

Safety Data Sheet ZeroTol HC

SECTION 1: Identification

1.1 GHS Product identifier

Product name ZeroTol HC

1.2 Recommended use

Algaecide

1.3 Supplier's details

Name BioSafe Systems
Address 22 Meadow Street
East Hartford CT 06108 USA
Telephone 1.888.273.3088

1.4 Emergency phone number

CHEMTREC: 1-800-424-9300

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1
- Acute toxicity, oral, Cat. 4
- Acute toxicity, inhalation, Cat. 4

2.2 GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage
H302 Harmful if swallowed
H332 Harmful if inhaled

Precautionary statement(s)

P101 If medical advice is needed, have label at hand.
P102 Keep out of reach of children
P103 Read label before use.
P234 Keep only in original container.
P260 Do not breathe mist, fumes, spray or vapors.
P264 Wash skin thoroughly after handling.
P262 Do not get in eyes, on skin or on clothing.

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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.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P301+P312	If swallowed: Call a poison center or doctor if you feel unwell.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
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	For specific treatment see first aid section on label
P370+P378	In case of fire: Use water to extinguish.
P363	Wash contaminated clothing before reuse.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P411+P235	Store at temperatures not exceeding 25°C (77°F). Keep cool.
P501	Dispose of contents in accordance with local/state/federal regulations.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Component	Concentration
Peracetic acid (CAS no.: 79-21-0)	1 - 2 % (weight)
Acetic acid (CAS no.: 64-19-7)	10 - 15 % (weight)
Hydrogen peroxide (CAS no.: 7722-84-1)	3 - 7 % (weight)

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, or shortness of breath.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Call a poison center or doctor if irritation develops or persists. Wash contaminated clothing before reuse. Acute and delayed symptoms and effects: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain ,or blistering
In case of eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Acute and delayed symptoms and effects: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, or significantly impaired vision.
If swallowed	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Acute and delayed symptoms and effects: Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract.

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4.2 Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation: May cause respiratory irritation.

Symptoms/effects after skin contact: Burns.

Symptoms/effects after eye contact: Serious damage to eyes.

Symptoms/effects after ingestion: Burns.

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

Treat symptomatically

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray.

5.2 Specific hazards arising from the chemical

Carbon oxides.

5.3 Special protective actions for fire-fighters

Do not attempt to take action without suitable protective equipment. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection if necessary. Avoid breathing gas, mist, vapors, or spray. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains and avoid releases to the environment.

6.3 Methods and materials for containment and cleaning up

Stop leak if you can do it without risk. Contain spillage, and then collect with inert absorbent material, (e.g. sand, diatomaceous earth) and place in non-metal container for disposal according to local, state, and federal regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not swallow. Do not breathe mist, vapors, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up and in original container only. Keep container in a dry and well-ventilated place. Keep cool and protect from sunlight. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. This product should be used within 24 months of the date of manufacture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 64-19-7 Acetic acid

Cal/OSHA (US): 40 ppm C inhalation; 15 ppm, 37 mg/m³ STEL inhalation; NIOSH (US): 10 ppm, (ST) 15 ppm REL inhalation; 15 ppm, 37 mg/m³ ST inhalation; 10 ppm, 25 mg/m³ TWA inhalation; US/OSHA (US): 10 ppm PEL inhalation; 25 mg/m³ PEL inhalation

CAS: 7722-84-1 Hydrogen peroxide

NIOSH (US): 1 ppm REL inhalation; US/OSHA (US): 1 ppm PEL inhalation; 1.4 mg/m³ PEL inhalation

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8.2 Appropriate engineering controls

Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Safety glasses.

Skin protection

Wear protective gloves.

Body protection

Wear protective clothing. Clothing with full length sleeves and pants should be worn. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	Clear, colorless liquid
Color	Colorless
Odor	Vinegar like
Odor threshold	No data available.
Melting point/freezing point	30°C (-22°F)
Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	SADT > 55°C (131°F)
pH	1.5
Kinematic viscosity	No data available.
Solubility	Complete
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	22 mm Hg (25°C)
Evaporation rate	No data available.
Density and/or relative density	8.68 lbs/gal
Relative vapor density	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Contact with incompatible materials. Sources of ignition. Exposure to heat.

10.2 Chemical stability

Stable under normal storage conditions.

10.3 Possibility of hazardous reactions

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No data available.

10.4 Conditions to avoid

Incompatible products. High temperatures. Direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

10.5 Incompatible materials

Acetic acid: Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, permanganates, e.g. potassium permanganate, Amines, Alcohols, Nitric acid

Hydrogen peroxide: Zinc, Powdered metals, Iron, Copper, Nickel, Brass, Iron and iron salts.

10.6 Hazardous decomposition products

Thermal decomposition generates corrosive vapors, acetic acid and oxygen which supports combustion.

SECTION 11: Toxicological information

Acute toxicity

Acetic acid

LD50 Oral - Rat - 3,310 mg/kg, LC50 Inhalation - Mouse - 5620 ppm - 1 h, LC50 Inhalation - Rat - 11.4 mg/l – 4h

LD50 Skin - Rat - 1,112 mg/kg

Skin corrosion/irritation

Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, or blistering.

Serious eye damage/irritation

Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, or significantly impaired vision.

Respiratory or skin sensitization

May cause respiratory tract irritation.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

SECTION 12: Ecological information

Toxicity

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Acetic acid

LC50 - Oncorhynchus mykiss (rainbow trout) - >1,000 mg/l - 96 h

EC50 - Daphnia magna (water flea) - >300.82 mg/l - 48 h

Persistence and degradability

Peracetic acid is completely miscible with water. Product is biodegradable due to chemical properties.

Bioaccumulative potential

Does not bioaccumulate.

Mobility in soil

Non-significant adsorption soil degradation, >99% in 20 minutes.

SECTION 13: Disposal considerations

Product disposal

Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Packaging disposal

Dispose of as unused product. Do not reuse containers.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Hydrogen peroxide

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard for: Acetic acid.

Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard for: Hydrogen peroxide.

California Prop. 65 Components

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

US EPA TSCA public inventory

Chemical name: PERACETIC ACID

CAS number: 79-21-0

Chemical name: Hydrogen peroxide

CAS number: 7722-84-1

Chemical name: Acetic acid

CAS number: 64-19-7

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FIFRA

This product is a registered pesticide with the United States Environmental Protection Agency (EPA). These requirements may differ from the classification criteria and hazard information required for a safety data sheet under the Global Harmonized Systems (GHS), and for workplace labels of non-pesticide chemicals. It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Always refer to product label for further precautionary information and use directions

SECTION 16: Other information

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall BioSafe Systems be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if BioSafe Systems has been advised of the possibility of such damages.