

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Citrus Zyme
Product code : 155-9623

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Drain openers

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

Skin sensitization, Category 1 H317 May cause an allergic skin reaction.
Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
Precautionary statements (GHS US) : P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P302+P352 - If on skin: Wash with plenty of soap and water
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

Citrus Zyme

Safety Data Sheet

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

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

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Nonylphenol Ethoxylate	CAS-No.: 127087-87-0	1 – 5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
(+)-limonene	CAS-No.: 5989-27-5	1 – 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317
butyl glycoether	CAS-No.: 111-76-2	1 – 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 2 (Inhalation:gas), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

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. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see First aid measures on this label). Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
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 inhalation	: May cause an allergic skin reaction.

Citrus Zyme

Safety Data Sheet

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

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.

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. Avoid breathing dust/mist/spray.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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. Keep container closed when not in use.

Citrus Zyme

Safety Data Sheet

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

Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

butyl glycoether (111-76-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE)
ACGIH OEL TWA	20 ppm (2-Butoxyethanol (EGBE); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	Eye & URT irr
USA - OSHA - Occupational Exposure Limits	
Local name	2-Butoxyethanol
OSHA PEL TWA	240 mg/m ³
	50 ppm

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 protective gloves/eye protection/face protection 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 : light yellow
Odor : Citrus fruits
Odor threshold : No data available

Citrus Zyme

Safety Data Sheet

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

pH	: 6 – 7
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 310 °F
Flash point	: 212 °F
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: ≥ 1
Relative density	: 1.019
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

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

(+)-limonene (5989-27-5)

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

Safety Data Sheet

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

(+)-limonene (5989-27-5)	
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Read-across, Dermal, 7 day(s))
butyl glycoether (111-76-2)	
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	435 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity; 435 mg/kg bodyweight; Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
LC50 Inhalation - Rat	2.17 mg/l/4h (Rat; Experimental value; 2.35 mg/l/4h; Rat; Experimental value)
LC50 Inhalation - Rat [ppm]	450 – 486 ppm/4h 450-486,Rat
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	435 mg/kg body weight
ATE US (gases)	450 ppmV/4h
ATE US (vapors)	2.17 mg/l/4h
ATE US (dust, mist)	2.17 mg/l/4h
Nonylphenol Ethoxylate (127087-87-0)	
LD50 oral rat	1890 mg/kg body weight (Rat, Male / female, Experimental value, Oral)
LD50 oral	657 mg/kg body weight (Rabbit, Male / female, Experimental value, Oral)
ATE US (oral)	1890 mg/kg body weight
Skin corrosion/irritation	: Not classified pH: 6 – 7
(+)-limonene (5989-27-5)	
pH	4 (5 %)
Nonylphenol Ethoxylate (127087-87-0)	
pH	6.3 (1 %)
Serious eye damage/irritation	: Not classified pH: 6 – 7
(+)-limonene (5989-27-5)	
pH	4 (5 %)
Nonylphenol Ethoxylate (127087-87-0)	
pH	6.3 (1 %)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
(+)-limonene (5989-27-5)	
IARC group	3 - Not classifiable
butyl glycoether (111-76-2)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

Citrus Zyme

Safety Data Sheet

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

(+)-limonene (5989-27-5)	
Viscosity, kinematic	1 mm ² /s (25 °C)
butyl glycoether (111-76-2)	
Viscosity, kinematic	3.659 mm ² /s
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.

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

(+)-limonene (5989-27-5)	
LC50 - Fish [1]	720 µg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 - Crustacea [1]	0.307 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)
ErC50 algae	0.32 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

Nonylphenol Ethoxylate (127087-87-0)

LC50 - Fish [1]	11.6 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 96h - Algae [1]	12 mg/l (Selenastrum capricornutum, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

Citrus Zyme	
Persistence and degradability	Not established.
(+)-limonene (5989-27-5)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.29 g O ₂ /g substance
butyl glycoether (111-76-2)	
Persistence and degradability	Readily biodegradable in water, Biodegradable in the soil, Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.71 g O ₂ /g substance
Chemical oxygen demand (COD)	2.2 g O ₂ /g substance
ThOD	2.305 g O ₂ /g substance
BOD (% of ThOD)	0.31
Nonylphenol Ethoxylate (127087-87-0)	
Persistence and degradability	Not readily biodegradable in water, Biodegradable in water.

Citrus Zyme

Safety Data Sheet

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

12.3. Bioaccumulative potential

Citrus Zyme

Bioaccumulative potential Not established.

(+)-limonene (5989-27-5)

BCF - Fish [1] 864.8 l/kg (BCFBAF v3.01, Pisces, QSAR, Fresh weight)

Partition coefficient n-octanol/water (Log Pow) 4.38 (Experimental value, Equivalent or similar to OECD 117, 37 °C)

Bioaccumulative potential Potential for bioaccumulation ($4 \leq \text{Log Kow} \leq 5$).

butyl glycoether (111-76-2)

Partition coefficient n-octanol/water (Log Pow) 0.81 (Experimental value; BASF test; 25 °C)

Bioaccumulative potential Low potential for bioaccumulation ($\text{Log Kow} < 4$).

Nonylphenol Ethoxylate (127087-87-0)

BCF - Fish [1] 7.6 – 12.4 l/kg (6 week(s), Cyprinus carpio, Static system, Fresh water, Experimental value)

Partition coefficient n-octanol/water (Log Pow) 5.67 (Practical experience/observation, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 25 °C)

Bioaccumulative potential Low potential for bioaccumulation ($\text{BCF} < 500$). Low potential for bioaccumulation (molecular mass ≥ 700 g/mol).

12.4. Mobility in soil

(+)-limonene (5989-27-5)

Surface tension No data available in the literature

Organic Carbon Normalized Adsorption Coefficient (Log Koc) 3.049 – 3.801 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

Ecology - soil Low potential for mobility in soil.

butyl glycoether (111-76-2)

Surface tension 0.027 N/m (25 °C)

Nonylphenol Ethoxylate (127087-87-0)

Organic Carbon Normalized Adsorption Coefficient (Log Koc) 2.631 (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 No (test)data on mobility of the substance available. Low potential for adsorption in soil.

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. Dispose of contents/container in accordance with local/regional/national/international regulations.

Ecological information : Avoid release to the environment.

Citrus Zyme

Safety Data Sheet

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

SECTION 14 Transport information

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

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

14.3. Transport hazard class(es)

DOT

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

TDG

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

IMDG

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

IATA

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

14.4. Packing group

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

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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):

Citrus Zyme

Safety Data Sheet

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

Name	CAS-No.	Listing	Commercial status	Flags
(+)-limonene	5989-27-5	Present	Active	
butyl glycoether	111-76-2	Present	Active	
Nonylphenol Ethoxylate	127087-87-0	Present	Active	XU

15.2. International regulations

CANADA

(+)-limonene (5989-27-5)

Listed on the Canadian DSL (Domestic Substances List)

Nonylphenol Ethoxylate (127087-87-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

No additional information available

SECTION 16 Other information

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

Revision date : 10/22/2025

Issue date : 8/29/2018

Other information : None.

Full text of hazard classes and H-statements	
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled

Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

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.

Citrus Zyme

Safety Data Sheet

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

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.