

SAFETY DATA SHEET	
OSHA Hazard Communication Standard, 29CFR 1910.1200 - Revised 10/15/2018	
1. Identification Of Product & Company	
PRODUCT NAME:	EcoSystem Plus®
INTENDED USE :	Municipal / Industrial Odor-Wastewater Treatment
DETAILS OF COMPANY:	Bio-Organic Catalyst, Inc., A wholly-owned subsidiary of Neozyme International, Inc. 711 W. 17th Street, Suite E-6 Costa Mesa, CA 92627 Phone: (949) 515-1301 / Fax: (949) 515-1314
2. Composition/Information On Ingredients	
Substance: Water, highly purified proteins from plant and mineral sources.	
3. Hazardous Identification	
DANGER CLASSIFICATION: None	
RISK PHRASES: None	
P PHRASES: None	
4. First Aid Measures	
GENERAL: Wash well after use.	
ON INHALATION: None	
ON EYE CONTACT: Wash with copious amounts of water.	
ON SKIN CONTACT: Wash with soap and water.	
ON INGESTION: Should any symptoms occur, seek medical attention.	
5. Fire Fighting Measures	
EXTINGUISHING MEDIA	
RECOMMENDED: Water/Dry Chemical	
NOT TO BE USED: None	
SPECIAL INSTRUCTIONS FOR FIRE FIGHTING PERSONNEL: None	
6. Accidental Release Measures	
Flush away with copious amounts of water.	
7. Storage & Handling	
HANDLING: General good work practices.	
STORAGE: 19 Liter and 208, or 1000 Liter plastic containers.	
Store below 45°C as higher storage temperatures reduce the effectiveness of the product.	
Should not be stored close to caustics or strong bases.	
8. Exposure Controls/Personal Protection	
GENERAL PROTECTION: Follow good industrial practices of hygiene and care.	
RESPIRATORY PROTECTION: None	
HAND PROTECTION: None, although the use of rubber gloves is suggested.	
EYE PROTECTION: None, although the use of protective eyewear is recommended under normal GMP's	
SKIN PROTECTION: None	
9. Physical And Chemical Properties	
PHYSICAL STATE: Liquid	
COLOR: Colorless - Pale Amber	
ODOR: Mild	
ODOR THRESHOLD: No test data available	
FLASH POINT: None	
VISCOSITY: @ 40°C 2.3373 cst	
SPECIFIC GRAVITY: @ 20°C /68°F=1.002	
pH: Full Strength Concentrate: 3.9 – 4.3. At recommended use dilutions, pH ranges 6.3 to 6.9.	
VAPOR DENSITY: None	
LOWER EXPLOSION LIMIT: None	
SOLUBILITY IN WATER: 100% in water	
FLASH POINT: Closed Cup >93 °C	

FLAMMABILITY (Solid, Gas): None
 FLAMMABLE LIMITS IN AIR LOWER: No test data available.
 UPPER: No test data available.
 AUTO IGNITION TEMPERATURE: No test data available.
 VAPOR PRESSURE: < 0.01 mmHg @ 20°C *Calculated*
 BOILING POINT (@760 mmHg): > 100°C
 VAPOR DENSITY (air = 1): >1 *Calculated*
 FREEZING POINT: See Pour Point
 MELTING POINT: Not applicable
 POUR POINT: 2.22°C or (+28 °F)
 SOLUBILITY IN WATER (by weight): Completely soluble.
 DECOMPOSITION TEMPERATURE: No test data available

10. Stability & Reactivity

NO KNOWN REACTION TO OCCUR

CONDITIONS TO AVOID: Temperatures above 45°C., pH below 2.5 and above 11 will affect the quality and condition of the product. Strong caustics and strong bases may affect the quality and condition of the product.

11. Toxicological Information

ORAL LD50: Levels of 5,000 mg/kg: No Effects.

OCULAR: Primary Ocular-Albino Rabbits-Levels of 1,000 mg/kg for 24 hours: No effects; Non-Toxic; "No Warning Required".

ACUTE TOXICITY: LC50-Level of 10,000 mg/kg: No effects after 168 hours; Non-Toxic; "No Warning Required."

SKIN TESTS: Draize Test-Dermal score of .38; Non Irritant; "No Warning Required." Repeated Insult Patch - No indication of irritation or sensitization; Non Irritant; "No Warning Required."

INHALATION TESTS: Results. No possibility of Irritation; Non Irritant; "No Warning Required."

LONG-TERM STUDIES: No recorded side effects since 1971.

