

Microban Products Company
11515 Vanstory Drive
Huntersville, NC 28078
Telephone (704) 875-0806

24-HOUR EMERGENCY TELEPHONE
(In United States) 1-800-535-5053
(International) 352-323-3500
InfoTrac Chemical Monitoring System

Material Safety Data Sheet

MICROBAN® Additive ZO3

Date: September 5, 2003

1. PRODUCT IDENTIFICATION

PRODUCT NAME: Microban Additive ZO3
PRODUCT NUMBER: R30300-380
USE: Additive to protect products
GENERIC DESCRIPTION: Antimicrobial additive

2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS NO	INGREDIENT	PERCENT	EXPOSURE LIMITS		
			ACGIH TWA	OSHA STEL	OSHA PEL
13463-41-7	Zinc pyrithione	36-40%	(0.35 mg/m ³ – TWA, manufacturer recommended)		
Proprietary	Zinc compound	10-20%	10 ppm (dust)	15 (total dust)	
13845-36-8	Potassium tripolyphosphate	0-2%	None		
Proprietary	Dispersing agent	0-2%	None		
7732-18-5	Water	45-50%			

3. HAZARD IDENTIFICATION

HMIS Hazard Classification:
Health: 2
Flammability: 0
Reactivity: 0

NFPA Hazard Classification:
Health: 2
Flammability: 0
Reactivity: 0

ROUTE(S) OF ENTRY: Inhalation, eye and dermal contact, ingestion

POTENTIAL HEALTH EFFECTS: May be harmful by inhalation and if swallowed. Eye, skin and respiratory tract irritant. Repeated exposure to high amounts has caused skeletal muscle atrophy and peripheral nerve damage in some animal studies, these results have not been observed in humans. Ingestion may cause gastrointestinal upset/distress.

Risk and Safety Phrases

R Phrases: R20/22-37/38-41. Harmful by inhalation and if swallowed. Irritating to respiratory system skin. Risk of serious damage to eyes.

S Phrases: S26-36/37/39. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; Wear suitable protective clothing, gloves and eye/face protection.

Symbols: Xn (Harmful)

Other: Nervous system toxin

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4. FIRST AID MEASURES

EYES: Immediately flush eyes with running water for at least 15 minutes. Call a physician at once.

SKIN: Immediately flush with water for 15 minutes. Wash with mild soap and water. If irritation occurs, get medical attention. If clothing is contaminated, remove and wash before reuse.

INGESTION: Immediately drink large quantities of water. Induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION: If person experiences nausea, headache or dizziness, remove to fresh air. If breathing is difficult, administer oxygen, keep the person warm and at rest. Get medical attention. If breathing has stopped, artificial respiration should be given immediately.

5. FIRE AND EXPLOSION HAZARDS

FLAMMABLE LIMITS	Not available
FLASH POINT:	None
FLAMMABLE LIMITS IN AIR-LOWER:	Not available
FLAMMABLE LIMITS IN AIR-UPPER:	Not available
AUTO-IGNITION TEMPERATURE:	Not available

GENERAL HAZARDS: None known.

FIRE FIGHTING EXTINGUISHING MEDIA: Carbon dioxide, water fog, foam

FIRE FIGHTING EQUIPMENT: Firefighters should wear self-contained (NIOSH approved) breathing apparatus with full face shield and protective clothing when fighting fires involving chemicals.

FIRE AND EXPLOSION HAZARDS: None.

HAZARDOUS COMBUSTION PRODUCTS: Decomposition and combustion products may be toxic. Thermal decomposition and burning may produce oxides of carbon, sulfur and nitrogen.

EMERGENCY RESPONSE GUIDEBOOK INFORMATION: None

6. ACCIDENTAL RELEASE MEASURES

Evacuate all non-essential personnel. Hazardous concentrations in air may be found in local spill area. Stop source of spill as soon as possible and notify appropriate personnel.

WATER SPILL: This material is heavier than and insoluble in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so. If unable to divert, create a filtration dam to remove material. There are no methods available to completely eliminate any toxicity this product may have on aquatic environments.

LAND SPILL: Prevent material from entering sewers, waterways, or low areas. Spill material may be absorbed using any basic absorbent material. Do not place spill materials back in their original containers. Containerize and label all spill materials properly. Decontaminate all clothing and the spill area using detergent and flush with large amounts of water.

7. HANDLING AND STORAGE

Do not take internally. Avoid contact with skin, eyes and clothing. Avoid breathing mist or vapor. Wear protective eyewear

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and rubber gloves. Upon contact with skin or eyes, wash off with water.

