MATERIAL SAFETY DATA SHEET

Orb-3® Pool Enzymes

Section 1 – Chemical Product & Company Identification

Trade Name: Orb-3® Pool Enzymes
Chemical Family: Mixture
Product Description: A biodegradable water treatment solution for pools.

Manufacturer: Great Lakes Bio Systems, Inc.
13916 Leetsbir Road, Sturtevant, WI 53177
Technical Support: 800-236-1366
Chemical Emergency: 800-424-9300

Issue Date: 10/28/2010
Supersedes Date: 1/3/2007

Section 2 – Hazards Identification

Emergency overview: Avoid contact with eyes. Mild skin irritation.

Potential health effects:

Eyes: Contact with eyes can cause severe irritation.
Skin: May cause irritation upon prolonged contact.
Inhalation: Unknown
Ingestion: May cause irritation to the mouth and throat. May cause nausea.

Section 3 – Composition / Information on Ingredients

Components	CAS #	Percent

Orb-3® Pool Enzymes is a proprietary composition "not considered hazardous" under the OSHA Hazard Communication Standard CFR Title 29 1910.1200

Section 4 – First Aid Measures

First aid procedures

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact: Flush skin with large amounts of water. Remove any contaminated clothing and wash before reuse. Seek medical attention if irritation occurs.

Inhalation: If symptoms are experienced, remove source of contamination and/or move victim to fresh air. If breathing is difficult, have trained personnel administer oxygen. If respiration stops, have trained personnel administer artificial respiration. Get medical attention immediately.

Ingestion: Give large amounts of water. Do not induce vomiting. If spontaneous vomiting is inevitable, prevent aspiration by keeping victim's head below the knees. Get immediate medical attention.

Section 5 – Fire Fighting Measures

Flash Point: None

Extinguishing Media: Water fog or fine spray, carbon dioxide, dry chemical or foam.

Fire fighting Protection: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 – Accidental Release Measures

Personal Precautions: Isolate area. Keep unnecessary personnel away. Keep out of low areas. Ventilate closed spaces before entering.

Environmental Precautions: Prevent further leakage or spillage if safe to do so.

Methods for Containment: Prevent entry into waterways, sewers, basements or confined areas.

Methods for Clean-up: Wear appropriate protective equipment and clothing during clean-up.

Large spill: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Dispose in accordance with all local, state and federal regulations.

Small spill: Follow same procedure as above.

Section 7 – Handling and Storage

Handling: Avoid contact with skin and eyes. Wash hands thoroughly after handling.

Storage: Store this product below 120˚F (49˚C), preferably below 75˚F (24˚C), in a cool, dry, well ventilated area away from heat, sparks, flame, oxidizers and out of direct sunlight. For best results, use within 12 months.

Section 8 – Exposure Controls, Personal Protection

Personal Protection

General: Eye wash fountain is recommended.

Eyes: Wear chemical goggles.

Skin: Wear suitable protective clothing. Use impervious gloves.

Section 9 – Physical & Chemical Properties

Vapor Pressure:	<0.01 mm Hg @ 68° F (20° C)
Vapor Density (air = 1):	Same as water
Specific Gravity:	~1.01 – 1.02 @ 77˚ F (25˚ C)
Solubility in water:	Complete
VOC:	Negligible
Appearance:	Translucent amber liquid
pH:	3.8 – 4.2 @ 77˚ F (25˚ C)
Boiling Point:	> 212˚ F (100˚ C)
Flash Point:	None
Freezing Point:	< 32 ˚ F (0˚ C)
Evaporation Rate:	<0.01 *N-butyl acetate = 1
Weight:	8.4 – 8.5 lbs. /gallon
Odor:	Mild

Section 10 – Stability & Reactivity

Chemical Stability: Stable at normal conditions.

Incompatible Materials: Strong oxidizing agents, alkalis

Hazardous Decomposition Products: None known.

Conditions to avoid: See Section 7.

Hazardous Polymerization: Will not occur.

Section 11 – Toxicology Information

Toxicology data: Not available.

Section 12 – Ecological Information

Ecotoxicity: Readily biodegradable.

48 hr. LC50	*D. pulex* (daphnia)	98 mg/l
96 hr. LC50	*P. promelas* (fathead minnow)	167 mg/l

Section 13 – Disposal Considerations

Disposal instructions: Dispose in accordance with all applicable regulations. All wastes must be handled in accordance with local, state and federal regulations. Regulations vary.

Section 14 – Transportation Information

General information: Non-hazardous.

US DOT: Not regulated.
Proper Shipping Description: NMFC 48580.3 Cleaning/Scouring/Wash Comp Class 55

Section 15 – Regulatory Information

TSCA Inventory Status: This product and/or all of its components are either included on or exempt from the TSCA Inventory of Chemical Substances.

DSL (Canada): This product and/or all of its components are either included on or exempt from the Domestic Substances List.

Section 16 – Other Information

HMIS ratings:
Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings:
Health: 1
Flammability: 0
Reactivity: 0

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