12. Ecological Information

This is a totally safe and efficient biocatalytic degrader of organic waste materials. The product causes contaminants and other organic matter to eventually biodegrade, thus returning to carbon dioxide and water. When disposed of in sewage and drainage systems, the product aids in the breakdown of pollutants such as oil.

OECD BIODEGRADATION TESTS: For this family of materials: OECD Guideline for Testing of Chemicals, 302 B, Inherent Biodegradability: Zahn-Wellens/EMPA-Test Adopted: July 17, 1992, as well as German Standard Procedures for Water, Waste Water and Sludge Testing, Test procedure with water organisms (Group L) Determination of the biodegradability, Static Test (L25), DIN 38 412, Part 25

BIODEGRADATION EXPOSURE TIME METHOD: > 58% -48 HRS OECD 302B TEST

Closed Bottle Ready Biodegradability Test Reference: Environmental Protection Agency - Toxic Substances Control Act, Code of Federal Regulations Title 40, part 796, section 3200 (40 CFR 796.3200)

BIODEGRADATION EXPOSURE TIME METHOD: > 75%-28 Days

ENVIRONMENTAL FATE: Persistence and Degradability: The material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

ECOTOXICITY: The material is non-toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

FISH ACUTE & PROLONGED TOXICITY: For this family of materials: LC50, fathead minnow (*Pimephales promelas*), static, 96 hrs. 100% survival rate at 1ppm

AQUATIC INVERTEBRATE ACUTE TOXICITY: EC50, water flea *Daphnia magna*, 48 hrs, Toxicity: Not Detected.

TOXICITY TO MICRO-ORGANISMS: EC₅₀ *Vibrio fischeri* (*Photobacterium phosphoreum*), *P.seudokirchnerjella subcapitata* (*Selen astrum capricornutum*) Toxicity: Not Detected.

MUTAGENICITY TEST; The organisms *P. subcapitata* and *D. magna* are continental water organisms. *V. fischeri* is an organism that can be involved for both continental water and marine water samples. *Salmonella typhimurium* is an organism to evaluate sweet water and its results can be applied to the environment and extrapolated to humans.

Salmonella typhimurium: Mutagenicity: Not Detected

MARINE ACUTE TOXICITY: The marine invertebrate species, *Mysidopsis bahia* (*Americamysis bahia*) and the marine vertebrate species, *Menidia beryllina* were used in the tests. For the marine invertebrate species, 48-Hour Acute *Mysidopsis bahia* survival test results: LC-50 -316.23 (ppm), The 96-Hour LC-50 (concentration at which 50% mortality is expected to occur) *Menidia beryllina* survival data was 203.04 (ppm)

13. Disposal Considerations

"IN ACCORDANCE WITH NATIONAL AND LOCAL LAWS AND PRACTICES"

Flush down sewage or drainage systems with copious amounts of water.

Bio-Organic Catalyst, Inc., A Wholly Owned Subsidiary of Neozyme International, Inc.

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14. Transport Information
DOMESTIC ROAD/RAIL: Unrestricted SEA: Unrestricted AIR: Unrestricted INTERNATIONAL ROAD/RAIL: Unrestricted
15. Regulatory Information
<p>OSHA HAZARD COMMUNICATION STANDARD: This product is a "Non-Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.</p> <p>SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 TITLE III (EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986) SECTIONS 311 AND 312: Immediate (Acute) Health Hazard: No Delayed (Chronic) Health Hazard: No Fire Hazard: No Reactive Hazard: No Sudden Release of Pressure Hazard: No</p> <p>SARA SECTION 313: 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.</p> <p>CALIFORNIA PROPOSITION 65 (SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986): This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.</p> <p>US TOXIC SUBSTANCES CONTROL ACT: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.</p> <p>REACH: Safety, health and environmental regulations/legislation specific for the substance or mixture REACH Regulation (EC) No 1907/2006. This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.</p> <p>Seveso II - Directive 96/82/EC and its Amendments: Listed in Regulation: Directive 96/82/EC does not apply 15.2</p> <p>Chemical Safety Assessment: Not applicable</p> <p>The information contained in this Safety Data Sheet does not constitute the user's own assessment of the workplace risks as required by other health and safety legislation.</p>
16. Other Information
<p>The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written instructions. Bio-Organic Catalyst, Inc. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version. This SDS will be revised and updated as requirements occur. Should further information and relevant advice be required, contact Bio-Organic Catalyst, Inc. @ Info@bio-organic.com EcoSystem Plus® is manufactured under U.S. Patent No. 9,617,178.</p>