Store in a cool, dry well ventilated place. Store at temperatures above 10°C (50°F) and below 54°C (129°F)

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT: Wear appropriate equipment to prevent probability of exposure and personal contact. Deluge safety shower and eye wash should be located near work area.

EYE PROTECTION: Chemical goggles or side-shield safety glasses and a face shield.

SKIN PROTECTION: Wear appropriate gloves as a standard handling procedure.

RESPIRATORY PROTECTION: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Type: MSHA-NOSH approved respirator with a organic vapor cartridge and a HEPA prefilter.. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998.

ENGINEERING CONTROLS: Good general ventilation, typically 10 air changes per hour. Local exhaust recommended, mechanical exhaust acceptable.

EMERGENCY RESPONSE PROTECTION: No additional specialized equipment should be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	Viscous liquid dispersion
COLOR:	Off-white to tan
ODOR:	Very faint
ODOR THRESHOLD:	Not available
BOILING POINT:	Approximately 100°C (212°F)
MELTING POINT:	Not applicable
FREEZING POINT:	Approximately 1.5°C (35°F)
BULK DENSITY:	11.8 lbs/gallon
pH:	10-11 (5% slurry in distilled water) at 25°C
SOLUBILITY IN WATER:	0.0008% (active ingredient)
DECOMPOSITION TEMPERATURE:	240°C (464°F)
SPECIFIC GRAVITY:	Approximately 1.4 g/cc
EVAPORATION RATE:	Not available
VAPOR PRESSURE:	23 mm Hg at 25°C
VAPOR DENSITY:	Not available
VOLATILES, PERCENT VOLUME	45-50%

10. STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBILITY: Strong oxidizing agents, ferrous metal, copper and copper alloys.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Decomposition and combustion products may be toxic. Thermal decomposition and burning may produce oxides of carbon, sulfur and nitrogen.

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11. TOXICOLOGICAL INFORMATION

ORAL TOXICITY: >500 mg/kg (rats)

DERMAL TOXICITY: > 2,000 mg/kg (rabbits)

INHALATION TOXICITY: Approximately 1.7 mg/L (based on active ingredient)

EYE IRRITATION: Severe irritant. May cause vision impairment and corneal damage

SKIN IRRITATION: Irritant

CHRONIC EFFECTS: Based upon animal studies chronic exposure may cause skeletal muscle atrophy and peripheral nerve damage characterized by general muscle weakness. Product not listed as a carcinogen by OSHA, IARC, or NTP.

12. ECOLOGICAL INFORMATION

This product has not been tested, the following is based upon a similar product.

Bluegill sunfish	96 Hr LC50 = 0.021 mg/L	Flow-through
Brook trout	96 Hr LC50 = 0.008 mg/L	Flow-through
Fathead minnow	96 Hr LC50 = 0.004 mg/L	Flow-through

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Either incinerate in a furnace or disposed by landfill where permitted under appropriate federal, state and local regulation

CONTAINER DISPOSAL INFORMATION: Emptied container may contain product residue and should not be reused.

RCRA HAZARD CLASS: Refer to Section 15: Regulatory Information for RCRA status.

14. TRANSPORT INFORMATION

DOT: Nonhazardous

IATA: Nonhazardous

IMDG: Nonhazardous

15. REGULATORY INFORMATION

OSHA: This product is hazardous under the criteria of the Federal OSHA Hazard Communications Standard (29 CFR 1910.1200).

TSCA Section 8b: All components are either exempt or listed in TSCA inventory.

SARA 302 Extremely Hazardous Substance(s): None

SARA 313 Health Hazard: Immediate health hazard, delayed health hazard

SARA 313 Toxic Chemicals List: Bis(1-hydroxy-2(1H)-pyridinethionato-O,S)-(T-4) zinc (zinc compounds); zinc compound

Clean Air Act - Hazardous Air Pollutants: Does not contain any hazardous air pollutants under U.S. clean Air Act Section 12 (40 CFR 61).

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Clean Air Act - Ozone Depleting Substances: This product neither contains or was manufactured with a Class I or a Class II ozone depleting substance as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A+B).

Clean Water Act - Priority Pollutants: Does not contain any priority pollutants listed under the U.S. Clean Water Act Section 307 (2)(1) Priority Pollutant List (40 CFR 401.15).

CERCLA: Not a hazardous substance under CERCLA (40 CFR 302.4)

RCRA: Not a hazardous waste under RCRA (40 CFR 261.21).

California Proposition 65: This product contains detectable amounts of a chemical(s) known to the State of California to cause cancer and/or birth defects or other reproductive harm.

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. This material safety data sheet was prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and with the Workplace Hazardous Materials Information System (WHMIS).

This supersedes any previous information.