



Material Safety Data Sheet

MOCAP[®] BRAND EC NEMATICIDE/INSECTICIDE

MSDS Number: 00000000108

MSDS Version: 1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	MOCAP [®] BRAND EC NEMATICIDE/INSECTICIDE
Chemical Name	ETHOPROP, ENT27318, V-C 9-104, MOBIL 10000, PROPHOS, ETHOPROPHOS
Synonym	ETHOPROP, ENT27318, V-C 9-104, MOBIL 10000, PROPHOS, ETHOPROPHOS
MSDS Identification Number	00000000108
Chemical Family	
Chemical Formulation	C8H19O2PS2
EPA Registration Number	264-458
Canadian Registration Number	

Aventis CropScience USA LP
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
US

For Product Use Information: (888)-AVENTIS (283-6847) Monday through Friday
8:00AM-4:30PM

For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day

For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

Product Use Description FIFRA regulated use only.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
ETHOPROP	13194-48-4		69.600
NAPHTHALENE	91-20-3		<2.800
Other ingredients (Trade secret)			

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Warning Statements:
DANGER! POISONOUS IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. RAPIDLY ABSORBED THROUGH THE SKIN. COMBUSTIBLE LIQUID.

Odor mercaptan odor

Appearance amber oily liquid.



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Immediate Effects

Eye	May be absorbed through the eye and produce symptoms similar to those from ingestion. May cause redness, tearing.
Skin	Highly toxic if absorbed through skin. May produce symptoms similar to those from ingestion. May cause redness, swelling.
Ingestion	May be fatal if swallowed. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. Aspiration of the swallowed or vomited product can cause severe pulmonary complications. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, pinpoint pupils, blurred vision, profuse sweating, involuntary shaking, excess salivation, temporary paralysis, respiratory depression, convulsions.
Inhalation	Highly toxic if inhaled. May produce symptoms similar to those from ingestion. May cause headache, nausea, vomiting.
Chronic or Delayed Long-Term	This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
Medical Conditions Aggravated by Exposure	Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

SECTION 4. FIRST AID MEASURES

Eye	Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention.
Skin	In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.
Ingestion	If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.
Inhalation	Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.
Note to Physician	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have



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occurred.

If emesis has not occurred, the stomach should be emptied by gastric lavage. This product is a cholinesterase inhibitor. Severe symptoms and signs include diarrhea, pinpoint and non-reactive pupils, respiratory difficulty, pulmonary edema, cyanosis, loss of sphincter control, convulsions, and coma. Support respiration as needed. Measures should include removal of secretions, maintenance of patent airway, and, if necessary, artificial ventilation. If cyanosis is absent, give Atropine 2-4 mg intravenously (0.5 mg/kg for children). Repeat Atropine at 5 to 10 minute intervals until atropinization occurs (dry, flushed skin, tachycardia, pupillary dilation), and maintain for 48 hours. If cyanotic, give initial atropine intramuscularly and start measures to improve ventilation. Start 2-PAM at the same time. Give 1 to 2 gm 2-PAM (20 to 40 mg/kg for children) in 100 cc saline over 15 to 30 minutes. If pulmonary edema is present, give intravenously slowly as a 5% solution in water over 5 minutes. A second dose may be given after 1 hour if muscle weakness persists. Additional doses may be given cautiously for persistent muscle weakness. May be given by intramuscular or subcutaneous routes if intravenous administration is not feasible. In case of skin contact, wash patient with soap and water followed by wash with 95% ethyl alcohol. Keep patient under constant observation for 24 to 36 hours. Symptoms may persist for 1 month.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	84 °C / 183 °F Flammability Class: COMBUSTIBLE. Method Used: Tagliabue Closed Cup
Lower Flammable Limit Upper Flammable Limit Fire and Explosion Hazards	0.6 %(V) 7 %(V) Product will burn under fire conditions.
Suitable Extinguishing Media	Recommended: dry chemical, foam, water, carbon dioxide.
Fire Fighting Instructions	Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind; keep out of low areas. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal	Evacuation Procedures and Safety: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Evacuate and isolate spill area. Stay upwind if possible. Exclude all except properly equipped emergency personnel.
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Cleanup and Disposal of Spill:
Pump any free liquid into an appropriate closed container (see Section 7: Handling and Storage). Absorb with vermiculite or other inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Decontaminate tools and equipment following cleanup.

Land Spill or Leaks

Containment of Spill:
Stop leak if it can be done without risk. Dike spill using absorbent or impervious materials such as earth, sand or clay. Follow procedure described below under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal.

