

Part Number(s): 102-74

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name Identifier:

DPI 74 Ink (Orange)

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>
 E-Mail: sales@sterling.ca

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

Material Use: **Ink**

TDG Shipping Information:

Printing ink, UN1210

Class: 3 - Flammable Liquid

PG: II - Medium Danger

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: Y305
Maximum Net Quantity (per outer package): 1L
 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)
Methyl ethyl ketone	78-93-3	TLV: 200 ppm ACGIH STEL: 300ppm L _D 50: 2737mg/kg (oral, rat) L _C 50: 23.5g/m ³ /8H (inhalation, rat)	20-50
Ethanol	64-17-5	TLV: 1000ppm L _D 50: 3945mg/kg (oral, rat) L _C 50: 20,000ppm/10H (inhalation, rat)	20-50
Molybdenum orange	12656-85-8	TLV: 0.05 mg/m ³ ACGIH STEL: 0.05 mg/m ³ L _D 50: OSHA PEL C.I. Pigment Red 104: L _C 50: Not available	5-20
Ethyl acetate	141-78-6	TLV: 400 ppm L _D 50: 4100mg/kg (oral, rat) L _C 50: 12,500ppm/8H (inhalation, rat)	5-20
Toluene	108-88-3	TLV: 50 ppm ACGIH STEL: 150ppm L _D 50: 2.6-7.5g/kg (oral, rat) L _C 50: 8800ppm/4H (inhalation, rat)	5-20

Isopropanol	67-63-0	TWAEV: 200ppm STEV: 400 ppm LD50: 4710mg/kg (oral, rat) LC50: 16,000ppm/4H (inhalation, rat)	1-5
Methyl isobutyl ketone	108-10-1	TLV: 50 ppm STEL: 75ppm LD50: Not available LC50: Not available	0-1
<p>Note: All ingredients are listed on the Domestic Substances List (DSL) and the Toxic Substances Control Act (TSCA) list.</p>			

SECTION III - PHYSICAL DATA

<p>Physical State: Liquid Specific Gravity: 0.958 Colour: Orange Vapour Density: Heavier than air Evaporation Rate: Faster than n-Butyl acetate</p>	<p>% Volatile (by Volume): 88.05 Boiling Point (°C): 77 Odour: Solvent Solubility in Water (20 °C): Not available Flash Point (°C): -5</p>
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SECTION IV - FIRE AND EXPLOSION DATA

Flammability: Flammable
Flash Point (°C TCC): -5
 LEL (% vol) lowest value of components: 1.0
 UEL (% vol) highest value of components: 19.0
Hazardous Combustion Products: Oxides of carbon, oxides of nitrogen, and other organic combustion products.

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 of water spray when fighting fire may be inefficient. Dry chemical, carbon dioxide, water spray or alcohol-resistant foam. 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: This product is stable.

Incompatibility: Avoid contact with strong oxidizing agents. Ethanol reacts with aluminum at high temperatures.

Hazardous Decomposition Products: Oxides of carbon, oxides of nitrogen, and other organic combustion products.

SECTION VI - TOXICOLOGICAL PROPERTIES

Routes of Entry: Eye, Skin, Inhalation, Ingestion

Effects of Acute Exposure:

Eye: Direct eye contact with liquid will cause burning, redness, and tearing. Contact with vapours are irritating to eyes.

Skin: Prolonged or repeated contact with liquid can cause drying and/or defatting of the skin, which may promote dermatitis and irritation.

Skin Absorption: May cause toxic effects if inhaled or absorbed through the skin. Some components may absorb through the skin and cause CNS effects, similar to inhalation.

Inhalation: Vapours can cause irritation to nose, throat and respiratory tract. High vapour concentrations may result in central nervous system (CNS) depression, evidenced by giddiness, headache, dizziness, and nausea. In extreme cases, unconsciousness and death can occur.

Ingestion: Swallowing of product will cause gastrointestinal distress, nausea, vomiting and/or diarrhea. Material is moderately toxic by ingestion.

Ingestion of as little as 10mL of Isopropanol may cause serious injury, while ingestion of 100mL can be fatal. 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.

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.

Ethanol has been shown to have a weak skin sensitizing potential in a very small percentage of the population.

Irritancy: Hazardous by WHMIS criteria

Respiratory Tract Sensitization: Insufficient data available

Carcinogenicity: The International Agency for Research on Cancer (IARC) has determined that the consumption of alcoholic beverages is casually related to the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus, and liver in humans. The carcinogenic response attributed to drinking alcoholic beverages has not been verified in studies with laboratory animals. Established uses of denatured ethanol and non-beverage uses of pure ethanol are not considered to pose any significant cancer hazard.

Synergistic Materials:

Reproductive Effects: Prolonged and repeated exposure of pregnant animals to toluene (levels greater than approximately 1500ppm) has been reported to cause adverse fetal developmental effects.

Teratogenicity:

Mutagenicity:

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.

Other Protective Equipment Recommended: Eye wash station 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.

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 all bottles are properly labeled.

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 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.

NOTES TO PHYSICIAN: Symptoms vary with the alcohol level of the blood. Mild alcohol intoxication occurs at blood levels between 0.05-0.15% and approximately 25% of individuals will show signs of intoxication at these levels. Above 0.15%, the person is definitely under the influence of ethanol and 50-95% of individuals at this level are clinically intoxicated. Severe poisoning occurs when blood ethanol level is 0.3-0.5%. Above 0.5%, the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids. In the presence of hypoglycemia, administer 5-10% glucose intravenously, plus thiamine 100mg intramuscularly. Hemodialysis is indicated if the blood ethanol is above 5mg/mL. Naloxone may be useful to reverse clinical alcoholic coma and 0.04-1.2mg intravenously may arouse ethanol-intoxicated patients.

SECTION IX - PREPARATION AND ADDITIONAL INFORMATION

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).