

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Lemon-E+ Detergent-Disinfectant
Product code : 155-9313P

1.2. Other means of identification

Other means of identification : EPA Reg. No. 10324-167-32970

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Disinfectant

1.4. Supplier's details

American Cleaning Solutions
39-30 Review Avenue
Long Island City, NY, 11101
T (718) 392-8080

1.5. Emergency phone number

Emergency number : INFOTRAC: 800-535-5053

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation, Category 2B H320 Causes eye irritation.
Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H320 - Causes eye irritation
Precautionary statements (GHS US) : P264 - Wash hands, forearms and face thoroughly after handling.
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 or attention.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

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SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	CAS-No.: 7732-18-5	96.27318175 – 98.4734635	Not classified
tetrasodium ethylene diamine tetracetate	CAS-No.: 64-02-8	0.441675 – 0.49335	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
citral	CAS-No.: 5392-40-5	0.02 – 0.04	Skin Irrit. 2, H315 Skin Sens. 1, H317
Sodium hydroxide	CAS-No.: 1310-73-2	< 0.02024	Met. Corr. 1, H290 Skin Corr. 1, H314
trisodium nitrilotriacetate	CAS-No.: 5064-31-3	0.00464325 – 0.0051865	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Carc. 2, H351
copper, powder	CAS-No.: 7440-50-8	≤ 0.000126	Flam. Sol. 2, H228

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

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
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	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects after eye contact	: Causes serious eye irritation.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

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5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.
- Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

See Heading 8. Exposure controls and personal protection.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
- Hygiene measures : Wash hands and forearms thoroughly after handling.

7.2. Conditions for safe storage, including incompatibilities

- Storage conditions : Keep only in the original container in a cool, well ventilated place away from heat, hot surfaces, sparks, open flame and other ignition sources. No smoking. Direct sunlight. Keep container closed when not in use.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Sodium hydroxide (1310-73-2)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL C	2 mg/m ³
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copper, powder (7440-50-8)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA

0.2 mg/m³

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear chemically resistant protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Color	: Yellow
Odor	: lemon odor
Odor threshold	: No data available
pH	: 10
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 212 – 220 °F
Flash point	: ≥ 200 °F
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: Same as water
Relative density	: 1
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

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9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

tetrasodium ethylene diamine tetracetate (64-02-8)

LD50 oral rat	1780 – 2000 mg/kg (Rat, Male / female, Experimental value, Oral)
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ATE US (oral)	1780 mg/kg body weight
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trisodium nitrilotriacetate (5064-31-3)

LD50 oral rat	1740 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
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LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
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LC50 Inhalation - Rat	> 5 mg/l (4 h, Rat, Male, Experimental value, Inhalation (aerosol), 14 day(s))
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ATE US (oral)	1740 mg/kg body weight
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Skin corrosion/irritation : Not classified
pH: 10

tetrasodium ethylene diamine tetracetate (64-02-8)

pH	11 (1 %)
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Sodium hydroxide (1310-73-2)	
pH	14 (5 %)
trisodium nitrilotriacetate (5064-31-3)	
pH	11 (1 %)
Serious eye damage/irritation	: Causes eye irritation. pH: 10
tetrasodium ethylene diamine tetracetate (64-02-8)	
pH	11 (1 %)
Sodium hydroxide (1310-73-2)	
pH	14 (5 %)
trisodium nitrilotriacetate (5064-31-3)	
pH	11 (1 %)
Respiratory or skin sensitization	: Skin sensitization: Not classified.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
tetrasodium ethylene diamine tetracetate (64-02-8)	
Viscosity, kinematic	Not applicable (solid)
Sodium hydroxide (1310-73-2)	
Viscosity, kinematic	No data available in the literature
trisodium nitrilotriacetate (5064-31-3)	
Viscosity, kinematic	Not applicable (solid)
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects after eye contact	: Causes serious eye irritation.

