

**MATERIAL SAFETY DATA SHEET**

**SECTION I - MATERIAL IDENTIFICATION AND USE**

**Material Name Identifier:**

**H1 Hardener**

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: **Pad Printing Ink**

**TDG Shipping Information:**

**PAINT RELATED MATERIAL**

**Class: UN1263, Class 3**

**PG: III**

**WHMIS Classification:**

Class B, Division 3 - Combustible Liquids  
 Class D, Division 2A- Skin/Eye Irritant  
 Class D, Division 2B - Skin/Eye Irritant

**IATA Shipping (Air):**

PAINT RELATED MATERIAL

**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 – 54<sup>th</sup> edition

**SECTION II - HAZARDOUS INGREDIENTS**

Component	CAS Registry	Toxicology	Concentration % (w/w)
3-(2-Aminoethylamino) propyltrimethoxysilane	<b>1760-24-3</b>	TLV: Not Available LD50: Not Available LC50: Not Available	50
Solvent naphtha (petroleum), light arom.	<b>64742-95-6</b>	TLV: Not Available LD50: Not Available LC50: Not Available	25-50
N,N'-Bis[3-(trimethoxysilyl)propyl]ethylene diamine	<b>68845-16-9</b>	TLV: Not Available LD50: Not Available LC50: Not Available	1-2.5
1-(2-Aminoethyl)-2,2-dimethoxy-1-aza-2-silacyclopentane	<b>618914-51-5</b>	TLV: Not Available LD50: Not Available LC50: Not Available	1-2.5
Methanol	<b>67-56-1</b>	TLV: Not Available LD50: Not Available LC50: Not Available	0.5-1

**Note: All ingredients are listed on the Domestic Substances List (DSL) and the Toxic Substances Control Act (TSCA) list.**



### SECTION III - PHYSICAL DATA

**Physical State:** Liquid  
**Density (20 °C):** 0,970 g/cm<sup>3</sup>  
**Colour:** clear, yellow-tinged  
**Vapour Pressure (20 °C):** 3 hPa  
**Evaporation Rate :** Not Available

**% Volatile:** Not available  
**Boiling Point (°C):** >160  
**Odour:** solvent like  
**Solubility in Water (20 °C):** parts of solvents  
**Flash Point (°C):** 47

### SECTION IV - FIRE AND EXPLOSION DATA

**Flammability:** Flammable  
LEL (% vol) lowest value of components: 1.0  
UEL (% vol) highest value of components: 10.8

**Flash Point (°C TCC):** 39

**Hazardous Combustion Products:** Carbon monoxide, Carbon dioxide, soot, nitrogen oxides, isocyanate vapours and traces of cyanic acids.

**Conditions of Flammability:** Avoid heat, sources of ignition, static electricity, and electrical equipment. Keep containers closed. Containers may explode under extreme heat. Application to hot surfaces requires special precautions. Do not smoke near material.

**Means of Extinction Fire:** Carbon dioxide, foam, sand, dry extinguishing agent

**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:** Not explosive regarding sensitivity to mechanical impact. Solvent vapour in air may explode within flammable limits due to static discharge.

### SECTION V - REACTIVITY DATA

**Stability:** Stable

**Incompatibility:** Keep away from oxidizing agents, strongly alkaline and strongly acid materials. Exothermic reactions occur with amines and alcohols. Preparation reacts slowly with water resulting in evolution of CO<sub>2</sub> which produces a risk of bursting in closed containers.

**Hazardous Decomposition Products:** When exposed to high temperatures, dangerous decomposition products such as carbon dioxide, carbon monoxide, soot, nitrogen oxides, isocyanate vapours and traces of cyanic acids can be produced.

### SECTION VI - TOXICOLOGICAL PROPERTIES

**Routes of Entry:** Eye, Skin, Inhalation, Ingestion

Effects of Acute Exposure:

Inhalation may cause head-ache, dizziness, tiredness, nausea. High concentration may cause vomiting, breathing difficulties, unconsciousness. Irritating and defatting effect on skin, danger of inflammation. Possibility of skin resorption. Irritating to eyes. With prolonged contact possibility of corneal opacity. Ingestion may cause nausea, indigestion, vomiting, diarrhea.

Effects of Chronic Exposure:

May effect liver, kidneys and central nervous system in case of repeated overexposure.

**Irritancy:** Vapour may irritate respiratory tract; liquid is irritating to skin and eyes.

**Sensitization:** Isocyanate components may cause sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the occupational exposure limit.

**Carcinogenicity:** Not Available

**Synergistic Materials:** No data

**Reproductive Effects:** Not Available

**Teratogenicity:** Not Available

**Mutagenicity:** Not 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.

**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:**

Ventilate area. Cover with humid liquid absorbing material (eg. Diatomaceous earth, sand). After about one hour, take off into waste bin, but do not cover (carbon dioxide development). Keep damp and allow to stand in a secure area in the open air, for a few more days.

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

**Storage Requirements:** Recommended storage temperature: 15-20° C. 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. Wash hands thoroughly before eating, drinking or using toilet facilities. Avoid contact with skin and eyes. Use re-greasing skin cream. Do not empty into drains.

## SECTION VIII - FIRST AID

**General Information:** Immediately remove all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical attention. Unconsciousness: lateral position – call a physician.

**Eye:** Immediately flush eyes with a directed stream of water for at least 10-15 minutes, while holding eyelids open. Seek medical attention.

**Skin:** Flush affected areas with large amounts of water, remove contaminated clothing. Wash affected areas thoroughly with soap and water. Do not use solvents or thinner to wash! 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:** **GET IMMEDIATE MEDICAL ATTENTION. Keep at rest. Do not induce Vomiting.**

## SECTION IX - PREPARATION AND ADDITIONAL INFORMATION

**Prepared by:** Sterling Marking Products Inc.  
Quality Planning and Engineering Department  
349 Ridout St., N.  
London, Ontario N6A 2N8

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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).