MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS:
MICRO FLO COMPANY
P.O. BOX 772099
MEMPHIS, TN 38117

EMERGENCY TELEPHONE NUMBERS:
(800) 424-9300 CHEMTREC, transportation and spills)
(800) 900-4044 (Poison Control Center, human health)
(800) 451-8461 (ASPCA, animal health)

PRODUCT NAME : AZINPHOSMETHYL 50W
AZINPHOSMETHYL 50W SOLUBLE
CHEMICAL NAME : O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-y1) methyl] phosphorodithioate
CHEMICAL FAMILY : organophosphate
PRODUCT CODE : EPA Reg. No. 51036-164

SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACIGH TLV
Azinphosmethyl	50.0	86-50-0	0.2 mg/M^3 (skin)	0.2 mg/M^3 (skin)
Silica (quartz)	<5.0	14808-60-7	100 mg/M^3 (respirable)	100 mg/M^3 (respirable)

SECTION 3 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

EMERGENCY OVERVIEW: Tan powder with rotten cabbage like mercaptan odor.
- Cholinesterase inhibitor, fatal if swallowed, inhaled or absorbed through skin.
- Causes moderate eye irritation.
- Avoid breathing dusts or spray mist.
- Avoid contact with eyes, skin or clothing.
- Keep out of reach of children.

Symptoms of over exposure are headaches, dizziness, nausea, vomiting, cramps, weakness, blurred vision, pin point pupils, tightness in chest, labored breathing, nervousness, sweating, watering of eyes, drooling, muscle spasms and coma.

POTENTIAL HEALTH HAZARDS:
EYE - Moderately irritating to the eyes. Degree of injury will depend on the amount of material that gets into eye and the speed and thoroughness of the first aid treatment.
SKIN - Harmful if absorbed through the skin. Large exposures could be fatal.
INHALATION - Spray mists or dust concentrations are harmful if inhaled. High concentrations may be fatal.
INGESTATION - Poison - may be fatal if swallowed.
POTENTIAL PHYSICAL HAZARDS: Powdered material may form an explosive mixture in air. Can decompose at high temperatures forming toxic and/or flammable gases. Flammable vapor/air mixtures may be explosive.
ENVIRONMENTAL HAZARDS: Toxic to fish, other water organisms and bees. Keep out of waterways.

SECTION 4 - FIRST AID MEASURES

SYMPTOMS OF POISONING: A sense of "tightness" in the chest, sweating, contracted pupils, stomach pains, vomiting and diarrhea. IN CASE OF POISONING, CALL A PHYSICIAN IMMEDIATELY. HAVE VICTIM LIE DOWN AND KEEP QUIET.
IF SWALLOWED: Immediately administer milk or water freely and induce vomiting by giving one dose (1/2 oz. or 15 ml.) of syrup of ipecac. If vomiting does not occur

within 10 to 15 minutes, administer second dose. If syrup of ipecac is not available induce vomiting by sticking finger down throat. Repeat until vomit fluid is clear. Professional medical assistance should be secured immediately. Do not induce vomiting, or give anything by mouth to a person who is unconscious or convulsing.
IF IN EYES: Hold eyelids open and wash with plenty of water. If irritation persists get medical attention.
IF INHALED: Remove from contaminated area and have patient lie down and keep quiet. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
IF ON SKIN: Remove contaminated clothing and wash skin immediately with warm soap and water. Observe victim closely. If signs of intoxication (poisoning) appear, get medical attention immediately.
NOTE TO PHYSICIAN: This product is an organophosphorus ester that inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system and the somatic motor nerves. Watch for pulmonary edema, which may develop in serious case of poisoning even after 12 hours. At first sign of pulmonary edema, the patient should be placed in oxygen tent and treated symptomatically.
ANTIDOTE: Administer atropine sulfate in large therapeutic doses. Repeat as necessary to the point of tolerance. 2-PAM is also antidotal, and may be administered in conjunction with atropine. Do not give morphine.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT (method): Will not flash under normal use conditions.
FLAMMABLE LIMITS (LFL-UFL): Not applicable.
FIRE AND EXPLOSION HAZARD: Under normal use, product should have little risk of a dust explosion. However, data indicates that airborne dusts at sufficient concentrations (approximately 0.18 oz./ft^3) can form explosive mixtures with air. Should a dust cloud develop, turn off any devices that could cause a spark and evacuate area until dust cloud dissipates. Product can burn in a fire, releasing irritating, toxic and/or flammable gases due to thermal decomposition or combustion. Flammable vapor/air mixtures may be explosive.
EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.
FIREFIGHTING INSTRUCTIONS: Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water run off.
FIREFIGHTING EQUIPMENT: Self-contained breathing apparatus with full facepiece. Full fire fighting turnout gear (Bunker gear).
HAZARDOUS COMBUSTION PRODUCTS: See section 10.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary personnel from entering.
SMALL SPILL: Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in chemical waste container for disposal.
LARGE SPILL: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow any absorbed material to solidify, and scrape up for disposal. After removal, flush contaminated area thoroughly with water. Large spill areas may be neutralized with dilute alkaline solutions of soda ash or lime. Pick up wash liquid with additional absorbent and place in a chemical waste container for disposal. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Wear appropriate personal protection equipment. (See Exposure Controls, Personal Protection section.) If a significant amount of this material is released into a work area, evacuate unprotected personnel from the area immediately.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Use only in a well-ventilated area. Minimize dust generation and accumulation.
STORAGE: Keep away from food, feed and drinking water. Store in a well ventilated, dry place away from heat and other sources of ignition. Do not exceed a storage temperature of 100 F.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS (8 HOUR TWA): (Refer to Section 3). Exposure to airborne dust at > 5 mg/M^3 is an immediate and dangerous health hazard.

