

MATERIAL SAFETY DATA SHEET

APCOTHERM

Manufacturer: APCO INDUSTRIES CO. LTD.

Supplied by: Apco Industries Co. Ltd.
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WHMIS CLASSIFICATION: Class D, Division 2, Subdivision A
Class D, Division 2, Subdivision B

TRANSPORTATION DANGEROUS GOODS CLASSIFICATION
Not a regulated product in Canada.

1. INGREDIENTS:

Ethylene Glycol CAS NO. 00107-21-1 60-100%
Inhibitors (proprietary ingredients) and water 3-7%

2. PHYSICAL DATA:

Boiling Point: 169 Deg. C @ 760 mmHg
Vapour Pressure: 0.69 mmHg @ 20 Deg. C
Vapour Density: (air=1) 2.1
Solubility in Water: 100% by weight
Specific Gravity: 1.130 @ 20/20 Deg. C
Appearance: Pale yellow liquid.
Odour: Mild odour

3. FIRE AND EXPLOSION HAZARD DATA:

Flash Point: 121 Deg. C
Method Used: TCC, ASTM D 56
Flammable Limits in Air, % by volume
LFL: 3.2%
UFL: 15% (ethylene glycol)
Extinguishing Media: Water fog, alcohol foam, CO2, and dry
chemical.
Fire and Explosion Hazards: Autoignition temperature in air
is above 800F, 427C.
Fire-Fighting Equipment: Use positive-pressure, self-
contained breathing apparatus.

4. REACTIVITY DATA:

Stability: (Conditions to Avoid) Stable.

Incompatibility: (Specific Materials to Avoid) Oxidizing material.

Hazardous Decomposition Products: None known.

Hazardous Polymerization: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

Action to take for Spills/Leaks: Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers. Clean up residual with water.

Disposal Method: Salvage, or burn in accordance with local, provincial, and federal regulations.

6. HEALTH HAZARD DATA:

Eye: Essentially non-irritating to eyes. Vapours or mists may irritate eyes.

Skin contact: Prolonged or repeated exposure not likely to cause significant skin irritation. May cause more severe response if confined to skin or if skin is abraded (scratched or cut).

Skin Absorption: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined. Repeated skin exposure to large quantities may result in absorption of harmful amounts.

Ingestion: Amounts ingested incidental to industrial handling are not likely to cause injury, however ingestion of larger amounts could cause serious injury, even death. The oral LD50 for rats is 8200 mg/kg. single oral dose toxicity is expected to be moderate in humans even though tests with animals show a lower degree of toxicity.

Inhalation: At room temperature, exposures to vapours are unlikely due to physical properties; higher temperatures may generate vapour levels sufficient to cause adverse affects.

Systemic and Other Effects: Excessive exposure may cause central nervous system, kidney, blood and possibly liver effects and irritation to upper respiratory tract. Observations in animals include deposition of calcium salts in various tissues after long-term dietary intake

of ethylene glycol (EG). Did not cause cancer in long-term animal studies. Ethylene glycol has been reported to cause birth defects in rats and mice given high oral doses which were toxic to the mothers. Birth defects were also reported in mice at a high oral dose which was apparently non-toxic to the mother. Exposure of rats and mice to high aerosol concentrations resulted in teratogenic effects (birth defects) in mice but not in rats. Much of the total dose of EG in the aerosol studies probably resulted from ingestion of material deposited on fur. In studies on rats, ethylene glycol has been shown not to interfere with reproduction. In studies on mice, ingestion of ethylene glycol in large amounts caused a small decrease in the number of litters per pair, live pups per litter, and in live pup weight. Results of in vitro ("test tube") mutagenicity tests have been negative.

7. FIRST AID:

Eyes: Irrigate immediately with water for at least 15 minutes.

Skin: Wash off in flowing water or shower. Wash contaminated clothing before reuse.

Ingestion: If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. IMMEDIATELY contact local poison control centre. Vomiting should only be induced under the direction of a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in vomitus; rinse mouth and administer more water. IMMEDIATELY transfer victim to emergency facility.

Inhalation: Remove to fresh air if effects occur. Consult a physician.

Note to Physician: If burn is present, treat as any thermal burn, after decontamination. Consult standard literature. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. In treatment of intoxication, the use of ethanol, hemodialysis and intravenous fluids to control acidosis should be considered.

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8. HANDLING PRECAUTIONS:

Exposure Guideline(s): ACGIH TLV is 50 ppm ceiling for ethylene glycol.

Ventilation: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use in approved air-purifying respirator.

Skin Protection: Use impervious gloves when prolonged or frequently repeated contact could occur.

Eye Protection: Use safety glass or chemical workers' goggles. If vapour exposure causes eye irritation, use a full-face respirator.

9. ADDITIONAL INFORMATION:

Special Precautions to be taken in Handling and Storage:
Avoid skin and eye contact. Do not ingest.

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