



Material Safety Data Sheet

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METHOXYFLURANE

Catalog Number: 1418004

Package Size: 1 mL

Revision Date: November 20, 2003

EMERGENCY OVERVIEW - This material is an eye irritant. CAUTION: In poorly ventilated areas, this material presents an inhalation hazard.

SECTION 1 - IDENTIFICATION

Common Name: Methoxyflurane

Formula: C₃H₄Cl₂F₂O

Synonym: n/f

Chemical Name: Ethane, 2,2-dichloro-1,1-difluoro-1-methoxy-

CAS Number: 76-38-0

RTECS Number: KN7820000

Chemical Family: A Linear aliphatic derivative

Therapeutic Category: Anesthetic (inhalation)

SECTION 2 - INGREDIENT INFORMATION

<u>Principle Components</u>	<u>Percent</u>	<u>Exposure Limits</u>
Methoxyflurane	Pure Material	NIOSH: CL 2 ppm/60 minutes

SECTION 3 - HEALTH HAZARD INFORMATION

Usual Adult Dose: Methoxyflurane is administered by inhalation as a 2% gaseous mixture with oxygen and nitrous oxide.

Adverse Effects: Methoxyflurane is used therapeutically to cause unconsciousness. Adverse effects may include increased or decreased urination, rapid increase or decrease in weight, drowsiness, nausea, vomiting, shivering, and trembling. Possible allergic reaction to material if inhaled, ingested or in contact with skin.

Overdose Effects: Overdose effects include slow heart beat and slow, irregular, or difficult breathing.

Acute: Possible eye, skin, gastrointestinal and/or respiratory tract irritation.

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Chronic: Possible hypersensitization and damage to the kidneys.

Inhalation: May cause irritation and loss of consciousness. Avoid inhalation. Remove to fresh air. Material is rapidly absorbed into the circulation if inhaled. Onset of effects is slow; recovery may be prolonged.

Eye: Causes irritation. Flush with copious quantities of water for 15 minutes.

Skin: May cause irritation. Flush with copious quantities of water.

Ingestion: May cause irritation. Flush out mouth with water.

Medical Conditions Aggravated by Exposure: Hypersensitivity to material and history of malignant hyperthermia.

Cross Sensitivity: Persons sensitive to halogenated anesthetics may be sensitive to this material also.

Pregnancy Comments: Although adequate and well-controlled pregnancy studies in humans have not been done, some studies in animals have shown that methoxyflurane may cause birth defects. Also, studies in rats have indicated that exposure to doses equivalent to 67 hours of 0.2% methoxyflurane caused fetal growth retardation. Methoxyflurane may cause dose-dependent uterine relaxation.

Pregnancy Category: C

SECTION 4 - FIRST AID MEASURES

General: Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention. If person is not breathing give artificial respiration. If breathing is difficult give oxygen. Obtain medical attention.

Overdose Treatment: Treatment of overdose should be symptomatic and supportive and may include the following:

1. For bradycardia, administer atropine.
2. For circulatory depression or severe hypotension, administer plasma and/or intravenous fluids and position the patient in the Trendelenburg position; if necessary, a vasopressor may be administered.
3. For respiratory depression, establish a clear airway and institute assisted or controlled respiration with pure oxygen.

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SECTION 5 - TOXICOLOGICAL INFORMATION

Oral Rat: LD50: 3600 mg/kg

Oral Mouse: LD50: n/f

Irritancy Data: [RTECS] - Rabbit/Eye: moderate

Target Organ(s): Central nervous system.

Listed as a Carcinogen? NTP: No IARC: No OSHA: No

Other: n/f

SECTION 6 - FIREFIGHTING MEASURES

Flash Point: 99° F (CC)

Upper Flammable Limit: n/f

Auto-Ignition Temperature: n/f

Lower Flammable Limit: n/f

Extinguisher Media: Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials.

Fire and Explosion Hazards: This material is combustible.

Firefighting Procedures: As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

SECTION 7 - PHYSICAL HAZARDS**Conditions to Avoid:** Avoid exposure to light.**Incompatibilities:** This material is soluble in rubber and soda lime. Contact with polyvinyl chloride plastics should be avoided since they are extracted by methoxyflurane.**Decomposition Products:** When heated to decomposition material emits toxic fumes of Cl- and F-. Emits toxic fumes under fire conditions.**Stable?** Yes **Hazardous Polymerization?** No**SECTION 8 - HANDLING / SPILL / DISPOSAL MEASURES****Handling:** As a general rule, when handling USP Reference Standards avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Wash thoroughly after handling.**Storage:** Store in tight, light-resistant container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.**Spill Response:** Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using a high efficiency vacuum cleaner. Avoid breathing vapor. Ventilate area and wash spill site. Place spillage in appropriately labelled container for disposal.**Disposal:** Dispose of waste in accordance with all applicable Federal, State and local laws.**SECTION 9 - EXPOSURE CONTROLS / PERSONAL PROTECTION****Respiratory Protection:** Use a NIOSH approved respirator, if it is determined to be necessary by an industrial hygiene survey involving air monitoring.**Ventilation:** Recommended.**Gloves:** Nitrile**Eye Protection:** Safety Goggles**Protective Clothing:** Protect exposed skin.**SECTION 10 - PHYSICAL AND CHEMICAL PROPERTIES****NOTE: The data reported below is general information, and is not specific to the USP Reference Standard Lot provided!****Appearance and Odor:** Clear, practically colorless liquid; sweet, fruity odor.**Melting Point:** - 35° C**Solubility in Water:** Slightly soluble**Vapor Density:** 4.7**Boiling Point:** 105° C**Evaporation Rate:** n/f**Specific Gravity:** 1.38**Reactivity in Water:** n/f**Vapor Pressure:** 22 - 23 mm Hg @ 20° C**% Volatile by Volume:** 99.09