

Part Number(s): DO

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name Identifier:

DO Marker Ink (All Colours)

Supplier Name: Sterling Marking Products Inc.
 Street Address: 349 Ridout St. N.,
 City and Province: London, Ontario
 Postal Code: N6A 2N8

Telephone Numbers: (519) 434-5785, (800) 265-5957
 Fax Number: (519) 434-9516, (800) 667-6600
 Webpage: <http://www.sterling.ca>

Emergency Telephone Number: CANUTEC (613) 996-6666; Cellular *666

Material Use: **Marker Ink**

TDG Shipping Information:

Printing ink, UN1210 Class: 3 PG: III

WHMIS Classification:

Class B, Division 2 - Flammable Liquids
 Class D, Division 2B - Skin/Eye Irritant

IATA Shipping (Air):

Printing ink
Packaging Instruction for Limited Quantity: Y309
Maximum Net Quantity (per outer package): 10 L
 Refer to Pkg. Inst. No. for inner packaging type and maximum quantity per inner package.

SECTION II - HAZARDOUS INGREDIENTS

Component	CAS Registry	Toxicology	Concentration % (w/w)
Ethanol	64-17-5	ACGIH TLV-TWA 1000 ppm LD50: 7060 mg/kg (oral, rat) LC50: 20,000ppm/10H (inhalation, rat)	20-40
Ethyl acetate	141-78-6	ACGIH TLV-TWA 400 ppm LD50: 5620 mg/kg (oral, rat) LC50: 200 gm/m3 (inhalation, rat)	5-20
Propylene glycol monomethyl ether	107-98-2	TLV: 100ppm LD50: 6600 mg/kg (oral, rat) LC50: 10,000ppm/5H (inhalation, rat)	5-20
Isopropyl alcohol	67-63-0	ACGIH TLV-TWA 200 ppm; STEL 400 ppm LD50: 5000 mg/kg (oral, rat) LC50: 72600 mg/m3 (inhalation, rat)	0-5

SECTION III - PHYSICAL DATA

Physical State: Liquid
Specific Gravity: Not indicated
Colour: According to product specification
Viscosity: Not indicated
Clarity: Not indicated
Vapour pressure at 20 (°C): 97.0 hPa

VOC's Lbs/ Gallon: 510 – 670 g/l
Boiling Point (°C): 76
Odour: Characteristic
Solubility in Water (20 °C): Not miscible
Ignition Temperature (°C): 270
Density: Not Determined



Solvent content: 62% Organic solvents
VOC's Lbs/Gallon: 510 – 670 g/l

Solids Content: 38.0 %

SECTION IV - FIRE AND EXPLOSION DATA

Flammability: Flammable

Ignition Temperature (°C): 270

LEL (% vol) lowest value of components: 2.1

UEL (% vol) highest value of components: 15.0

Hazardous Combustion Products: Oxides of carbon, and other organic combustion products.

Flash Point (°C TCC): -1

Auto Igniting: Product is not selfigniting

Potential Hazards: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

Means of Extinction Fire: CAUTION: This product has a low flash point: Use Carbon dioxide, sane, or an extinguishing powder. To not use water to extinguish. Use media suitable for surrounding fire. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

Special Fire-Fighting Procedures: Clear area of unprotected personnel. Firefighters should wear NIOSH-approved, self-contained breathing apparatus (SCBA). Use water spray to cool fire-exposed surfaces. Also, use water to flush spilled material away from source. Vapours are harmful; stay upwind of a fire to minimize breathing of vapours, gases, fumes, or decomposition products being generated.

Unusual Fire & Explosion Hazards: Containers exposed to intense heat from fire must be cooled to prevent vapour pressure build-up that may result in container rupture. Cool containers exposed directly to flames with large quantities of water as needed to prevent weakening of container itself. Never use a welding or cutting torch on or near container.

Empty Container Warning: "Empty" containers contain residues (liquid, solid, and/or vapour) that can be dangerous. DO NOT pressurize, cut, weld, braze, grind, drill, solder, or expose containers to heat, sparks, open flame. They may explode and cause injury and/or death. DO NOT attempt to clean drums. Residues are difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioned. Dispose of all containers in an environmentally safe way and in accordance with governmental regulations. For work on tasks, refer to OSHA regulations ANSIZ49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other operations.

SECTION V - REACTIVITY DATA

Stability: Stable

Incompatibility: Strong oxidizing agents. Ethanol reacts with aluminum at high temperatures.

Hazardous Decomposition Products: No dangerous decomposition products known.

SECTION VI - TOXICOLOGICAL PROPERTIES

Routes of Entry: Eye, Skin, Inhalation, Ingestion

Effects of Acute Exposure:

Eye: May cause irritation, redness, tearing, blurred vision.

Skin: No irritating effect known.

Inhalation: Excessive inhalation may cause irritation of the nose and respiratory tract and central nervous system effects such as headache, dizziness, and possible unconsciousness.

Ingestion: Can cause gastrointestinal irritation, nausea and vomiting.

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:

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.

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: Not established.

Carcinogenicity: Not hazardous by WHMIS criteria

Synergistic Materials: Not established.

Reproductive Effects: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects, which together constitute the fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and a small -sized head.

Teratogenicity: Not established.

Mutagenicity: Not established.

SECTION VII - PREVENTATIVE MEASURES

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

Eye Protection: Wear safety glasses where contact with the eye is anticipated. Chemical safety goggles 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.

Use material only with adequate ventilation to prevent exceeding the recommended exposure limit or a build-up of explosive concentrations in the air. Use explosion proof equipment. No smoking or open lights. Air-dry contaminated clothing in a well ventilated area before laundering.

Other Protective Equipment Recommended: Safety shower and eye wash fountain in the 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:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas; run-off from fire control or dilution water may cause pollution. A vapour suppressing foam may be used to reduce vapours. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean, non-sparking tools to collect absorbed material.

Waste Disposal: Review federal, provincial and local government requirements prior to disposal. Use a licensed waste treatment facility or reclaimer.

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.

Maximum storage temperature: 49 °C

Minimum storage temperature: 2 °C

Special Precautions: Ground all equipment to prevent static discharge. Keep containers away from heat, sparks, and open flame. Wash thoroughly with soap and water after handling material.

SECTION VIII - FIRST AID

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Eye: Immediately flush eyes with a directed stream of water for at least 15 minutes, while holding eyelids open. If irritation or redness develops or persists, get medical attention.

Skin: Flush affected areas with large amounts of water, remove contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation or redness develops or persists, get medical attention.

Inhalation: Remove victim to fresh air. If breathing difficulties develop, administer oxygen and get medical attention. If victim is not breathing, administer artificial respiration and get medical attention.

Ingestion: DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs (Aspiration pneumonitis can be fatal). If victim conscious and alert, give victim lukewarm water. GET IMMEDIATE MEDICAL ATTENTION.

SECTION IX - PREPARATION AND ADDITIONAL INFORMATION

Prepared by: Sterling Marking Products Inc.
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Supersedes: August 25, 2006
Revision Date: May, 04, 2010

Expires: 04-May-13

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).