



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Ethion Technical
CAS No : 563-12-2
Use : Insecticide/Miticide
Company Info : M/s HPM Chemicals & Fertilizers Ltd
209-210, Anupam Bhawan, Commercial Complex
Azadpur, Delhi-110033
Telephone : (011)-45071800, 899
Fax : (011)- 27681800
Website : www.hpmindia.com
E-mail : info@hpmindia.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition	Concentration
Ethion a.i.	90.00% min.
Other associates impurities	10.00% max

3. HAZARDS IDENTIFICATION OF PREPARATION

EMERGENCY OVERVIEW

CAS #	Wt%	PEL _{filv}
563-12-2	88.0.	4 mg/m ³ (skin)

ECNo.015-047-00-2

IMMEDIATE CONCERNS: - Water-white to amber-colored liquid with a mercaptan or sulfur-like odor.

- Slightly combustible. May support combustion at elevated temperatures.
- Ethion may decompose rapidly and violently at temperatures above 150°C (302°F).
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Highly toxic if swallowed. Moderately toxic if inhaled or absorbed through the skin.

EC Class

R21-25

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from either swallowing, inhaling or absorption through

the skin. Symptoms of overexposure include headaches, weakness, abdominal cramps, nausea, excessive salivation, perspiration, blurred vision, tearing, pin-point pupils, convulsions, tremor and coma.

4. FIRST AID MEASURES

Skin Contact : Remove contaminated clothing and shoes immediately.
Wash contaminated area with soap or mild detergent and

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		large amount of water until no effects of chemical remains. If symptoms persists get medical help.
Eye Contact	:	Irrigate the eyes with large amount water or normal saline occasionally lifting upper and lower lids until no evidence of chemical remains and obtain a medical help.
Ingestion	:	Remove by gastric lavage and catharsis, maintain blood pressure and airway, Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is victim is unconscious. Get medical attention immediately.
Inhalation	:	Remove the patient from the exposure area to fresh air immediately. If breathing has stopped perform the artificial respiration. Keep person warm and rest. Get medical attention immediately.

5. ACCIDENTAL RELEASE

Personal Preparation	:	Avoid contact with skin, eyes and clothing.
Environmental Precautions	:	Prevent contamination of soil, drains and surface water.
Method of cleaning	:	Absorb the material in the sand, soil, diatomaceous earth or suitable absorbent. Place in suitable material and remove to safe place or dispose of in an incinerator approved for chemicals.

6. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	:	Dry chemical, CO ₂ , Water spray, standard foam. For larger fire, use water spray, fog or standard foam.
Exposure Hazards	:	During a fire, irritating and possibly toxic gases like carbon dioxide; carbon monoxide; nitrogen oxides; sulfur dioxide; hydrogen chloride; may be generated by thermal decomposition or combustion
Fire-Fighting	:	Use dry chemical, foam or CO ₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate non essential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.



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7. HANDLING AND STORAGE

- Handling** : Use appropriate (impervious) clothing, gloves and closed foot ware to prevent the repeated contact with skin. Use flash proof and dust resistant goggles to prevent the contact with eyes.
- Storage** : Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Technical protective measures** : None
- Exposure controls limits** : Not Established
- Respiratory protection** : Wear suitable mask
- Hand protection** : Wear impervious gloves
- Eye protection** : Wear flash proof and dust resistant goggles.
- Skin protection** : Wear impervious clothing and closed foot ware.

9. PHYSICAL AND CHEMICAL PROPERTIES

- ODOR** : Mercaptan or sulfur-like
- APPEARANCE** : Water-white to amber-colored liquid
- PERCENT VOLATILE:** 0.5% w/w (maximum)
- VAPOR PRESSURE** : 1.5×10^{-6} mmHg @ 25°C
- BOILING POINT** : 164°C (327°F)
- MELTING POINT** : -12 to -15°C
- SOLUBILITY IN WATER:** 2 ppm @ ~qoc
- SPECIFIC GRAVITY:** 1.215 -1.230@20°C(water= 1)
- MOLECULAR WEIGHT:** 384.48 (etbion)
- WEIGHT PER VOLUME:** 10.1 - 10.2lb/gal. (1215 - 1230 g/L)

10. STABILITY AND REACTIVITY

- Thermal Stability** : Stable to heat.
- Conditions to avoid** : Direct source of heat/open flames.
- Material to avoid** : Alkaline material



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Hazardous Decomposition Products : During a fire, irritating and possibly toxic gases like carbon dioxide; carbon monoxide; nitrogen oxides; sulfur dioxide; hydrogen chloride; may be generated by thermal decomposition or combustion.

