

1. IDENTIFICATION

Product Name: GreenClean® Liquid 2.0
Product Type: Algaecide/Bactericide
Manufacturer:

BioSafe Systems, LLC
22 Meadow St., East Hartford, CT 06108

Creation Date: 11.2011

NOTE: Not valid two years after creation date.

EPA Registration No. 70299-12
EPA Establishment No. 067441-IL-001

2. HAZARDOUS COMPONENTS

Hydrogen Dioxide.....7722-84-1
Peroxyacetic Acid.....79-21-0

3. HEALTH HAZARDS DATA

Health effects to over exposure to CONCENTRATE:

- Corrosive to mucous membranes, eyes and skin.
- The seriousness of the lesions and the prognosis of intoxication depend directly on the concentration and duration of exposure.

Skin: May cause TEMPORARY skin discoloration and irritation.

Eyes: May cause severe eye damage.

If Swallowed: HARMFUL OR FATAL: Causes chemical burns of mouth, throat and stomach.

- Corrosive to gastrointestinal tract
- Paleness and cyanosis of the face
- Excessive fluid in the mouth and nose
- Bloating of stomach and belching
- Nausea and vomiting
- Risk of chemical pneumonitis and pulmonary edema

If Inhaled: Vapors or mist can cause irritation. People with asthma or other lung problems may be more affected.

4. FIRST AID

General Recommendations:

- In case of product splashing in eyes, treat eyes first
- Submerge soiled clothing in water
- Contact physician in all cases

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.

Skin: 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.

If Swallowed: Call 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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 poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1.800.222.1222 for emergency treatment information.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE AND EXPLOSION DATA

Special Fire Hazards: Product (concentrate) can decompose and will release oxygen thereby adding to the fire hazard.

Fire Fighting Methods: Product is not flammable and can be quickly diluted with clean water. Oxidizing Agent may cause spontaneous ignition with oxidizing agents.

6. SPILL OR LEAK PROCEDURES

Cleanup: Rinse small amounts to drain when possible. Dike or dam large spills, pump to containers or soak in inert absorbent. Flush residue to sanitary sewer, rinse area thoroughly with clean water. Avoid materials that are incompatible with concentrate.

Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical wastes. Unused product (concentrate) is classified as a (D002) by RCRA criteria.

7. HANDLING AND STORAGE

- Never return product back to the original container
- Keep concentrate away from reactive substances
- Prevent contact with organic materials
- Keep product in original container
- Store in cool, ventilated area
- Keep out of direct sunlight
- Never use metal containers or spigots
- Use vented container
- Warn personnel of dangers of concentrated product

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory: Avoid breathing mists or vapors of concentrate.

Eyes: Use chemical splash goggles when handling concentrate. For continued severe exposure, wear a face shield over the goggles.

Skin: Rubber gloves - protective or gauntlet type preferred when handling concentrate. Use aprons.

ACGIH TLV: 1 PPM 8 HOUR TWA
1.4 mg/m³ TWA

OSHA PEL: 1 PPM 8 HOURS TWA
1.4 mg/m³ TWA

Respiratory Protection:

- NIOSH approved full-face respirator for excessive conditions
- Hand gloves for handling concentrate = butyl rubber
- Eye protection - chemical proof goggles/face shield for splash risk
- Skin protection - coveralls when handling concentrate

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid

Odor: Pungent

Freezing Point: -30°C (-22°F)

Boiling Point: Not applicable, product decomposes

Specific Gravity: 1.10

pH: 0.96

Solubility: Complete

Decomposition Temperature: self-accelerating decomposition temperature > 55°C

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions, with slow oxygen release

Conditions to Avoid: Heat / Direct Sunlight

Materials to Avoid: Acids · Bases · Reducing Agents · Organic Materials · Metals · Salts of Metals

11. TOXICOLOGICAL INFORMATION

Acute Toxicology:

- Acute oral toxicity: LD50, rat 3,622 mg/kg. Test substance: 5.6% PAA, 26.9% H₂O₂, 7.6% HOAc solution
- Acute dermal toxicity: LD50, rabbit, 1040 mg/kg. Test substance: 4.89% PAA, 19.72% H₂O₂, 10% HOAc solution
- Acute inhalation toxicity: LC50, rat > 5.35 mg/L for four hour exposure. Test substance: 4.5% PAA, 27% H₂O₂, 16.7% HOAc solution
- Primary eye irritation: rabbit, severely irritating or corrosive. Test substance: 2% PAA solution
- Primary dermal irritation: rabbit, severe irritant. Test substance: 2% PAA solution

Chronic Toxicity:

- Dermal = >0.12% solution, irritating effect
- Inhalation = > 5 mg/m³, irritant
- Route of entry = Inhalation / ingestion

12. ECOLOGICAL INFORMATION

Toxic to simple cell and aquatic organisms.

Danger to the environment limited due to product properties.

- No bioaccumulation
- Soil degradation = 99% in 20 minutes
- Considerable abiotic and biotic degradability
- Sediments = Non-significant adsorption
- Weak persistence of degradation products
- Degradation products = water & oxygen

Acute Ecotoxicity:

- Fish, Rainbow trout LC50, 48 hours > 40 mg/L
- Crustaceans, EC 50,48 hours 126.8 mg/11 mg/L
- Bacteria, Pseudomonas aeruginosa, EC 100, 5 minutes, 5mg/L

13. DISPOSAL CONSIDERATIONS

- Store in original containers in a cool, well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. This may cause increased degradation of the product, which will decrease product effectiveness. In case of spill, flood area with large quantities of water. Do not store in a manner where cross-contamination with other pesticides or fertilizers could occur.
- Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited. If wastes cannot be disposed of according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.
- Triple rinse (or equivalent). Then offer for recycling or dispose in a sanitary landfill, or incineration, if allowed by state and local authorities by burning. Stay out of smoke.

14. TRANSPORT INFORMATION

DOT Shipping Name: Hydrogen Peroxide mixture, stabilized
UN Number: 3149

Hazard Class: 5.1

Primary Hazard Label: Oxidizer

Subsidiary Risk Label: Corrosive

Packing Group: II

Shipping Container: UN Certified vented polyethylene. 2.5, 5, 30, 55 and 275 gallon polyethylene drums

15. REGULATORY INFORMATION

TSCA Inventory List: YES

CERCLA Hazardous Substance (40 CFR 302)

Listed substance: NO

Unlisted Substance: YES

Characteristic: Corrosive

Reportable Quantity: Hydrogen Dioxide 1000 lbs., Peroxyacetic Acid 500 lbs.

Reporting requirements under CERCLA section 103 for mixtures of hazardous substances (as specified in 40 CFR 302.6(b)) need to be followed.

NFPA Rating Health - 2 Flammability - 0 Reactivity - 3 Special - OXY

HMIS Rating Health - 2 Flammability - 0 Reactivity - 2 PPE - Required

Canadian WHMIS Classification

C - Oxidizing E - Corrosive F - Dangerously Reactive

16. OTHER INFORMATION

To the extent of our knowledge, the information herein is accurate as of the date of this document. However, neither BioSafe Systems nor any of its affiliates make any warranty, expressed or implied, or accept any liability in connection with the information or its use. The information is for use by technically skilled persons at their own discretion and risk. This is not a license or a patent. The user alone must finally determine suitability of any information or material for any contemplated use, the manner or use and whether any patents are infringed.

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For additional information on GreenClean Liquid 2.0, call us toll-free at 1.888.273.3088.

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