

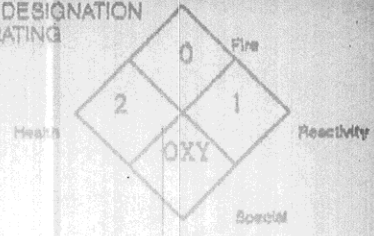
# MATERIAL SAFETY DATA SHEET

NFPA 704 DESIGNATION HAZARD RATING



Great Western Chemical Co.

- 4 - Extreme
- 3 - High
- 2 - Moderate
- 1 - Slight
- 0 - Insignificant



PRODUCT NAME:	HYDROGEN PEROXIDE 50%		
CHEMICAL NAME:	Hydrogen Peroxide Solution	CHEMICAL FAMILY:	Peroxides
FORMULA:	H <sub>2</sub> O <sub>2</sub> (in water)	MOLECULAR WEIGHT:	34.02 (in water)
D.O.T. SHIPPING CLASSIFICATION:	Hydrogen Peroxide Solution (40% to 52% peroxide) Oxidizer UN2014		

### I. PHYSICAL DATA

BOILING POINT 760mm, Hg	237° F.	FREEZING POINT	-52° F.
SPECIFIC GRAVITY (WATER = 1)	1.195 @ 68° F.	pH of 1% (w/v) SOLUTION	3.0 - 5.0
PERCENT VOLATILE ORGANICS BY VOLUME	N/A	SOLUBILITY IN WATER	Complete
APPEARANCE AND ODOR	Clear, colorless liquid with a slightly pungent, irritating odor.		

### II. HAZARDOUS INGREDIENTS

MATERIAL	HAZARD	%	ACGIH TLV (Units)	OSHA PEL
Hydrogen Peroxide; CAS #7722-84-1	Oxidizer	50 min.	Air: 1 ppm	Air: TWA 1 ppm

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III. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method(s))	N/A	AUTOIGNITION TEMPERATURE	N/A
FLAMMABLE LIMITS IN AIR, % by volume		LOWER	N/A
		UPPER	N/A
EXTINGUISHING MEDIA	Water, foam, carbon dioxide and dry chemicals.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	<p>May produce hazardous fumes or hazardous decomposition products.</p> <p>Strong Oxidizer! Contact with flammable or combustible vapors and organic materials may initiate a fire or possibly an explosion. It will support combustion.</p> <p>Contact with some metals can irritate a catalytic decomposition liberating large amounts of oxygen and heat.</p>		
SPECIAL FIRE FIGHTING PROCEDURES	When fire fighting, wear full protective equipment including self-contained breathing apparatus.		

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Not established on this product.		
ROUTE OF EXPOSURE	EYE CONTACT	SKIN CONTACT	SKIN ABSORPTION
	"Danger" Oxidizer	"Danger" Oxidizer	No data published.
EFFECTS OF OVEREXPOSURE	INHALATION	INGESTION	
	Harmful if inhaled.	Harmful if swallowed.	
EMERGENCY AND FIRST AID PROCEDURES	<p>Causes severe eye and skin irritation or burns. Harmful if swallowed or inhaled.</p> <p><b>EYES:</b> Immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower lids occasionally. Call a physician immediately.</p> <p><b>EXTERNAL:</b> In case of contact, immediately flush skin with plenty of clean running water for at least 15 minutes, while removing contaminated clothing and shoes. If burn or irritation occurs, call a physician.</p> <p><b>INTERNAL:</b> IF swallowed, do NOT induce vomiting. Immediately drink a large quantity of milk or water and call a physician. Never give anything by mouth to an unconscious person.</p> <p><b>INHALATION:</b> If inhaled, immediately move to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.</p>		

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HYDROGEN PEROXIDE 50%

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CHRONIC EXPOSURE EFFECTS	Repeated exposure can cause dermatitis with destruction of tissue; otherwise, same as for overexposure.
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V. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID	Hot Storage
UNSTABLE	STABLE <input checked="" type="checkbox"/>		

INCOMPATIBILITY (materials to avoid)	Organics or other flammable and combustible material, Catalytic metals, reducing agents and other oxidizers.
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HAZARDOUS DECOMPOSITION PRODUCTS	Decomposition produces heat, steam and large volumes of oxygen
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HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	None
MAY OCCUR	WILL NOT OCCUR <input checked="" type="checkbox"/>		

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Remove all ignition sources and contain spilled liquid. (For small spills, add dry material to contain.) Wearing recommended protective equipment, and using explosion-proof equipment, remove bulk of liquid; add dry material to absorb remaining liquid; pick up and containerize for product recovery or disposal. Flush area with water; collect rinsates for disposal or sewer, as appropriate.
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WASTE DISPOSAL METHOD	<p>This product, if disposed as shipped, meets EPA criteria of a hazardous waste as specified in 40 CFR 261 on the basis of its ignitability. Dispose of product in a licensed hazardous waste disposal facility in accordance with all applicable laws.</p> <p>When empty, thoroughly rinse container with water before disposal, return to manufacturer or any other industrial use.</p>
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VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)		If the OSHA-PEL is exceeded, a NIOSH approved respirator with supplied air or a S.C.B.A. is required.		
VENTILATION	LOCAL EXHAUST	Required	SPECIAL	None
	MECHANICAL (general)	As a suppliment to the local exhaust system.	OTHER	N/A
PROTECTIVE GLOVES		Rubber or synthetic rubber		
EYE PROTECTION		Chemical Goggles and full face shield.		
OTHER PROTECTIVE EQUIPMENT		Rubber or PVC slicker suit, rubber boots, eyewash, safety shower		

VIII. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING

FOR INDUSTRIAL USE ONLY.

