MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name Identifier:

SM-850 Ink

Supplier Name: Sterling Marking Products Inc. Webpage: http://www.sterling.ca
Street Address: 349 Ridout St. N., P.O. Box 5055
City and Province: London, Ontario Postal Code: N6A 5S4
Telephone Numbers: (519) 434-5785, (800) 265-5957 Fax Number: (519) 434-9516, (800) 667-6600
Emergency Telephone Number: Poison Control Centre _____
Material Use: Ink

TDG Shipping Information:

Not regulated by ground, unless >450L, then: Printing Ink, UN1210, Class: 3 - Flammable Liquid ; PG: III - Relatively Minor Danger

Emergency Response Guide Book No.: 129

WHMIS Classification:

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

IATA Shipping (Air):

Printing Ink
Packaging Instruction for Limited Quantity: Y344
Maximum Net Quantity (per outer package): 10L
Refer to Pkg. Inst. No. for inner packaging type and maximum quantity per inner package. DGr – 54th edition

SECTION II - HAZARDOUS INGREDIENTS

Component	CAS Registry	Toxicology	Concentration % (w/w)
Ethanol	**64-17-5**	ACGIH TLV-TWA: 1000 ppm L_D50: 3945mg/kg (oral, rat) L_C50: 20,000ppm/10H (inhalation, rat)	60-100
Methyl alcohol	**67-56-1**	ACGIH TLV-TWA 200 ppm (skin);STEL 250 ppm (skin) L_D50: 5600 mg/kg (oral, rat) L_C50: 64,000ppm /4H(inhalation, rat)	5-15
Ethylene glycol monobutyl ether	**111-76-2**	ACGIH TLV-TWA 20 ppm L_D50: 470mg/kg (oral, rat) L_C50: 2.9g/m3/7H (inhalation, rat)	5-15
Isopropanol	**67-63-0**	ACGIH TLV-TWA 200 ppm; STEL 400 ppm L_D50: 5045mg/kg (oral, rat) L_C50: 16,000ppm/8H (inhalation, rat)	2-7

SECTION III - PHYSICAL DATA

Physical State: Liquid
Specific Gravity: 0.96
Colour: Various
Vapour Density (Air = 1): 1.6
Clarity: Opaque

% Volatile: 75
Boiling Range (°C): 170-175
Odour: Mild
Solubility in Water (20 °C): Soluble
Flash Point (°C): 12

SECTION IV - FIRE AND EXPLOSION DATA

Flammability: Flammable
Flash Point (°C TCC): 12
LEL (% vol) lowest value of components: 2.0
UEL (% vol) highest value of components: 19.0
Hazardous Combustion Products: Oxides of carbon.
Means of Extinction: Foam, water, dry chemical, carbon dioxide.

SECTION V - REACTIVITY DATA

Stability: Stable
Incompatibility: Temperatures above 12 °C, sparks and open flames. Reacts with chemicals such as alkalis, strong acids and strong oxidizers.
Hazardous Decomposition Products: Oxides of carbon

SECTION VI - TOXICOLOGICAL PROPERTIES

Route of Entry: Route of Entry: Eye, Skin, Skin Absorption, Inhalation, Ingestion
Effects of Acute Exposure:

Eye: Excessive exposure to vapours may produce irritation.
Skin: Contact may lead to dryness, redness and local irritation.
Skin Absorption: Some components of this product may be absorbed through the skin.
Inhalation: Exposure to vapour concentration far in excess of TLV may result in signs of dizziness and discoordination.
Ingestion: Not considered a normal route of entry in industrial applications. Excessive quantity may cause headache, nausea, and vomiting. Ingestion of as little as 10mL of Isopropanol may cause serious injury, while ingestion of 100mL can be fatal. 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. Persons on Disulfiram (Antabuse R) therapy should be aware that the ethyl alcohol in this product is hazardous to them, just as alcohol from any source. Disulfiram reactions may follow ingestion of small amounts of alcohol and have also been described from skin contact. Reports of animal test studies, on one or more of the individual ingredients, have shown possible effects to the liver and kidneys. The relevance of these effects to man is unknown.

Effects of Chronic Exposure:

This product contains 2-Butoxyethanol (CAS #111-76-2). Animal studies have shown that this ingredient is a hemolytic agent, characterized by a reduction in blood cells and causes blood in urine. 2-Butoxyethanol (CAS #111-76-2) has been found to produce toxic effects in pregnant rats at about 200ppm, with no apparent increase in congenital defects among the young. 2-Butoxyethanol (CAS #111-76-2) has caused reproductive and blood disorders resulting in kidney, liver and lung damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Pregnant women and persons with pre-existing health disorders should consult their physician before using this product. Persons with pre-existing skin or lung disorders may be susceptible to the effects of this material. Repeated and prolonged overexposure, and/or individual sensitivity, may increase the potential for, and degree of, adverse health effects.

Irritancy: Hazardous by WHMIS criteria
Respiratory Tract Sensitization: Insufficient data available.
Carcinogenicity: Not hazardous by WHMIS criteria.
Synergistic Materials: No data available.
Reproductive Effects: This product contains 2-Butoxyethanol (CAS #111-76-2), which has been found to cause reproductive and blood disorders resulting in kidney, liver and lung damage.
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, 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: PRINTING INK, flammable
Product Identification Number: UN1210
Class: 3 - Flammable Liquid **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).