

SAFETY DATA SHEET

According to OSHA Hazard Communication
Standard 29 CFR 1910.1200; GHS 4th Revision

SECTION 1 IDENTIFICATION

Product Name **MICROCAT® - UASB Bioblend for Upflow Anaerobic Sludge Bed Reactors**
 Relevant identified uses of the substances or mixtures and uses advised against
 Identified uses Bioblend for anaerobic wastewater treatment systems.
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SECTION 2 HAZARD IDENTIFICATION

Hazard Classification	Category	H-statement
Eye irritation	2B	H320
Skin irritation	3	H315

Hazard pictograms



<i>Signal words</i>	Warning
<i>Hazard statements</i>	Causes eye irritation (H320) Causes skin irritation (H315)
<i>Precautionary statements</i>	P264 – Wash thoroughly after handling. P280 – Wear protective gloves. P302 + P352 – IF ON SKIN, wash with soap and plenty of water. P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332 + P313 – If skin irritation occurs, get medical advice/attention. P337 + P313 – If eye irritation persists, get medical advice/attention. P362 + P364 – Take off contaminated clothing and wash it before reuse.
<i>Further information</i>	Crystalline silica is a known cause of silicosis (a non-cancerous lung disease). Prolonged and/or repeated inhalation must be avoided.
<i>Other hazards</i>	Hypersensitive individuals are more at risk for sensitization.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity

Common name

Synonyms

Calcium and magnesium carbonates inorganic nutrients with nonpathogenic naturally occurring microorganisms absorbed on wheat bran and corn gluten

Hazardous Components

Chemical Name (Concentration)

CAS-No

Dolomite (30-40%)	16389-88-1
Iron oxide (1%)	1309-37-1
Protease (< 1%)	9014-01-1
Amylase (<1%)	9000-90-2
Urea (<1%)	57-13-6
Crystalline silica (<0.4%)	14808-60-7
Cobalt oxide (0.1%)	7791-13-1
Nickel Chloride (0.1%)	7791-20-0

Non-Hazardous Components

Name	CAS-No
Wheat bran	116469-86-4
Corn gluten	66071-96-3
Diatomaceous earth	91053-39-3
Diammonium Phosphate (<1%)	7783-28-0

SECTION 4 FIRST-AID MEASURES

Eye	May cause eye irritation or injury. In case of contact with eyes, flush eyes with water for at least 15 minutes and seek medical attention.
Skin	May cause skin irritation. It is recommended that prolonged direct contact with skin be avoided. In case of contact with skin, wash skin with soap and water. Remove contaminated clothing and wash.
Inhalation	May cause irritation of respiratory tract. Avoid product handling which results in dust generation. If inhaled, remove from contaminated area to fresh air. Report situation. Seek medical attention if allergic response or difficulty in breathing is exhibited.
Ingestion	Ingestion of material may cause gastric disturbance, irritation. If swallowed, rinse mouth and throat with tap water. Consult physician if symptoms persist.
Most important symptoms/effects, acute and delayed	
Further information	

SECTION 5 FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, carbon dioxide, chemical foam or water fog.
Specific hazards arising from the chemical	
Special protective actions for fire-fighters	No special requirements. Organic dusts are a weak explosion hazard. Not hazardous under normal storage and use conditions.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	Provide sufficient ventilation, avoid creating dust, and provide eyewash capability.
Environmental precautions	None
Methods and materials for containment and cleaning up	Spilled product should be removed immediately to avoid formation of dust. Store in suitable container. Wash down with water. Dispose to landfill. Provide sufficient ventilation.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling	Avoid formation of dust. Provide adequate ventilation of the room when handling this product. Provide eyewash capability.
Conditions for safe storage, including any incompatibilities	No special requirements. This material is not highly combustible but contains organic matter which may be explosive as a dust in very high concentrations. Generally considered a low explosion hazard.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Control Parameters**

Name	% by Weight	TLV (ACGIH)	PEL (OSHA)
Dolomite	16389-88-1	10 mg/m ³	5 mg/m ³
Iron oxide	1309-37-1	5 mg/m ³ {3}*	10 mg/m ³ {5}*
Protease	9014-01-1	0.00006 mg/m ³ (as pure protease)	
Amylase	9000-90-2	None established	
Diammonium Phosphate	7783-28-0	10 mg/m ³ {3}*	15 mg/m ³ {5}*
Urea	57-13-6	10 mg/m ³ {3}*	15 mg/m ³ {5}*
Crystalline silica	14808-60-7	0.1 mg/m ³	0.1 mg/m ³
Cobalt oxide	7791-13-1		10 mg/m ³ {5}*
Nickel Chloride	7791-20-0	01 mg/m ³ {3}*	1 mg/m ³ {5}*
Wheat bran		10 mg/m ³ (nuisance dust)	
Corn gluten		10 mg/m ³ (nuisance dust)	

Ground and dehydrated algae		10 mg/m ³ (nuisance dust)	
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* Specific limits not set for these chemicals. Limits are shown for Particles Not Otherwise Regulated (PNOR) or Particles Not Otherwise Classified (PNO). First number is for total dust second number { } is for respirable dust