ENGINEERING CONTROLS: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Use of localized exhaust is recommended when practical. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT:
EYE PROTECTION - Safety glasses or goggles.
CLOTHING - Coveralls over short-sleeved shirt and short pants. Shoes plus socks. Chemical-resistant headgear for overhead exposure. Chemical resistant apron when cleaning equipment, mixing, or loading.
GLOVES - Waterproof gloves.
RESPIRATOR - When handling in enclosed areas where exposure limits may be exceeded, use a respirator with either an organic vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). For outdoor exposure, mixers and loaders must wear a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:
1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Fine tan powder.
ODOR: Strong rotten cabbage like mercaptan odor.
MOLECULAR WEIGHT (technical): 317.3
MOLECULAR FORMULA (technical): $C_{10}H_{12}N_3O_3PS_2$
BOILING POINT: Not applicable.
MELTING POINT: 153 F.
BULK DENSITY: 25 - 30 $\#/ft^3$
pH: 6.0 (1% w/w in water)
VAPOR PRESSURE: Negligible.
% VOLATILE: < 3%
WATER SOLUBILITY: Completely dispersible.

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable, however may decompose if heated.
CONDITIONS TO AVOID: Avoid temperatures above 100◦F (40◦C) and high moisture conditions for prolonged periods.
INCOMPATIBILITY WITH OTHER MATERIALS: Oxidizing agents, strong acids and alkaline conditions and materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Including but not limited to:
- Mercaptans (including methyl mercaptan)
- Dialkylsulfides (including dimethyl sulfide)
- Thiophosphates
- Oxides of hydrogen, nitrogen, sulfur, carbon and phosphorous.

HAZARDOUS POLYMERIZATION: Product will not undergo polymerization.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD_{50} (rat)	-	14.0 mg/Kg
Dermal LD_{50} (rat)	-	> 2,000 mg/Kg
Inhalation LC_{50} (rat)	-	0.08 mg/L
Eye Irritation (rabbit)	-	Moderate
Skin Irritation (rabbit)	-	Slight
Sensitization (guinea pig)	-	Non-sensitizer

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing cholinesterase depression. Acute asthma and/or other chronic pulmonary diseases due to inhalation of dusts or spray mists.
MEDICAL SURVEILLANCE: Plasma and red blood cell cholinesterase levels can be used to detect excessive exposure to azinphosmethyl. A pre-exposure baseline level cholinesterase test is recommended for persons who may be exposed to azinphosmethyl on a regular basis. Should significant cholinesterase depression (>25% from baseline level) occur, restrict further exposure until cholinesterase level has returned to normal.
CARCINOGEN STATUS:
OSHA - Not listed.
NTP - Not listed.
IARC - Azinphosmethyl not listed, quartz silica is rated 2A.
MUTAGENIC DATA: No evidence of mutagenic effects during *in vivo* or *in vitro* studies.
ADDITIONAL DATA: Not known to exhibit reproductive or teratogenic (birth defect) effects. Repeated or prolonged exposure may cause cholinesterase depression sensitization to subsequent exposures. This product contains a small amount of crystalline silica, which can cause silicosis due to long term and excessive exposure.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This pesticide is extremely toxic to fish and wildlife. Do not apply directly to water or to areas where surface water is present. Do not contaminate water by cleaning of equipment or disposal of wastes. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. This product is highly toxic to bees exposed to direct treatment or residues on crops.
FISH TOXICITY: (Technical)
96 hour LC_{50}, Rainbow trout - 0.02 ug/L
96 hour LC_{50}, Bluegill - 0.004 ug/L
AVIAN TOXICITY: (Technical)
Oral LD_{50}, Bobwhite quail - 500 mg/Kg
Oral LD_{50}, Mallard duck - 125 mg/Kg
BEE TOXICITY: (Technical)
Contact LD_{50} - Highly toxic.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE: Pesticide wastes are acutely hazardous. Dispose of in accordance with applicable Federal, state and local laws and regulations.
CONTAINER: Refer to product label.

SECTION 14 - TRANSPORT INFORMATION

DOT SHIPPING DESCRIPTION: RQ, Organophosphorous Pesticides, Solid, Toxic, 6.1, UN 2783, PG II (Azinphosmethyl), ERG # 152

DOT HAZARD CLASS:	6.1
UN NUMBER:	UN 2783
DOT PACKING GROUP:	PG II
DOT PRIMARY/SECONDARY LABEL:	Poison
DOT PRIMARY/SECONDARY PLACARD:	Poison
DOT EMERGENCY RESPONSE GUIDE #:	152

SECTION 15 - REGULATORY INFORMATION

FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act. The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide.

OSHA HAZARD COMMUNICATION STANDARD STATUS:		HAZARDOUS
CERCLA REPORTABLE QUANTITY:	1#	
SARA TITLE III STATUS:		
302 Extremely Hazardous Substance	-	Azinphosmethyl
311/312 Hazard Categories	-	Immediate
313 Toxic Chemicals	-	None
CALIFORNIA PROP 65 STATUS:		Not listed

SECTION 16 - OTHER INFORMATION

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Micro Flo's knowledge. Micro Flo makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

REVISED DATE:	July 14, 1999
REVISED FOR:	Revise Sections 3, 5, 7 & 10 Add Poison Control Center telephone numbers
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