

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name Identifier:

Denatured alcohol (2A2)

Supplier Name: Sterling Marking Products Inc.
 Street Address: 349 Ridout St. N., P.O. Box 5055
 City and Province: London, Ontario Postal Code: N6A 5S4
 Telephone Numbers: (519) 434-5785
 Emergency Telephone Number: Poison Control Centre _____
 Material Use: Solvent, cleaner

WHMIS Classification:

- Class B, Division 2 - Flammable Liquids
- Class D, Division 1B - Acutely Toxic Material (Methyl alcohol)
- Class D, Division 2B - Skin/Eye Irritant

SECTION II - HAZARDOUS INGREDIENTS

| Component | CAS Registry | Toxicology | Concentration % (w/w) |
|-----------|----------------|--|-----------------------|
| Ethanol | 64-17-5 | ACGIH TLV-TWA: 1000 ppm L _D 50: 7060mg/kg (oral, rat) L _C 50: 20,000ppm/10H (inhalation, rat) | 60-100 |
| Methanol | 67-56-1 | ACGIH TLV-TWA: 200 ppm; STEL: 250 ppm (skin) L _D 50: 7300mg/kg (oral, mouse) L _C 50: 64,000ppm/4H (inhalation, rat) | 10-30 |

SECTION III - PHYSICAL DATA

| | |
|------------------------|----------------------------------|
| Physical State: Liquid | Vapour Pressure (20 °C): 5.73kPa |
| Specific Gravity: 0.79 | Boiling Range (°C): 74-80 |
| Colour: None | Odour: Mild alcoholic |
| Viscosity: Water thin | Vapour Density (air = 1): 1.6 |
| Clarity: Transparent | Flash Point (°C): 12 |

SECTION IV - FIRE AND EXPLOSION DATA

Flammability: Flammable
 LEL (% vol) lowest value of components: 3.0
 UEL (% vol) highest value of components: 20.0
 Flash Point (°C TCC): 12
 Hazardous Combustion Products: Oxides of carbon, oxides of nitrogen, smoke
 Means of Extinction: Foam, dry chemical, water fog, water spray only to cool; product floats on water, therefore jet spreads flames.
 Fire-fighters to wear SCBA.

SECTION V - REACTIVITY DATA

Stability: Stable

Incompatibility: Strong oxidizing agents. May form explosive compounds with aqua ammonia.

Hazardous Decomposition Products: Oxides of carbon, oxides of nitrogen, smoke

SECTION VI - TOXICOLOGICAL PROPERTIES

Route of Entry: Eye, Skin, Skin Absorption, Inhalation, Ingestion.

Effects of Acute Exposure:

Eye: Irritating, burning sensation; unlikely to cause permanent eye damage

Skin: Mildly irritating.

Skin Absorption: Low toxicity by this route.

Inhalation: Irritating; headache, dizziness, drowsiness, intoxication, anesthesia

Ingestion: Headache, dizziness, drowsiness, intoxication, anesthesia

Note: Methanol is a poisonous, narcotic chemical. Ingestion of methanol can cause blindness and death. The fatal dose is 100-250mL, although death from ingestion of 33mL has been reported.

Effects of Chronic Exposure:

Skin: Prolonged exposure may cause skin cracking and dermatitis.

Repeated exposure may cause liver damage and blindness.

Irritancy: Hazardous by WHMIS criteria

Respiratory Tract Sensitization: Insufficient data available

Carcinogenicity: Not hazardous by WHMIS criteria. IARC Cancer Review: Animal Inadequate Evidence

Synergistic Materials: Ethanol is synergistic with carbon tetrachloride, chloroform, bromotrichloroethane, dimethylnitrosamine, and thioacetamide. Methanol is synergistic with carbon tetrachloride.

Reproductive Effects: Insufficient data available

Teratogenicity: Insufficient data available

Mutagenicity: Insufficient data available

SECTION VII - PREVENTATIVE MEASURES

Gloves: Solvent impermeable gloves are required for repeated or prolonged contact.

Eye Protection: Wear safety glasses meeting the specification of ANSI Z87.1 where no contact with the eye is anticipated.

Chemical safety goggles meeting the specifications of ANSI Z87.1 should be worn whenever there is a possibility of splashing or other contact with the eyes.

Respiratory Protection: Proper selection of respiratory protection depends upon many factors, including duration and level of exposure and conditions of use. In general, exposure to organic chemicals, such as those contained in this product, may not require the use of respiratory protection, if used in a well-ventilated area. In areas of restricted ventilation, a NIOSH approved organic vapour respirator may be required. Under certain conditions, such as spraying, a mechanical pre-filter may also be required. In confined areas, or in high exposure situations, a NIOSH/MSHA approved air-supplied respirator may be required. If the TLV's listed in Section II are exceeded, use a properly fitted NIOSH/MSHA approved respirator with an appropriate protection factor.

Other Protective Equipment: Safety shower and eye wash fountain in the immediate work area.

Engineering Controls: Use general dilution and local exhaust in sufficient volume, and pattern to keep concentrations of hazardous ingredients listed in Section II below the lowest exposure limit stated. Fumes emitted while baking this product must be properly vented.

Leak and Spill Procedure: Before attempting clean-up, refer to hazard data given above. Keep spectators away. Eliminate all ignition sources. Dike and contain small spills with an inert material and placed in suitable, covered labeled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice.

Waste Disposal: Review federal, provincial and local government requirements prior to disposal.

Storage Requirements: Store in a tightly closed container. Store away from incompatible materials. Store in a cool, dry, well-ventilated area. Ensure storage area has adequate ventilation and no source of open flame or sparks. Limit quantity of the material in storage. Ensure all bottles are properly labeled.

SECTION VIII - FIRST AID

Eye: Immediately flush with large amount of water, lifting upper and lower lids occasionally. Continue for at least 15 minutes. Get immediate medical attention

Skin: Remove contaminated clothing, use waterless skin cleaner, followed by soap and water wash. Obtain medical attention if irritation persists.

Inhalation: Remove to fresh air, immediately. If breathing has stopped, trained personnel should begin artificial respiration or CPR immediately. If breathing is difficult, trained personnel should administer oxygen. Get immediate medical attention, if warranted.

Ingestion: Do not induce vomiting. Rinse mouth with water, and then drink one glass of water. Get immediate medical attention. Never give anything by mouth if victim is unconscious, is rapidly losing consciousness or is convulsing.

SECTION IX - PREPARATION AND ADDITIONAL INFORMATION

TDG Shipping Name: ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Ethanol, Methanol Solution)

Product Identification Number: UN1986

Class: 3- Flammable Liquid

(6.1) - Poisonous Substances

PG: II - Medium Danger

Prepared by: Sterling Marking Products Inc.
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Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond the control of the supplier, it is assumed that user of this material has been fully trained according to the mandatory requirements of WHMIS. If user requires independent information on ingredients in this or any other material, we recommend contact with the Canadian Centre for Occupational Health and Safety (CCOHS) in Hamilton, Ontario (1-800-263-8276) or CSST in Montreal, Quebec (514-873-3990).