Personal Safety Equipment

Eye Protection	Safety glasses with side shields or face shield.
Skin Protection	Wear long-sleeve shirt, trousers, safety shoes, gloves (rubber or vinyl).
Respiratory protection	Dust mask or respirator for particle removal (NIOSH).
Industrial Hygiene	Maintain good housekeeping. Avoid dusty conditions. Wash hands and exposed skin after contact. Avoid contact with food or food preparation surfaces. Remove and wash contaminated clothing.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light brown granular powder
Odour	Mild fishy odor
Odour threshold	Information not available
pH	5.5- 8.0 (5% suspension)
Melting point /Freezing Point	Information not available
Initial Boiling point and boiling point range	Does Not Apply
Flash Point	Does Not Apply
Evaporation rate	Does Not Apply
Flammability (solid; gas)	Information not available
Upper/lower flammability or explosive limits	Does Not Apply
Vapour pressure	Does Not Apply
Vapour density	Does Not Apply
Relative density	Information not available
Solubility (ies)	Insoluble in water
Partition coefficient: n-octanol/water	Does Not Apply
Auto-ignition temperature	Information not available
Decomposition temperature	Information not available
Viscosity	Does Not Apply
Other Physical/Chemical Properties	Information not available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions and use.
Possibility of hazardous reactions	None known
Conditions to avoid	Freezing or temperatures greater than 100°F (40°C)
Incompatible materials	Strong acids, bases or oxidizers
Hazardous decomposition products	None known

SECTION 11 TOXOLOGICAL INFORMATION

Acute toxicity	Information not available
Skin Corrosion/Irritation	Information not available
Serious Eye Damage/Irritation	Information not available
Respiratory or Skin Sensitization	May cause respiratory allergy in susceptible individuals (shortness of breath, wheezing, labored coughing).
Ingestion	Ingestion of material may cause gastric disturbance, irritation shock, liver damage, tachycardia, and death.
Germ Cell Mutagenicity	Information not available
Carcinogenicity	Crystalline silica probably carcinogenic NTP: x IARC Monographs: x OSHA Regulated: x Product may contain <1% crystalline silica (CS). IARC has classified CS as probably carcinogenic for humans (2A). NTP lists CS as a substance which may reasonably be anticipated to be a carcinogen. CS is a known cause of silicosis (a non-cancerous lung disease).
Reproductive Toxicity	Information not available
Specific Target Organ Toxicity – Single Exposure	Information not available
Specific Organ Toxicity – Repeated Exposure	Information not available
Aspiration Hazard	Information not available
General Remarks	Enzymes in this product are non-toxic (LD 50 >2 g/kg in rats).

SECTION 12 ECOLOGICAL INFORMATION

Toxicity	Application of product to water sources may stimulate algae growth.
Persistence and degradability	Readily biodegradable
Bioaccumulative potential	Information not available
Mobility in Soil	Information not available
Other adverse effects	Information not available

SECTION 13 DISPOSAL CONSIDERATIONS

Methods Dispose of in accordance with current Federal, State, and Local regulations.
Containers

SECTION 14 TRANSPORTATION INFORMATION

UN Number	Mixture not classified as Hazardous according to Regulation (EC) 1272/2008.
UN Proper Shipping Name	n/a
Transport Hazard Class	n/a
Packing Group (if applicable)	n/a
Environmental Hazards	n/a
Special Precautions for User	n/a
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code	n/a
DOT Proper Shipping Name	Chemicals not otherwise indexed (NOI) non-hazardous.

SECTION 15 REGULATORY INFORMATION

EU Directive 2000_54 regarding risks from biological agents: micro-organisms in Class 1 may be used without restriction.

WGK (Water Hazards Class): 0 non-hazardous to water

Canadian WHMIS: Controlled product Hazard Class D2A (respiratory sensitizer); Toxic Class D2B (eye irritant)

All ingredients used are listed on the USEPA TSCA Inventory list.

SECTION 16 OTHER INFORMATION

Key: N/A, n/a – Not available

Mixture classified as not dangerous according to Regulation (EC) 1272/2008.

Observe employment restrictions for people.

Product is not listed with IARC, NTP, ACGIH or OSHA as a carcinogen.

Components not precisely identified are proprietary or non-hazardous. All chemical ingredients appear on the EPA TSCA inventory.

The microbes in this product are Class 1 microbes, defined by the US Centers for Disease Control as not likely to cause disease in healthy humans and animals. However, contact with open wounds should be avoided; persons who have a compromised immune system or a history of severe allergic response should avoid contact and/or breathing dust or mist from product handling or manufacturing processes.

The information contained in this Safety Data Sheet, as of the issue date, is believed to be true and correct. However, the accuracy or completeness of this information and any recommendations or suggestions are made without warranty or guarantee. Since the conditions of use are beyond the control of our company, it is the responsibility of the user to determine the conditions of safe use of this product. The information in this sheet does not represent analytical specifications; for this information contact Monera Technologies Corporation, Technical Department.