11. TOXICOLOGICAL INFORMATION

DERMAL LD₅₀: 1084 mg/kg (rabbit)

ORAL LD₅₀: 47 mg/kg (rat)

INHALATION LC₅₀: 0.45 mg/L/4 hr (rat)

ACUTE EFFECTS FROM OVEREXPOSURE: Ethion is highly toxic if swallowed and moderately toxic if inhaled or absorbed through the skin. It is non-irritating to the eyes. Ethion is a cholinesterase-inhibiting pesticide which elicits symptoms in humans typical of cholinesterase inhibition including headaches, light-headedness, weakness, abdominal cramps, nausea, excessive salivation, perspiration, and blurred vision. More severe signs of cholinesterase inhibition include tearing, pin-point pupils, excessive respiratory secretions, cyanosis, convulsions, generalized tremor and coma. Excessive cholinesterase inhibition can result in death. Reductions of blood acetylcholinesterase levels can occur without symptoms of toxicity.

CHRONIC EFFECTS FROM OVEREXPOSURE: In studies with laboratory animals, ethion did not cause reproductive toxicity, teratogenicity, or carcinogenicity. Chronic exposure of laboratory animals to ethion caused decreased erythrocyte and plasma cholinesterase activity levels. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with ethion.

CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Ethion, under agricultural use conditions, has a moderate rate of degradation in soil (half-life roughly 90 days), but is dependent on soil type and pH. Ethion is not mobile in soil and is unlikely to leach into ground water. Ethion is susceptible to hydrolysis in alkaline waters. It has a moderate bioaccumulation potential (BCF = 1500) and may concentrate in the environment.

ECOTOXICOLOGICAL INFORMATION: Ethion is considered highly toxic to fish and aquatic arthropods with 96 hour LC₅₀ values of 15 - 491 µg/L. It is only slightly toxic to shellfish (EC₅₀ - 2.3 mg/L). Care should be taken to avoid contamination of the aquatic environment. Ethion is considered moderately toxic to upland game birds (oral LD₅₀ = 128 mg/kg, bobwhite quail), but is only very slightly toxic to water fowl (oral LD₅₀ > 2000 mg/kg).



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13. DISPOSAL CONSIDERATION

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed on site (by use according to the label) or at an approved waste disposal facility. Further information can be obtained from the EPA or the equivalent state and local agencies.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Check with EPA, State, and local authorities for the current regulations applicable to your area for disposal of waste containers.

14. TRANSPORT INFORMATION

u.s. DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Organophosphorus pesticides, liquid, toxic, n.o.s.

TECHNICAL NAME: Ethion

PRIMARY HAZARD CLASSIFICATION: 6.1

UN NUMBER: UN3018

PACKING GROUP: II

REPORTABLE QUANTITY (RQ): Listed (ethion > 1 gallon)

U.S. SURFACE FREIGHT CLASS: Insecticides, NOI, Poison other than Class A Poison. NMFC Item 102100.

MARINE POLLUTANT #1: ethion (Severe Marine Pollutant)

NAERG: 152

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311 HAZARD CATEGORIES (40 CFR 370): Immediate, Delayed

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370): The threshold planning quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs. This product contains the following ingredients with a TPQ of less than 10,000 lbs.: 1000 ethion (1000 lbs.)

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372): There are no ingredients in this product which are subject to Section 313 reporting requirements.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

Ethion

SECTION 302.4 REPORTABLE QUANTITY (40 CFR 355)

Chemical Name Ethion 1000 lbs.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT):

Chemical Name

Ethion

COMMENTS: Australian Hazard-Schedule 3.

EU Risk Phrases: R21-25

EU Symbols: T, Toxic, Skull & Crossbones

EU Safety Advice Phrases: S25-36/37-44

FAO/WHO Classification: lb, Highly hazardous



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16. OTHER INFORMATION

Incompatible with the alkaline material.

Antidote : No specific antidote is available. Treat the patient symptomatically and supportively.

This product should be stored, handled and used in accordance with good industrial practices and in conformity with legal regulation.

This information is based on present knowledge for your guidance on safety requirements. It is not intended as a specification.