



Material Safety Data Sheet

According to ISO 11014-1

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1. IDENTIFICATION OF SUBSTANCE

Name: MECHLORETHAMINE OINTMENT 10 mg/100 g

Manufacturer: Department of Pharmacy
Duke University Medical Center
Box 3089
Durham, NC 27710
919-684-5125

Information Department: Occupational and Environmental Safety Office
Duke University Medical Center
Box 3914
Durham, NC 27710
919-684-5996

Emergency Information: Regional Poison Control Center
800-848-6946

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization/Description: Mechlorethamine and Aquaphor mixture

Synonym(s): Mechlorethamine: N-mustard, chloramine

Components (CAS#, Hazardous Chemical, Percent):

Multiple	Aquaphor (lanolin, petrolatum, mineral oil, ceresin, alcohol preparation)	>99%
55-86-7	Mechlorethamine	<1%

3. HAZARDS IDENTIFICATION

Hazard Description:

Mechlorethamine is a deadly poison by multiple routes. Mineral oil and petrolatum are irritants and have a laxative effect. Product should be considered combustible. (Hazard description based on concentrated constituents; this product is compounded mixture.)

NFPA Ratings (scale 0-4):

Health	2
Fire:	2
Reactivity:	0

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4. FIRST AID MEASURES

Inhalation:

Remove victim to fresh air. Give oxygen or artificial respiration if necessary.

Skin Contact:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. Seek medical attention if warranted.

Eye Contact:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

Ingestion:

DO NOT INDUCE VOMITING.

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open, and lay the victim on his/her side with the head lower than the body. Transport the victim IMMEDIATELY to a hospital.

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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Agents:

Use foam, CO₂, or dry chemical to fight fire. Consider appropriate extinguishing media for surrounding fire. Product may be combustible when heated.

Protective Equipment:

Self-contained breathing apparatus and protective equipment for fire fighting.

6. ACCIDENTAL RELEASE MEASURES

Personnel Precautions:

Wear gloves (disposable surgical) and eye protection (chemical splash goggles).

Environmental Precautions:

None necessary under normal conditions of use.

Measures for Cleaning/Collection:

Use absorbent paper to pick up all spill material. Seal the absorbent paper, as well as contaminated clothing, in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution.

7. HANDLING AND STORAGE

Handling:

Wear PPE when handling this material. Wash hands after handling.

Storage:

Store in a cool, dry, well-ventilated location.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

None necessary under conditions of normal use.

Control Parameters:

<u>Chemical</u>	<u>Limit</u>	<u>Reference</u>
Aquaphor	N/A	N/A
Mechlorethamine	N/A	N/A

Personal Protective Equipment:

Respiratory Protection

None necessary under conditions of normal use.

Skin Protection

Wear gloves (disposable surgical) when using this chemical. If this chemical comes into contact with your gloves, or if a tear/puncture develops, remove gloves at once and wash hands.

Eye Protection

Splash-proof safety goggles should be worn while handling this chemical.

9. PHYSICAL AND CHEMICAL

Physical State: Solid (ointment)

Color and Odor: yellow; odorless

pH: N/A

Melting Point (°C): N/A

Flashpoint (°C): N/A

Autoignition Temperature (°C): N/A

Explosion Properties: N/A

Specific Gravity (water = 1): N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (air = 1): N/A

Solubility: Insoluble in water.

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10. STABILITY AND REACTIVITY

General: This product is considered stable.

Materials to Avoid: Heat, flame, and oxidants.

Hazardous Decomposition Products: When heated to decomposition, product may emit acrid smoke and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Mechlorethamine is a deadly poison by ingestion, intravenous, subcutaneous, intraperitoneal, and parenteral routes. It has an oral LD₅₀ of 20 mg/kg (mouse). Mineral oil and petrolatum are irritants and have a laxative effect.

Signs/Symptoms of Overexposure: Nausea or vomiting, reduction in the number of white blood cells and platelets can result from exposure to mechlorethamine. Inhalation of mineral oil vapors/particulate can cause aspiration pneumonia. Other symptoms include lipid granuloma, lipid pneumonia, dermatitis, oil acne and melanosis. Ingestion of mineral oil prevents absorption of Vitamin A from intestinal contents and may interfere with water absorption.

Chronic Toxicity: Mechlorethamine is an experimental teratogen, carcinogen, neoplastogen, and tumorigen. According to "Dangerous Properties of Industrial Materials (Sax, 7th Ed.), mineral oil is a human carcinogen by inhalation that produces gastrointestinal tumors. It is also a human teratogen by inhalation causing testicular tumors in the fetus. Mineral oils are listed as a known human carcinogen by NTP and IARC. IARC classifies highly refined mineral oils as Group 3 (unclassifiable as to carcinogenicity to humans) and untreated or mildly treated oils as Group 1 (carcinogenic to humans).

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12. ECOLOGICAL EFFECTS
None anticipated under normal conditions of use.
13. DISPOSAL CONSIDERATIONS
Dispose of all waste and contaminated materials associated with this chemical as specified by existing local, state and federal regulations concerning hazardous waste disposal. Contact the Occupational and Environmental Safety Office for specific guidance.
14. TRANSPORT INFORMATION
Proper Shipping Name (DOT): Not regulated under this mode of transportation.
15. REGULATORY INFORMATION
Mineral oil is reported in the EPA TSCA Inventory. Mechllorethamine is reported in the EPA Genetic Toxicology Program.
16. OTHER INFORMATION
This information is based on our present knowledge; however this shall not constitute a guarantee for any specific product features. No toxicity data are available on this specific formulation; this health hazard assessment is based on information that is available for its components.