

SAFETY DATA SHEET

Product:	Medifume Fumigant	Date Prepared: 20 Dec 2016
Company:	Specialty Gases Pty Ltd	Replaces: 17 Feb 2013
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1 IDENTIFICATION

Product Name: Medifume Fumigant
Other Names: Ethylene oxide, Oxirane, Dimethylene oxide
Uses: Compressed gas for sterilisation and fumigation
Supplier:
Name: Specialty Gases Pty Ltd
Address: Suite 18, 12 Tryon Rd, Lindfield, NSW 2070
Telephone: 1300 55 71 00

2 HAZARDS IDENTIFICATION

Hazard Class and Category:

Gases under pressure
Flammable gas – category 1
Carcinogenicity – category 1B
Germ cell mutagenicity – category 1B
Eye irritation – category 2
Specific target organ toxicity (single exposure) – category 3
Skin irritation – category 2
Acute toxicity – category 3
Hazardous to the aquatic environment, acute hazard (Category 3)

Signal Word: Danger



Hazard Statements:

H220 Extremely flammable gas
H280 Contains gas under pressure; may explode if heated
H350 May cause cancer
H340 May cause genetic defects
H301 Toxic if swallowed
H331 Toxic if inhaled
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H315 Causes skin irritation
H402 Harmful to aquatic life

Precautionary Statements:

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

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Keep away from heat, sparks, open flames and hot surfaces – No smoking.
Avoid breathing gas.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, eye and face protection.
Use personal protective equipment as required.
Avoid release to the environment.

Response

IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician.
IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
Eliminate all ignition sources if safe to do so.

Storage

Protect from sunlight. Store in well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents in accordance with local Regulations.

3 COMPOSITION AND INFORMATION ON INGREDIENTS

Substance Name	CAS Number	Concentration
Ethylene Oxide	75-21-8	100%

4 FIRST-AID MEASURES

First-Aid		
-	Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
-	Skin Contact	IF ON SKIN: Wash with plenty of soap and water. Contact with liquid can cause freeze burns. In case of freeze burns do not remove clothes. Seek medical advice.
-	Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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-	Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
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Special Advice/Treatment: Symptoms may not occur for some hours.

**If poisoning occurs, contact a doctor or Poisons Information Centre.
Phone 13 11 26.**

5 FIRE-FIGHTING MEASURES

Suitable Extinguishing Equipment:	Shut off supply. Let fire burn itself out if no risk to surroundings. Otherwise use powder, alcohol-resistant foam, water spray or carbon dioxide.
Flash Point:	-57°C
Explosion Limit Lower/ Upper	2.7 % (volume) / 100 % (volume)
Hazards from Combustion Products:	Gas/air mixtures are explosive. Violent decomposition when heated can result in explosion. Asphyxiating gases (carbon monoxide, carbon dioxide) can be produced.
Precautions for Fire-Fighters	Wear self-contained breathing apparatus and full chemical resistant protective clothing. Take precautions against explosions and fight fire from a sheltered position. Containers should be kept cool with water spray.
HAZCHEM CODE	2PE

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency

Procedures: Isolate from all sources of ignition. Take precautions against static discharge. All equipment should be grounded. Wear self-contained breathing apparatus and chemical resistant, gas-tight protective clothing if exposed to gas. Use only outdoors or in well-ventilated areas. Ensure gas does not accumulate. Do not smoke, eat or drink when using product. Wash hands and exposed skin thoroughly after handling. Take off contaminated clothing and wash before reuse.

Environmental Precautions: Shut off leaks where possible and safe to do so. Do NOT wash away into sewer.

Clean Up: Evacuate from area all non-essential personnel. Liquified gas. Spills will vaporise. NEVER direct water jet on liquid. Remove gas with fine water spray. Ensure gas does not accumulate in any location. Keep away from all heat/sparks/open flames/hot surfaces. Use spark proof tools and grounded equipment.

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7 HANDLING AND STORAGE

Requirements for Storage Areas and Containers: Store in well-ventilated, cool area. Protect from sunlight and sources of ignition. Do not allow backfeed into the container.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines: TWA: 1 ppm / 1.8 mg/m³ (Safe Work Australia). Probable human carcinogen.

