



**SAFETY DATA SHEET**

According to OSHA Hazard Communication Standard 29 CFR 1910.1200; GHS 4<sup>th</sup> Revision

**SECTION 1 IDENTIFICATION**

Product Name	<b>MICROCAT®-XBS Hydrocarbon Degrading Bioformula</b>
Identified uses	Bioformula for bioremediation of contaminated soils.
Company	Bioscience, Inc. 2201 Hangar Place, Suite 200 Allentown, PA 18109 Phone: (800) 627-3069 (484) 245-5232
Website	www.bioscienceinc.com

**SECTION 2 HAZARD IDENTIFICATION**

Hazard Classification	Category	H-statement
Acute toxicity, Inhalation	Not Classified	
Acute toxicity, Oral	Not Classified	
Acute toxicity, Dermal	Not Classified	
Skin irritant, (category 2)	May cause skin irritation	H315
Eye irritant (category 2A)	Causes serious eye irritation	H319
Mutagenicity	Unknown	
Carcinogenicity	Unknown	
Reproductive toxicity	Unknown	

*Hazard pictograms*



*Signal words*

Warning

*Hazard statements*

Causes skin irritation (H315)

Causes serious eye irritation (H319)

*Precautionary statements*

P264 – Wash thoroughly with soap and water after handling.

P280 – Wear protective gloves, eye and/or face protection.

P302 + P352 – IF ON SKIN: Wash with soap and plenty of water.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do so. 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 before reuse.

Further information

Crystalline silica is a known cause of silicosis (a non-cancerous lung disease). Prolonged and/or repeated inhalation must be avoided.

Other hazards

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Chemical Identity**

**Common name**

**Synonyms**

Non-pathogenic, naturally occurring microorganisms absorbed on wheat bran and corn gluten

**Hazardous Components**

**Chemical Name (Concentration)**

**CAS-No**

*Dolomite (< 45%)*

16389-88-1

*Crystalline silica (< 0.4%)*

14808-60-7

**Non-Hazardous Components**

**Name**

**CAS-No**

*Wheat bran*

116469-86-4

Corn gluten	66071-96-3
Diatomaceous Earth	91053-39-3
Urea (1 – 3 %)	57-13-6
Diammonium Phosphate (<1%)	7783-28-0

#### SECTION 4 FIRST-AID MEASURES

Eye	Product may cause eye irritation. Direct contact with eyes should be avoided. In case of contact with eyes, flush eyes with water for at least 15 minutes. If irritation persists, seek medical attention.
Skin	Product may cause skin irritation. Direct contact with skin should be avoided. In case of contact with skin, wash skin with soap and water. Remove contaminated clothing and wash.
Inhalation	May cause sensitization by inhalation in hypersensitive individuals. 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 exhibited.
Ingestion	Ingestion of material may cause mouth and throat irritation and/or gastric disturbance. If swallowed, rinse mouth and throat with tap water. Drink water.
Most important symptoms/effects, acute and delayed	
Further information	<i>Product is not listed with IARC, NTP, ACGIH or OSHA as a carcinogen.</i>

#### SECTION 5 FIRE-FIGHTING MEASURES

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

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	Provide sufficient ventilation.
Environmental precautions	Advice for emergency responders: protective equipment see section 8
Methods and materials for containment and cleaning up	None
	Spilled product should be removed immediately to avoid formation of dust. Contain spill, sweep up avoiding airborne dust. Provide sufficient ventilation.

#### SECTION 7 HANDLING AND STORAGE

Precautions for safe handling	Avoid creating dust. Adequately ventilate when handling this product. Provide eyewash capability.
Conditions for safe storage, including any incompatibilities	No special requirements. Organic dusts are a weak explosion hazard. Not hazardous under normal storage and use conditions.

#### SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

##### Control Parameters

Name	% by Weight	TLV (ACGIH)	PEL (OSHA)
Dolomite	< 45	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>
Urea	<1 – 3	10 mg/m <sup>3</sup> {3}*	15 mg/m <sup>3</sup> {5}*
Diammonium Phosphate	< 1	10 mg/m <sup>3</sup> {3}*	15 mg/m <sup>3</sup> {5}*
Crystalline silica	< 0.4	0.1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>
Wheat bran		10 mg/m <sup>3</sup> (nuisance dust)	
Corn gluten		10 mg/m <sup>3</sup> (nuisance dust)	
Ground and dehydrated algae		10 mg/m <sup>3</sup> (nuisance dust)	

\* 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, and rubber or vinyl gloves.
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. If exposure of food surfaces occurs, wash with germicidal detergent or chlorine bleach. Remove and wash contaminated clothing.

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## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

BASIC PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Tan granular powder
Odour	Mild odor
Odour threshold	Information not available
pH	(1% suspension) 6 – 9
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)	< 5%
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	n/a

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## SECTION 10 STABILITY AND REACTIVITY

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

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## SECTION 11 TOXOLOGICAL INFORMATION

Acute toxicity	Enzymes in this product are non-toxic (LD 50 >2 g/kg in rats). Inhalation of dust may cause respiratory allergy in susceptible individuals.
Skin Corrosion/Irritation	Mild
Serious Eye Damage/Irritation	Mild
Respiratory or Skin Sensitization	May cause respiratory allergy in susceptible individuals: sensitization (shortness of breath, wheezing, and labored coughing) take individual to emergency room.
Ingestion	May cause mouth and throat irritation and/or gastric disturbance.
Germ Cell Mutagenicity	Information not available
Carcinogenicity	Crystalline silica probably carcinogenic NTP: No IARC Monographs: No OSHA Regulated: No
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	Product may contain <1% crystalline silica (CS) Crystalline silica probably carcinogenic. 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).

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## SECTION 12 ECOLOGICAL INFORMATION

Toxicity	Information not available
Persistence and degradability	Readily biodegradable
Bioaccumulative potential	Information not available
Mobility in Soil	Information not available
Other adverse effects	Information not available

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### SECTION 13 DISPOSAL CONSIDERATIONS

Methods Dispose of all wastes in accordance with all Federal, state and local agencies.  
Containers n/a

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### 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.

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### 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.

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

Canadian WHMIS: Toxic Class D2B (eye irritant)

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### 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.

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 Bioscience, Inc. Technical Department.