

SAFETY DATA SHEET

Orb-3® Pool Enzymes

Section 1. Identification

Product identifier: Orb-3® Pool Enzymes
Product code: F839-000
Recommended use: For cleaning pool water.
Manufacturer: Great Lakes Bio Systems, Inc.
13916 Leetsbir Road, Sturtevant, WI 53177.
Technical support: 800-236-1366
Chemical emergency: Chemtrec: 800-424-9300

Section 2 – Hazards Identification

Classification of the substance or mixture:

The product is not classified according to the Globally Harmonized System (GHS).

Label elements:

•**Hazard pictograms:** None
•**Signal word:** None
•**Hazard statement:** None

Classification system:

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

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

Other hazards: Personal Protection Index: B

Section 3 – Composition / Information on Ingredients

Orb-3® Pool Enzymes is a proprietary composition that contains no hazardous ingredients at reportable concentrations.

Section 4 – First Aid Measures

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

Extinguishing media:	Water fog or fine spray, carbon dioxide, dry chemical or foam.
Special hazards:	None
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, protective equipment and emergency procedures:	Wear appropriate personal protective equipment (PPE) and clothing. 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. Absorb with liquid-binding materials (sand, universal binders, sawdust).
Methods for clean-up:	<p>Wear appropriate protective equipment and clothing during clean-up.</p> <p>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.</p> <p>Small spill: Follow same procedure as above.</p>

Section 7 – Handling and Storage

Precautions for safe handling:	Wear appropriate personal protective equipment (PPE). Avoid contact with skin and eyes. Wash hands thoroughly after handling.
Precautions for safe 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

- Eyes:** General eye protection suggested when handling any chemical product. Eye wash fountain is recommended.
- Hands:** Chemical-resistant impervious gloves complying with an approved standard should be used at all times when handling chemical products.
- Breathing equipment:** Not required
- Body protection:** Protective work clothing.
- General measures:** Wear appropriate personal protective equipment (PPE). Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using the toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Section 9 – Physical & Chemical Properties

- Appearance:** Translucent light amber liquid.
- Odor:** Mild
- Odor threshold:** Not Measured
- pH:** 3.8 – 4.2 @ 77° F (25° C)
- Freezing point:** < 32 ° F (0° C)
- Boiling point:** >212 ° F (100° C)
- Flash point:** Not available
- Evaporation rate:** <0.01 *N-butyl acetate = 1
- Flammability (solid, gas):** Not available
- Lower and upper explosive limits:** Not available
- Vapor pressure:** <0.01 mm Hg @ 68° F (20° C)
- Vapor density (air = 1):** Same as water.
- Specific gravity:** 1.00 – 1.02 @ 77° F (25° C)
- Weight:** 8.4 – 8.5 lbs. /gallon.
- Solubility in water:** Complete
- Partition coefficient n-octanol/water:** Not available
- Auto-ignition temperature:** Not available
- Decomposition temperature:** Not available
- Viscosity:** Not available
- VOC:** Negligible

Section 10 – Stability & Reactivity

- Reactivity:** Hazardous polymerization will not occur.
- Chemical stability:** Stable under normal circumstances.
- Possibility of hazardous reactions:** Strong oxidizing agents, alkalis.

Conditions to avoid: See Section 7.

Incompatible materials: Strong oxidizing agents, alkalis.

Hazardous decomposition products: None known

Section 11 – Toxicology Information

Information on toxicological effects:

Acute toxicity: LD/LC50 values that are relevant for classification: Product has not been tested. Based on the known information of the ingredients, product is expected to have a low order of acute toxicity. (>2,000 mg/kg).

Primary irritant effect:

On the skin: No irritant effect.

On the eye: May cause discomfort, yet not an eye irritant.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenic categories - IARC (International Agency for Research on Cancer).
None of the ingredients is listed.

NTP (National Toxicology Program)
None of the ingredients is listed.

Section 12 – Ecological Information

Toxicity: Readily biodegradable.

Aquatic ecotoxicity:

48 hr. LC50	<i>D. pulex</i> (daphnia)	<.36 mg/kg.
96 hr. LC50	<i>P. promelas</i> (fathead minnow)	<.59 mg/kg.

Persistence and degradability: This product is readily biodegradable.

Bio accumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB assessment: This product contains no PBT/vPvB chemicals.

Other adverse effects: No data available

Section 13 – Disposal Considerations

Waste treatment methods:

Do not allow into drains or water courses. Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

Using information provided in this data sheet advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.

Section 14 – Transportation Information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
UN number:	Not Applicable	Not Applicable	Not Applicable
UN proper shipping name:	NMFC 48580.3 Cleaning/Scouring/Wash Comp Class 55	Not Regulated	Not Regulated
Transport hazard class (es):	DOT Hazard Class: Not Applicable DOT Label: ---	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
Packing group:	Not Applicable	Not Applicable	Not Applicable
Environmental hazards:	IMDG Marine Pollutant: No		
Special precautions for user:	No further information		
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not Applicable		

Section 15 – Regulatory Information

Regulatory overview: The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory.

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

US EPA Tier II Hazards:

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 302 Extremely Hazardous:

(No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals:

(No Product Ingredients Listed)

Proposition 65 - Carcinogens (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Developmental Toxins (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Female Repro Toxins (>0.0%):

(No Product Ingredients Listed)

Proposition 65 - Male Repro Toxins (>0.0%):

(No Product Ingredients Listed)

N.J. RTK Substances (>1%):

None

Penn RTK Substances (>1%):

None

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

OSHA (Occupational Safety & Health Administration)

None of the ingredients is listed.

GHS label elements: Void

Hazard pictograms: Void

Signal word: Void

Hazard statements: Void

Section 16 – Other Information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

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This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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