SECTION 12 Ecological information

12.1. Ecotoxicity

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

tetrasodium ethylene diamine tetracetate (64-02-8)	
LC50 - Fish [1]	121 mg/l (US EPA, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Soft water)
EC50 - Crustacea [1]	625 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
LC50 - Fish [2]	396 mg/l

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tetrasodium ethylene diamine tetracetate (64-02-8)	
ErC50 algae	> 100 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Weight of evidence, Nominal concentration)
Sodium hydroxide (1310-73-2)	
LC50 - Fish [1]	189 mg/l (48 h, Leuciscus idus, Fresh water, Experimental value)
EC50 - Crustacea [1]	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Locomotor effect)
trisodium nitrilotriacetate (5064-31-3)	
LC50 - Fish [1]	114 mg/l (APHA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 - Crustacea [1]	98 mg/l (96 h, Gammarus sp., Flow-through system, Fresh water, Experimental value)
ErC50 algae	> 91.5 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
copper, powder (7440-50-8)	
LC50 - Fish [1]	200 µg/l (96 h, Salmo gairdneri, Flow-through system, Fresh water, Weight of evidence, Lethal)
EC50 - Crustacea [1]	109 – 798 µg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence, Locomotor effect)
EC50 72h - Algae [1]	230 µg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, Growth rate)

12.2. Persistence and degradability

Lemon-E+ Detergent-Disinfectant	
Persistence and degradability	Not established.
Water (7732-18-5)	
Persistence and degradability	Rapidly degradable
tetrasodium ethylene diamine tetracetate (64-02-8)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	< 0.002 g O ₂ /g substance
Chemical oxygen demand (COD)	0.54 – 0.58 g O ₂ /g substance
Sodium hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
trisodium nitrilotriacetate (5064-31-3)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
Chemical oxygen demand (COD)	0.625 g O ₂ /g substance
copper, powder (7440-50-8)	
Persistence and degradability	Biodegradability in soil: not applicable, Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable

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copper, powder (7440-50-8)	
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
citral (5392-40-5)	
Persistence and degradability	Rapidly degradable
12.3. Bioaccumulative potential	
Lemon-E+ Detergent-Disinfectant	
Bioaccumulative potential	Not established.
tetrasodium ethylene diamine tetracetate (64-02-8)	
BCF - Fish [1]	1.1 – 1.8 (28 day(s), Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-13.17 (Estimated value, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
Sodium hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.
trisodium nitrilotriacetate (5064-31-3)	
BCF - Fish [1]	1 – 3 (96 h, Brachydanio rerio, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-13.2 – -2.62 (Calculated, 25 °C)
Bioaccumulative potential	Not bioaccumulative.
copper, powder (7440-50-8)	
Bioaccumulative potential	Bioaccumulation: not applicable.
12.4. Mobility in soil	
tetrasodium ethylene diamine tetracetate (64-02-8)	
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 hydroxide (1310-73-2)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
trisodium nitrilotriacetate (5064-31-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.419 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
copper, powder (7440-50-8)	
Ecology - soil	Adsorbs into the soil.

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12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No
Other information	: Avoid release to the environment.

SECTION 13 Disposal considerations

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecological information	: Avoid release to the environment.

SECTION 14 Transport information

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

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

14.3. Transport hazard class(es)

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

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

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

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

14.4. Packing group

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

14.5. Environmental hazards

Other information	: No supplementary information available.
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14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT	
No data available	

TDG	
No data available	

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IMDG

No data available

IATA

No data available

SECTION 15 Regulatory information

15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Water	7732-18-5	Present	Active	
tetrasodium ethylene diamine tetracetate	64-02-8	Present	Active	
Sodium hydroxide	1310-73-2	Present	Active	
trisodium nitrilotriacetate	5064-31-3	Present	Active	
copper, powder	7440-50-8	Present	Active	
citral	5392-40-5	Not present	-	

Sodium hydroxide (1310-73-2)

Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ	1000 lb
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copper, powder (7440-50-8)

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

copper, powder (7440-50-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

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15.3. State regulations

Component	State or local regulations
copper, powder(7440-50-8)	U.S. - New York City - Right to Know Hazardous Substances List

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date : 4/3/2025

Other information : None.

Full text of hazard classes and H-statements	
H228	Flammable solid
H290	May be corrosive to metals
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H351	Suspected of causing cancer.

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : B - Safety glasses, Gloves

Safety Data Sheet (SDS), USA

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