Keep out of reach of children.

Do not get product in eyes, on skin or on clothing.

Use only with adequate ventilation.

Keep container tightly closed when not in use.

Wash thoroughly after handling.

This product is not manufactured to contain a known carcinogen or reproductive toxin. Extremely small amounts of these materials may be present in this product from general environmental sources.

OTHER HANDLING AND STORAGE CONDITIONS

Store in a cool, well ventilated area away from heat and oxidizable organic materials.

Do not allow this product to stand in an open container as water evaporation can occur and it may concentrate the peroxide content to the point it becomes sensitive to shocks and can explode.

## FAX Transmission Cover Sheet

TO: Paul Smith

FROM: Doug Lovell

NUMBER OF PAGES TO FOLLOW: 8  
(Not including this cover sheet)

ORIGINAL WILL NOT BE MAILED

MESSAGE: MSDS on hydrogen peroxide, catalog cut on microbe formulation, MSDS on microbe formulation. The type of culture is "baccillus subtilis".

### STREAMBORN

Mail: P.O. Box 9504, Berkeley CA 94709-0504

Office: 900 SantaFe Avenue, Albany CA 94706/

415/528-4234

PRODUCT DATA (cont.)

Application Program:

In general MICROCAT-XBS is applied on a regular basis. Your BMI Technical Representative will provide you with a custom-tailored application program to fit the specific needs of your treatment process.

Disclaimer:

The information contained in this data sheet is a guide to the use of MICROCAT products and is based on tests and information believed to be reliable. All information is given to and accepted by user at user's risk and confirmation of its validity and suitability to particular cases should be obtained independently. Bioscience Management, Inc. makes no guarantee of results and assumes no obligation or liability in connection with the information contained herein. Bioscience Management, Inc. does not warrant against infringement of, and this data sheet is not to be construed as a license to operate under, any patents.

BIOSCIENCE MANAGEMENT INC.  
320 VALLEY CENTER PARKWAY, SUITE 200  
SAN FRANCISCO, CA 94107

160901

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BIOSCIENCE  
MANAGEMENT INC





## Specialized Microbes for Waste Treatment

MICROCAT®-XBS

OIL DEGRADING BIOFORMULA

type: XBS

### General:

MICROCAT-XBS is a synergistic blend of preselected, adapted microorganisms for biodegrading oily wastes in water, soil or sludges.

### Applications:

MICROCAT-XBS combines preselected, adapted microbial strains with enhanced oil-degrading capability. When used on a regular basis, this combination can improve the breakdown of oily mixtures at nominal cost. MICROCAT-XBS contains a combination of aerobic and facultative anaerobic microorganisms selected from nature for their ability to break down a broad range of oily substances encountered in wastes from a spectrum of sources including steel making, metal forming, hydrocarbon processing and refining and domestic refuse.

### General Product Characteristics:

Appearance	Beige, Granular Powder
Contents	Preselected, adapted microorganisms
Nominal Microbe Count	$3 \times 10^9$ /gram
Shelf Life	One Year
Storage/Handling	45° - 105°F; Dry conditions; Do not freeze.
Safety	CAUTION: Active enzymes present. Avoid inhalation of dry powder or liquid mist. Exposure of skin to the dry powder or strong solution should be avoided as considerable irritation may result. If material contacts skin or eyes, flush thoroughly and repeatedly with water.
Packaging	Fifty pound drums

PRODUCT DATA

02/07/91

14:38

BIOSCIENCE MANAGEMENT INC.

P.05

### Material Safety Data Sheet

### U.S. Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



May be used to comply with  
OSHA's Hazard Communication Standard,  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that.

IDENTITY (As Used on Label and List)

MICROCAT®-XBS

#### Section I

Manufacturer's Name

BIOSCIENCE MANAGEMENT, INC.

Emergency Telephone Number

(215)974-9693

Address (Number, Street, City, State, and ZIP Code)

1530 VALLEY CENTER PARKWAY

Telephone Number for Information

Same

SUITE 120

Date Prepared

1/17/89

BETHLEHEM, PA 18017

Signature of Preparer (optional)

#### Section II -- Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))

OSHA PEL

ACGIH TLV

Other Limits  
Recommended

% (optional)

NONE

Contains nonpathogenic bacteria  
and degradation enzymes adsorbed on wheat bran  
CAS No. 68909-35-3

100%

DOT Hazard Class: N/A

DOT Label: N/A

DOT Proper shipping name: Chemicals Not Otherwise Indexed  
(NOI), Non-hazardous

#### Section III -- Physical/Chemical Characteristics

Boiling Point

N/A

Specific Gravity (H<sub>2</sub>O = 1)

≥ 1

Vapor Pressure (mm Hg.)

N/A

Melting Point

N/A

Vapor Density (AIR = 1)

N/A

Evaporation Rate  
(Butyl Acetate = 1)

N/A

Solubility in Water

Nil

Appearance and Odor

Tan granular powder, yeast odor.

#### Section IV -- Fire and Explosion Hazard Data

Flash Point (Method Used)

Not available

Flammable Limits

Not available

LEL Not

Available

UEL Not

Available

Extinguishing Media

Dry chemical, carbon dioxide, chemical foam, water fog

Special Fire Fighting Procedures

Self-contained breathing apparatus and protective clothing recommended

for all chemical involved fire-fighting

Unusual Fire and Explosion Hazards

NONE