Engineering Controls: Ensure adequate ventilation. If forced ventilation required use only spark resistant fans. Keep away from all heat/sparks/open flames/hot surfaces. Ensure all equipment is grounded. Use spark resistant tools.

Personal Protective Equipment (Manufacturing environment):
Respiratory Protection: Use self-contained breathing apparatus if exposed to gas. **Eye and Face Protection:** Wear tightly fitting safety goggles. Use face shield in addition to goggles if risk of exposure to liquid. **Skin and Body Protection:** Wear gas-tight, chemical resistant protective clothing including impervious boots and protective gloves. **Thermal Hazards:** Product can cause freeze burns. Use protective gloves if handling liquid.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odour:	Colourless gas; Sweet, ether like
Melting Point/Freezing Point:	-117.2°C
Initial Boiling Point & Boiling Range:	10.6°C
Flash Point:	-57°C
Flammability:	Flammable
Upper/Lower Flammability or Explosive Limits:	Upper: 100% (volume) Lower: 2.7% (volume)
Vapour Pressure:	174 kPa (25°C; extrapolated)
Vapour Density:	1.49 (calculated)
Relative Density:	0.882 (10°C)
Solubility:	Miscible with water
LogP_{ow}:	-0.3
Auto-Ignition Temperature:	429°C

10 STABILITY AND REACTIVITY

Reactivity: Hazardous polymerisation can occur.

Stability: Decomposes about 560°C in absence of air. Can react violently with many compounds.

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Conditions to Avoid: Heat and sources of ignition.

Incompatible Materials: Acids, bases, metal chlorides and metal oxides. Can react violently with many compounds.

Hazardous Decomposition Products: Decomposition can produce fire and explosion hazard. Asphyxiating gases (carbon monoxide, carbon dioxide) can be formed.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral: LD50: 72 mg/kg (rat). **Inhalation:** LC50: 1.44 mg/L/4 hr (rat).
Dermal: No information available. **Skin Corrosion/Irritation:** Irritating. Liquid causes burns (frostbite). **Eye Damage/Irritation:** Very irritating.
Sensitisation: Repeated or prolonged contact can cause skin sensitisation.

Mutagenicity: May cause heritable genetic damage to human germ cells.

Carcinogenicity: Classified as a Carcinogen Category 2 (probable human carcinogen).

Target Organ Toxicity: Product may have effects on nervous system

Repeated Exposure: Repeated or prolonged inhalation may cause asthma.

12 ECOLOGICAL INFORMATION

Ecotoxicity: Harmful to aquatic organisms. LC50: 84 mg/L/96 hr (fathead minnow)

Persistence and Degradability: Rapidly degraded.

Bioaccumulation Potential: Low

13 DISPOSAL CONSIDERATIONS

Disposal of Containers: Return container to supplier. Before transporting container ensure they are firmly secured and ensure cylinder valve is closed and not leaking, valve outlet cap nut or plug (where provided) is correctly fitted, valve protect device (where provided) is correctly fitted.

Special Precautions on Incineration or Landfill: Liquefied flammable gas. Do not incinerate containers.

14 TRANSPORT INFORMATION

Classified as Dangerous Goods for Transport within Australia by Road and Rail according to the criteria of ADG 7.

UN Number:	1040
Proper Shipping Name:	Ethylene Oxide

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Class:	2.3 (2.1)
HAZCHEM	2PE

15 REGULATORY INFORMATION

Poison Scheduling:	Schedule 7
APVMA Registration No:	68501

16 OTHER RELEVANT INFORMATION

Ensure operators understand the toxicity hazard. Ensure operators understand the flammability hazard

Glossary:

Explosive Limits - The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion for ignition in a confined space.

LC₅₀ - The concentration of chemical in air or water that will kill 50% of the test organisms.

LD₅₀ - The dose of a chemical that will kill 50% of the test animals receiving it.

P_{ow} - The octanol-water partition coefficient. Commonly used to indicate potential fate of chemicals in the environment.

SWA: Safe Work Australia

TWA - Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8 hour work day.

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