



Central Pollution Control Board

Ministry of Environment & Forests, Govt of India, Parivesh Bhawan, East Arjun Nagar, Delhi - 110032

MATERIAL SAFETY DATA SHEETS

245

Ethion

1. CHEMICAL IDENTITY

Chemical Name : Ethion

Chemical Classification: Toxic

Trade Name :

Synonyms: Diethion, Ethyl methylene phosphorodithioate, Ethiol rhodocide

Formula : C₉H₂₂O₄P₂S₄

CAS No: 563-12-2

UN No: 2783

Regulated Identification

Shipping Name : Ethion

Hazchem Code : 2X

Codes / Label : Class 6.1, Toxic

Hazardous Waste ID No : 15

| HAZARDOUS INGREDIENTS | C.A.S. No. | HAZARDOUS INGREDIENTS | C.A.S. No. |
|-----------------------|------------|-----------------------|------------|
| 1 Ethion | 563-12-2 | 3 | |
| 2 | | 4 | |

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 165 deg C @ 0.3 mm Hg

Physical State: Liquid

Appearance: Water-white to amber-colored liquid

Melting Pt °C: -12 to -13 deg C

Vapour Pressure @ 35°C mmHg: 1.5X10⁻⁶ mm Hg @ 25 deg C

Odour: Odourless when pure (technical product has a very disagreeable odor)

Vapour Density(Air =1): 13.26

Solubility in water at 30°C g/100ml: 2.0 mg/l @ 25 deg C

Others: Soluble in xylene, CHCl₃, acetone, benzene.

Specific Gravity (Water =1): 1.220 @ 20 deg C/4 deg C

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : No

LEL:

Flash Point °C in OC:

TDG Flammability:

UEL:

Flash Point °C in CC: 176

Autoignition Temperature °C :

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity: Stable

Hazardous Combustion Products : Emits highly toxic fumes of SO_x and PO_x.

Hazardous Polymerization : Will not occur.

Combustible Liquid: No

Explosive Material: No

Corrosive Material No

Flammable Material: No

Oxidiser : No

Others:

Pyrophoric Material: No

Organic Peroxide : No

4. REACTIVITY DATA

Chemical Stability : Subject to slow oxidation in air.

Incompatibility with other material : Incompatible with alkaline preparations and formulating materials.

Reactivity :

Ethion

Hazardous :
Reaction Products

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, Ingestion, Skin & Eyes.

Effects of Exposure / Symptoms:

Absorption can occur through all parts, including intact skin. Symptoms occur most rapidly after respiratory exposure or massive exposure directly to eyes. Early symptoms are headache, weakness, excess perspiration, nausea, blurred vision and tightness in the chest. Later symptoms include vomiting abdominal cramps, diarrhoea, muscular twitching and coma.

Emergency Treatment :

Inhalation: Remove the victim to fresh air area, provide artificial respiration and Oxygen if needed.

Skin: Remove the contaminated clothing and wash the affected area with warm water and soap.

Eyes: Irrigate with plenty of water for 15 mins. Others, give 2-4 mg Atropine (intravenous or intramuscular). Repeat the dose every 10 mins. until the victim is fully atropinised.

Ingestion: Give gastric lavage and saline catharsis.

| | |
|--|---|
| LD50 (oral-rat) mg/kg: 13 mg/kg | STEL: |
| LC50 (rat) mg/kg: | Odour Threshold: |
| Permissible Exposure Limit: | TLV (ACGIH) : 0.4 mg/m ³ (skin) |

| NFPA Hazard | Health | Flammability | Reactivity | Special |
|--------------------|---------------|---------------------|-------------------|----------------|
| Signals | | 1 | 1 | |

6. PREVENTIVE MEASURES

Personal Protective Equipment : Avoid contact with liquid or vapour. Provide side covered safety goggles, face shield, self-contained breathing apparatus (in fire), rubber hand gloves, protective overclothing and shoes.

Handling : Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood.

Storage : Keep in cool, dry, well ventilated area.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media :

Special Procedure : Keep the containers cool by spraying water if exposed to heat or flame.

Unusual Hazards : Poisonous gases are produced in fire.

EXPOSURE: First Aid Measures:

Inhalation: Remove the victim to fresh air area, provide artificial respiration and Oxygen if needed.

Skin: Remove the contaminated clothing and wash the affected area with warm water and soap.

Eyes: Irrigate with plenty of water for 15 mins. Others, give 2-4 mg Atropine (intravenous or intramuscular). Repeat the dose every 10 mins. until the victim is fully atropinised.

Ingestion: Give gastric lavage and saline catharsis.

Antidotes / Dosages: 2-4 mg of Atropine (IV or IM).

SPILLS :

Steps To Be Taken : Shut off leaks if without risk. Contain the leakage on earth or sand.

Waste Disposal Method: Seal all the waste in vapour tight plastic bags for eventual disposal

8. ADDITIONAL INFORMATION / REFERENCES

Poison by ingestion, skin contact, intraperitoneal and possibly other routes. A insecticide. A Cholinestcrase inhibitor.

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :

Contact person

MAILING ADDRESS :

in Emergency :

TELEPHONE / TELEX NOS :

Local Bodies involved :

TELEGRAPHIC ADDRESS :

Standard Packing :

OTHERS :

Trem Card Details / Ref :

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