fume.)		ACGIH
		(Dust and mist.)		ACGIH
		TWA (Dust and mist.)	1 mg/m3 (as Cu)	ACGIH
		TWA (Fume.)	0.2 mg/m3 (as Cu)	ACGIH
		REL (Fume.)	0.1 mg/m3 (as Cu)	NIOSH/GUIDE

Engineering measures : Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection : Wear a NIOSH approved respirator if levels above the exposure limits are possible.
A NIOSH approved air purifying respirator with organic vapor cartridge and P95 particulate filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Hand protection

Remarks : Avoid contact with skin. Impervious gloves Boots Apron A full impervious suit is recommended if exposure is possible to a

		large portion of the body.
Eye protection	:	Chemical resistant goggles must be worn. Face-shield
Skin and body protection	:	Impervious clothing
Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	no data available
Odour	:	no data available
Odour Threshold	:	no data available
pH	:	9.7 - 10.0
Melting point/freezing point	:	no data available
Boiling point/boiling range	:	no data available
Flash point	:	115.0 °F / 46.1 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Combustible
Flammability (liquids)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	> 1
Relative density	:	1.04 - 1.05 (68 °F / 20 °C)
Density	:	Not applicable
Bulk density	:	no data available
Water solubility	:	completely miscible

Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Stable under normal conditions.
Conditions to avoid	:	Heat, flames and sparks. Avoid freezing.
Incompatible materials	:	Strong acids Nitrates
Hazardous decomposition products	:	Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure :

Eyes
Skin
Ingestion
Inhalation

Acute toxicity

Acute oral toxicity	:	LD50 (Rat): = 1,925 mg/kg
Acute inhalation toxicity	:	Remarks: no data available
Acute dermal toxicity	:	LD50 (Rabbit): = 650 mg/kg
Acute toxicity (other routes of administration)	:	Remarks: Corrosive to skin Severe eye irritation Inhalation of mist or vapor may cause irritation to the mucous membranes of the respiratory tract.

Skin corrosion/irritation
Result: Corrosive to skin

Serious eye damage/eye irritation
Result: Severe eye irritation

Respiratory or skin sensitisation
Remarks: This material is not known or reported to be a skin or respiratory sensitizer.

Carcinogenicity

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

Repeated dose toxicity
Remarks: Not known or reported to cause subchronic or chronic toxicity.

Further information
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential

Components:

2,2',2''-Nitrilotriethanol:
Partition coefficient: n-octanol/water : log Pow: -2.3

2-Aminoethanol:

Partition coefficient: n-octanol/water	:	log Pow: -1.91 (25 °C) Method: OECD Test Guideline 107

Copper(2+) carbonate hydroxide (2:1:2):

Partition coefficient: n-octanol/water	:	Remarks: no data available

Mobility in soil

no data available

Other adverse effects

Ozone-Depletion Potential	:	Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B) Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	Toxic to fish and other aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001. As a hazardous liquid waste it must be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number	:	2903
Proper shipping name	:	(Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Labels	:	6.1 (3, 8)
Emergency Response Guidebook Number	:	131
Environmental hazards	:	no

TDG

UN number	:	2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Labels	:	6.1 (3)
Environmental hazards	:	no

IATA

UN number	:	2903
Proper shipping name	:	Pesticide, liquid, toxic, flammable, n.o.s. (Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Labels	:	6.1 (3)
Environmental hazards	:	no

IMDG

UN number	:	2903
Proper shipping name	:	Pesticide, liquid, toxic, flammable, n.o.s. (Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Labels	:	6.1 (3)
EmS Number 1	:	F-E
EmS Number 2	:	S-D
Environmental hazards	:	Marine pollutant: no

ADR

UN number	:	2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)
Environmental hazards	:	no

RID

UN number	:	2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Copper triethanolamine complex)
Transport hazard class	:	6.1
Packing group	:	III
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)
Environmental hazards	:	no
Special precautions for user	:	
49CFR	:	Subsidary CORROSIVE label required per 49CFR 172.402(a)(2).,Per 49CFR 172.402(a)(2), a subsidary FLAMMABLE label is required for all modes, EXCEPT for a material with a flashpoint at or above 38 Deg C. (100 Deg F) transported by rail or highway only.

Subsidary CORROSIVE label required per 49CFR 172.402(a)(2).Per 49CFR 172.402(a)(2), a subsidary FLAMMABLE label is required for all modes, EXCEPT for a material with a flashpoint at or above 38 Deg C. (100 Deg F) transported by rail or highway only.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

EPA Registration number	:	8959-51
Signal word	:	DANGER!
Hazard statements	:	Harmful if swallowed. May be fatal if absorbed through skin. Harmful if inhaled. Corrosive. Causes skin burns. Corrosive - causes irreversible eye damage. This pesticide is toxic to fish.

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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ

			(lbs)
2,2'-Iminodiethanol	111-42-2	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards

See above: SECTION 2. Hazard Identification-GHS Classification

SARA 313

Components	CAS-No.	Concentration
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1	5 - 10 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Components	CAS-No.	Concentration
2,2'-Iminodiethanol	111-42-2	0.01 - 0.1 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Components	CAS-No.	Concentration
2-Aminoethanol	141-43-5	5 - 10 %

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Components	CAS-No.	Concentration
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1	5 - 10 %

US State Regulations

Massachusetts Right To Know

Components	CAS-No.
2,2',2''-Nitrilotriethanol	102-71-6
2-Aminoethanol	141-43-5

Pennsylvania Right To Know

Components	CAS-No.
Citrus, ext.	94266-47-4
2,2',2''-Nitrilotriethanol	102-71-6
Polyethylene glycol monoisodecyl ether	61827-42-7
2-Aminoethanol	141-43-5
Fatty acids, tall-oil	61790-12-3
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1
sodium xylenesulphonate	1300-72-7

New Jersey Right To Know

Components	CAS-No.
Citrus, ext.	94266-47-4
2,2',2''-Nitrilotriethanol	102-71-6
Polyethylene glycol monoisodecyl ether	61827-42-7
2-Aminoethanol	141-43-5
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1

California Prop. 65

WARNING **Cancer - www.P65Warnings.ca.gov.**

Components	CAS-No.
2,2'-Iminodiethanol	111-42-2

Canadian lists

NPRI

Components	CAS-No.
Copper(2+) carbonate hydroxide (2:1:2)	12069-69-1
2,2'-Iminodiethanol	111-42-2

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

TSCA : This is an EPA registered pesticide.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	US. ACGIH Threshold Limit Values
NIOSH/GUIDE	:	US. NIOSH: Pocket Guide to Chemical Hazards, as amended

AICS - Australian Inventory of Chemical Substances; 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; 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

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Revision Date	:	2020.03.12

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.

Date format : yyyy/mm/dd

US / EN