

MSDS Reference Number(s): RS100, RS100-2, RS100-4, RS100-4, RS100-8, RS100-16, RS100-32, MM100

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name Identifier:

RS-100 (Blue, Green, Purple) Ink

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: Ink

TDG Shipping Information:

Printing ink, UN1210

Class: 3.3 - Flammable Liquids with Flash Point 23 C to 61 C

PG: III - Relatively Minor Danger

WHMIS Classification:

Class B, Division 3 - Combustible 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): 10L
 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)
Ethylene glycol	107-21-1	TLV: 50ppm L _D 50: 4700mg/kg (oral, rat) L _C 50: 10876mg/kg (inhalation, rat)	30-60
Diacetone alcohol	123-42-2	TLV: 50ppm L _D 50: 4000mg/kg (oral, rat) L _C 50: 1000ppm (inhalation, rat)	15-40
<u>Purple Ink Only:</u> Methyl violet	1325-82-2	TLV: Not available L _D 50: Not available L _C 50: Not available	1-5

SECTION III - PHYSICAL DATA

Physical State: Liquid
Specific Gravity: 1.04
Colour: Various
Viscosity: As Water
Clarity: Opaque

% Volatile: 94
Boiling Point (°C): 128
Odour: Strong
Solubility in Water (20 °C): Soluble
Flash Point (°C): 60



SECTION IV - FIRE AND EXPLOSION DATA

Flammability: Combustible

Flash Point (°C TCC): 60

LEL (% vol) lowest value of components: 1.8

UEL (% vol) highest value of components: 6.9

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

Means of Extinction Fire: Dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

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: Avoid contact with strong caustics as they can cause decomposition. Strong oxidizing agents can increase risk of fire and explosion. Strong acids can increase temperature and pressure within a closed container. Contact with chromium trioxide and potassium permanganate should also be avoided. Keep container tightly closed to avoid contact with air. Material is hygroscopic (i.e. it absorbs moisture from the air).

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: Contact can cause moderate to high irritation.

Skin: Acts as a mild irritant on the skin.

Inhalation: May cause nose throat and respiratory tract irritation, coughing and headaches. Higher levels result in dizziness, nausea, and depression of the central nervous system. At extremely high levels (i.e. > 1000ppm), effects range from unconsciousness, respiratory depression, and even death.

Ingestion: May cause vomiting, headaches, abdominal pain, weakness, as well as drunkenness, dizziness, stupor, convulsions and coma. Death may occur from respiratory arrest or cardiovascular collapse.

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: Insufficient data available.
Carcinogenicity: Not hazardous by WHMIS criteria.
Synergistic Materials: Insufficient data available.
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 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.

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 20 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

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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).