

MATERIAL SAFETY DATA SHEET**SECTION 1 - HAZARDOUS INGREDIENTS**

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>LC₅₀, ppm (inhalation, rat)</u>	<u>LD₅₀, mg/kg (Oral, rat)</u>
Ethylene glycol	107-21-1	>99%*	N/Av	5.89 g/kg (oral) 9.5 g/kg (dermal)

*Thermal Arc® Torch Coolant is sold in three (3) forms and are all covered by this MSDS for the concentrate:

1. Thermal Arc® Torch Coolant (Concentrate) - 100% ethylene glycol
2. Thermal Arc® Torch Coolant - 25% ethylene glycol/75% water
3. Thermal Arc® Torch Coolant - 50% ethylene glycol/50% water

SECTION 2 - PREPARATION INFORMATION

Prepared by: Thermal Dynamics Corporation

Telephone #: 603-298-5711

Preparation date: October, 1991

SECTION 3 - PRODUCT IDENTIFICATION

Product identifier: Thermal Arc® Torch Coolant

TDC Form # TR 699

Product use: Cutting and welding system coolant

Supplier name and address:

Thermal Dynamics Corporation

Industrial Park #2

West Lebanon, New Hampshire

03784

Telephone: 603-298-5711

Manufacturer name and address:

See Supplier

Emergency Telephone #: (1-800) 424-9300 (CHEMTREC)

SECTION 7 - TOXICOLOGICAL PROPERTIES

Routes of exposure and acute/chronic effects

Exposure limits: ACGIH-Ceiling: 50 ppm.

Inhalation: At room temperature, vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, concentrations may be attained that are sufficient to cause irritation and other effects.

Skin contact: Essentially non-irritating to skin. However, repeated skin exposure to large quantities may result in absorption of harmful amounts.

Eye contact: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapor or mists may irritate the eyes.

Ingestion: The toxicity from a single dose is moderate. Initial symptoms on exposure include nausea, vomiting, weakness, a drunken feeling, dizziness, stupor, convulsions and possible death. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. The estimated lethal dose for an average person is about 100 mL. Amounts ingested due to proper industrial handling are not likely to cause injury; however, ingestion of larger amounts could cause serious injury, even death.

Chronic effects: Observations in animals include kidney and liver effects and deposition of calcium salts in various tissues after long-term dietary intake of ethylene glycol.

Carcinogenicity: Not listed by IARC or ACGIH.

Teratogenicity, mutagenicity, other reproductive effects: May have teratogenic or other reproductive effects. Based on animal studies, ingestion of ethylene glycol appear to be the major and possibly only route of exposure likely to produce birth defects. Exposures by inhalation (tested nose-only in animals) or skin contact, the primary routes of occupational exposure, have minimal or essentially no effect on the fetus. 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. Results of mutagenicity tests in animals have been negative.

Sensitization to material: Two reported cases of skin sensitization due to industrial exposure.

Synergistic materials: None known.

SECTION 8 - FIRST AID

Inhalation: Remove victim to fresh air. If breathing difficulty does not improve rapidly, get patient to a doctor.

Skin: Wash skin with mild soap and water. Rinse thoroughly. See a doctor if irritation persists.

Eyes: Flush with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give victim one or two glasses of water, and get medical attention or transport victim to hospital as soon as possible.

Canadian Regulations

WHMIS INFORMATION: Class D2A, Poisonous and Infectious Materials, Other Toxic Effects, Very Toxic Materials

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TDG INFORMATION: Not regulated as dangerous goods.

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U.S. Regulations

SARA 313 INFORMATION: This product contains ethylene glycol, which is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment Reauthorization Act of 1986 and 40 CFR Part 372. This product has been reviewed according to the EPA "Hazard Categories" promulgated under Section 311 and 312 of the Superfund Amendment Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

1. An immediate hazard
2. A delayed health hazard

Department of Transportation (DOT)
Not hazardous according to DOT criteria.

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Additional notes or references:

Abbreviations:

- ACGIH: American Conference of Governmental Industrial Hygienists
- IARC: International Agency for Research on Cancer
- N/Ap: Not applicable
- N/Av: Not available
- NIOSH: National Institute for Occupational Safety and Health
- TCC: Tagliabue Closed Cup
- TWA: Time Weighted Average
- WHMIS: Workplace Hazardous Materials Information System

References:

1. Van Nostrand Reinhold, Dangerous Properties of Industrial Materials, Seventh Edition, N. Irving Sax.
2. Canadian Centre for Occupational Health and Safety. RTECS (Registry of Toxic Effects) and CHEMINFO databases.
3. ACGIH, Threshold Limit Values and Biological Exposure Indices for 1990-91.
4. International Agency for Research on Cancer Monographs, Supplement 7, 1988.

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