


**MOCAP® 15% GRANULAR (15G) NEMATICIDE
INSECTICIDE**

MSDS Version 4.1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	MOCAP® 15% GRANULAR (15G) NEMATICIDE INSECTICIDE
Chemical Name	Ethoprop, ENT27318, V-C 0-104, Mobil 10000, Prophos, Ethoprofos
Synonym	
MSDS Number	104
Chemical Family	Organophosphate
Chemical Formulation	C8H19O2PS2
EPA Registration No.	264-457
Canadian Registrat. No.	

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For Product Use Information: (866)-992-2937 Monday through Friday(CRLF) 8:00AM-4:30PM(CRLF) For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day(CRLF) For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

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	15.0000	
Other ingredients (Trade secret)		85.0000	

SECTION 3. HAZARDS IDENTIFICATION

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

<u>Emergency Overview</u>	Danger! Poison. Fatal if swallowed or inhaled. Harmful if absorbed through the skin.
Physical State	solid granules
Odor	mercaptan odor
Appearance	grey
Immediate Effects	
Eye	May be absorbed through the eye and produce symptoms similar to those from ingestion. Causes redness, irritation, tearing.

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Skin	Harmful if absorbed through skin. May produce symptoms similar to those from ingestion. May cause irritation, redness, swelling.
Ingestion	May be fatal if swallowed. May lead to rapid onset of nausea, vomiting, abdominal pain, diarrhea, pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, involuntary shaking, respiratory depression, and convulsions.
Inhalation	Highly toxic if inhaled. May produce symptoms similar to those from ingestion. May cause dizziness, headache, nausea, vomiting, death.
Chronic or Delayed Long-Term	This product does not contain any ingredients 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 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. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.
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 treatment 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 occurred.

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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 (0.05 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	Not applicable
Fire and Explosion Hazards	Not combustible.
Suitable Extinguishing Media	Not combustible., Use extinguishing method suitable for surrounding fire.
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. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal	<p>Evacuation Procedures and Safety: Wear appropriate gear for the situation. See Personal Protection information in Section 8. Exclude all except properly equipped emergency personnel.</p> <p>Cleanup and Disposal of Spill: Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Avoid creation of dusty conditions. Decontaminate tools and equipment following cleanup. Flush area with 5% sodium hydroxide or trisodium phosphate. Absorb washings and add to container.</p>
Land Spill or Leaks	<p>Containment of Spill: Dike or retain dilution water or water from firefighting for later disposal. Follow procedure under Cleanup and Disposal of Spill.</p> <p>Environmental and Regulatory Reporting: Prevent material from entering public sewer system or any waterway. Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. If spilled on the ground, the affected area should be scraped clean and placed in an appropriate container for disposal.</p>

SECTION 7. HANDLING AND STORAGE

Handling Procedures	<p>Do not get on skin or in eyes. Do not ingest. Do not breathe dusts. Avoid getting material on clothing.</p>
Storing Procedures	<p>Store in an area away from food, feedstuffs, fertilizers, seed and water sources.</p>
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> <p>Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.</p> <p>Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.</p> <p>Wash exposed skin promptly to remove accidental splashes of contact with this material.</p> <p>In addition, based upon the specific hazard of this product: Do not take clothing/objects contaminated by this material off the work site. Shower and change into street clothes before leaving the work site.</p>
Min/Max Storage Temperatures	<p>Not Available</p>

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Where engineering controls are indicated by use conditions of 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	<p>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.</p> <p>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.</p>
Body Protection	<p>Skin contact must be prevented through use of permeation resistant 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.</p> <p>An emergency shower must be readily accessible to the work area.</p>
Respiratory Protection	<p>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.</p> <p>Under normal conditions, in the absence of other airborne contaminants, the following 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 cartridge/canister approved for use against pesticides.</p> <p>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.</p>
General Protection	<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.</p> <p>Assistance with selection, use and maintenance of worker protection equipment</p>

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is generally available from equipment manufacturers.

Exposure Limits

None Established

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	grey
Physical State	solid granules
Odor	mercaptan odor
pH	Not applicable
Vapor Pressure	Not available
Vapor Density (air = 1)	Not available
Specific Gravity	Not Available
Boiling Point	Not available
Melting/Freezing Point	Not available
Solubility (in water)	insoluble
Molecular Weight	242.3 g/mol
Decomposition Temperature	203 °C

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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	strong oxidizing agents bases
Hazardous Products of Decomposition	Decomposition Type: thermal oxides of sulfur oxides of phosphorus carbon oxides
Hazardous Polymerization (Conditions to avoid)	not applicable

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Rat: LD50: 250 mg/kg
Acute Dermal Toxicity	Rabbit: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	Rat: LC50: 0.07 mg/l 4 h Acute Respiratory Irritation: No test data found for product. Data for ethoprop formulated on a clay base having a significant level of respirable fine particles. There is no LC50 value for the commercial granular formulation which is not respirable and poses no inhalation hazard. However, dust generated in the commercial product from grinding of the granules is in the respirable range in significant quantities to present a respirable hazard. Breathing dust from this formulation should be avoided.
Skin Irritation	Rabbit: Non-irritating.
Eye Irritation	Rabbit: Moderately irritating
Assessment Carcinogenicity ACGIH	

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None
NTP
None
IARC
None
OSHA
None

SECTION 12. ECOLOGICAL INFORMATION

Acute and Prolonged Toxicity to Fish	<p>The following data is based on the technical grade active ingredient(s) (TGAI). Rainbow trout LC50: 2.1 mg/l Exposure Time: 96 h Nominal concentration. Static.</p> <p>The following data is based on the technical grade active ingredient(s) (TGAI). Bluegill sunfish LC50: 0.3 mg/l Exposure Time: 96 h Nominal concentration. Static.</p>
Acute Toxicity to Aquatic Invertebrates	<p>The following data is based on the technical grade active ingredient(s) (TGAI). Daphnia EC50: 0.093 mg/l Exposure Limit: 48 h Mean concentration. Static.</p>
Environmental Fate	<p>For chemical fate data call the product information phone number listed in Section 1.</p>

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	<p>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.</p>
Container Disposal	<p>Any container or equipment used should be decontaminated immediately after use.</p> <p>EPA HAZARDOUS WASTE - NO</p>
RCRA Classification	<p>Not Regulated under this Statute</p>

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SECTION 14. TRANSPORT INFORMATION

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

SECTION 15. REGULATORY INFORMATION

US Federal

EPA Registration No. 264-457

TSCA list

None

TSCA 12b export notification

None

SARA Title III - section 302 - notification and information

ETHOPROP 13194-48-4

SARA Title III - section 313 - toxic chemical release reporting

ETHOPROP 13194-48-4 1.0%

US States Regulatory

CA Prop65

This product contains a chemical known to the state of California to cause cancer. ETHOPROP 13194-48-4

US State right-to-know ingredients

ETHOPROP 13194-48-4 CA, IL, LA, MA, NJ, PA

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

None

Environmental

CERCLA

None

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

None

International Regulations

EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

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SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	3	0	1	
NFPA	3	0	1	

Reason for Revisions: Company name change.

Print Date: 12/17/2002

Supersedes MSDS, which is older than: 12/16/2002

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