Environmental and Regulatory Reporting:
Do not flush to drain. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal. Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Do not breathe vapors and mists. Do not get on skin or in eyes. Do not ingest.
Storing Procedures	Store in an area that is away from ignition sources, away from food, feedstuffs, fertilizers and seed.
Work/Hygienic Procedures	<p>Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:</p> <ul style="list-style-type: none">(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.(3) Wash exposed skin promptly to remove accidental splashes of contact with this material. <p>In addition, based upon the specific hazards of this product:</p> <ul style="list-style-type: none">(4) Do not take clothing/objects contaminated by this material off the work site.(5) Shower and change into street clothes before leaving the work site.
Min/Max Storage Temperatures	Not Available



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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.
Eye/Face Protection	Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. Face contact should be prevented through use of a face shield.
Body Protection	Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.
Respiratory Protection	When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against pesticides. Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.
General Protection	<p>Introductory Remarks:</p> <p>These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.</p>
Exposure Limits/Guidelines	Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit: ETHOPROP

Notes

TWA

STEL



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Mfg. Exp Limits		0.1 mg/cu m	
Mfg. Exp Limits		0.01 ppm	
NAPHTHALENE			
	Notes	TWA	STEL
ACGIH		52 mg/cu m	79 mg/cu m
ACGIH		10 ppm	15 ppm
OSHA		10 ppm	75 mg/cu m
OSHA		50 mg/cu m	15 ppm

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	amber oily liquid.
Odor	mercaptan odor
pH	Not Applicable
Vapor Pressure	Not Available
Vapor Density (air = 1)	Not Available
Specific Gravity	1.03 20 °C
Boiling Point	Not Available
Melting/Freezing Point	Melting Point Range: Not Available Freezing Point Range: < 0°C (32°F)
Solubility (in water)	Insoluble
Molecular Weight	242.3
Other Information	Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	This material is stable under normal handling and storage conditions described in Section 7.
Conditions to Avoid	extreme heat
Incompatibility with	strong oxidizing agents, bases Decomposition Temperature Range: 203°C (397°F)
Hazardous Products of Decomposition	Decomposition Type: thermal oxides of sulfur



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oxides of phosphorus
oxides of carbon

**Hazardous
Polymerization
(Conditions to avoid)** not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity Toxicological Information and Interpretation
Rat (female) LD50 - lethal dose 50% of test species, 15.9 mg/kg.
Rat (male) LD50 - lethal dose 50% of test species, 46.7 mg/kg.

Acute Dermal Toxicity Toxicological Information and Interpretation
Rabbit (female) LD50 - lethal dose 50% of test species, 166 mg/kg.
Rat (male) LD50 - lethal dose 50% of test species, 369 mg/kg.

Rabbit (female) LD50 - lethal dose 50% of test species, 18.6 mg/kg.
Rabbit (male) LD50 - lethal dose 50% of test species, 21.2 mg/kg.

Acute Inhalation Toxicity Acute Respiratory Irritation:
No test data found for product.

Acute Inhalation Toxicity:
Toxicological Information and Interpretation
Rat (male) LC50 - lethal concentration 50% of test species,
0.86 mg/l/4 hr
Rat (female) LC50 - lethal concentration 50% of test species,
0.32 mg/l/4 hr

Skin Irritation No test data found for product.

Eye Irritation No test data found for product.

Chronic Toxicity This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be probable or suspected human carcinogens.

No additional test data found for product.

SECTION 12. ECOLOGICAL INFORMATION

Ecological Information For ecotoxicological data call the product information phone number listed in Section 1.

Environmental Fate For chemical fate data call the product information phone number listed in Section 1.



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SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container Disposal

Any containers or equipment used should be decontaminated immediately after use.

EPA Hazardous Waste - NO

SECTION 14. TRANSPORT INFORMATION

For Transportation Regulatory Information call the Product Information phone number in Section 1.

SECTION 15. REGULATORY INFORMATION

Inventory Status

Inventory	Status
UNITED STATES (TSCA)	E
CANADA (DSL)	E
EUROPEAN UNION (EINECS)	P
AUSTRALIA (AICS)	Y
JAPAN (MITI)	N
SOUTH KOREA (KECL)	E

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

FEDERAL REGULATIONS

TSCA Inventory Status:

This product is excluded from TSCA because it is solely for FIFRA regulated use.

SARA Title III Hazard Classes:

Fire Hazard - YES

Reactive Hazard - NO

Release of Pressure - NO

Acute Health Hazard - YES

Chronic Health Hazard - NO

SARA 313 Chemicals

ETHOPROP (69.6%)



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NAPHTHALENE (<2.8%)

Ingredient	CERCLA/SARA RQ	SARA EHS TPQ
ETHOPROP		1000 lbs
NAPHTHALENE	100 lbs	

STATE REGULATIONS:

This product contains the following components that are regulated under California Proposition 65.

Ingredient Name	Cancer List	Reprod. List	No Sign. California	Risk Lvl (ug/day)
Ethoprop (CAS No.: 13194-48-4)	Y	N	**ND	*AEL **ND

*Aventis CropScience Established Exposure Limits

**ND - Not Determined

SECTION 16. OTHER INFORMATION

National Fire Protection Association Hazard Ratings--NFPA(R):

- 3 Health Hazard Rating--Serious
- 2 Flammability Rating--Moderate
- 1 Instability Rating--Slight

National Paint & Coating Hazardous Materials Identification

- 3 Health Hazard Rating--Serious
- 2 Flammability Rating--Moderate
- 1 Reactivity Rating--Slight

Reason for Revisions:

Change Company Name & Address. Changes to Section 15, Regulatory Information.

Disclaimer:

The information herein is given in good faith but no warranty, expressed or implied, is made.

Print Date: 05/09/2001

Supersedes MSDS, which is older than: 05/09/2001