

MATERIAL SAFETY DATA SHEET

#1054S SOLVENT
DECEMBER 19, 2006 - REV. 7
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IMPORTANT: READ THIS MSDS BEFORE HANDLING AND DISPOSING OF THIS PRODUCT AND PASS THIS INFORMATION ON TO EMPLOYEES, CUSTOMERS AND USERS OF THIS PRODUCT.

**24 HOUR EMERGENCY TELEPHONE NUMBERS: DOMESTIC US/NORTH AMERICA 800-424-9300
INTERNATIONAL (OUTSIDE US): 703-527-3887**

SECTION I - GENERAL INFORMATION

GENERIC NAME:	Flexographic Ink Solvent
TECHNICAL NAME:	Ethylene glycol monobutyl ether
DOT HAZARDOUS MATERIALS PROPER SHIPPING NAME:	Combustible Liquid, n.o.s.
DOT HAZARD CLASS:	None
UN/NA ID NO.:	NA 1993
PACKING GROUP:	PG III
HMIS CODES:	2H, 2F, 0R

SECTION II- COMPOSITION

INGREDIENT NAME	CAS NUMBER	PERCENTAGE	OCCUPATIONAL EXPOSURE LIMITS
2-Butoxyethanol	111-76-2	100	ACGIH TWA 20 ppm / OSHA PEL 50 ppm

SECTION III – PHYSICAL DATA

BOILING POINT:	168 - 173 °C / 334 - 343 °F
FLASH POINT:	67 °C / 153 °F (Abel)
VAPOR PRESSURE:	80 Pa at 20 °C / 68 °F
WATER SOLUBILITY:	at 20 °C / 68 °F Completely miscible
VAPOR DENSITY (air=1):	4.1
MATERIAL V.O.C.:	100%
APPEARANCE:	Clear. Liquid
ODOR:	Rancid sweet.
EVAPORATION RATE (nBuAc=1):	0.08 (ASTM D 3539, nBuAc=1)

SECTION IV - FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

FLASH POINT:	67°C/153°F (Abel)
EXPLOSION/FLAMMABILITY limits in air:	1.1-10.6% (V)
AUTO IGNITION TEMPERATURE:	240°C/464°F (ASTM E-659)
SPECIFIC HAZARDS:	Carbon monoxide may be evolved if incomplete combustion occurs. The vapor is heavier than air, spreads along the ground and distant ignition is possible.
EXTINGUISHING MEDIA:	Alcohol resistant foam, water spray or fog. Dry chemical power, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
PROTECTIVE EQUIPOMENT FOR FIREFIGHTERS:	Wear full protective clothing and self-contained breathing apparatus.
ADDITIONAL ADVICE:	Keep adjacent containers cool by spraying with water.

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SECTION V- HEALTH HAZARD DATA

INHALATION:	Slightly irritating to respiratory system.
SKIN CONTACT:	Irritating to skin.
EYE CONTACT:	Risk of serious damage to eyes.
INGESTION:	Harmful if swallowed.
OTHER INFORMATION:	Possibility of organ or organ system damage from prolonged exposure. Target organ: cardiovascular system. Central Nervous System.
SIGNS & SYMPTOMS:	Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
AGGRAVATED MEDICAL CONDITION:	Skin. Eyes.

SECTION VI – FIRST AID MEASURES

GENERAL INFORMATION:	Obtain medical treatment immediately.
INHALATION:	Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to nearest medical facility for additional treatment.
SKIN CONTACT:	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
EYE CONTACT:	Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to nearest medical facility for additional treatment.
INGESTION:	DO NOT INDUCE VOMITING. Transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
ADVICE TO PHYSICIAN:	Consult a Poison Control Center for guidance. Ingestion may cause coma, metabolic acidosis, and haemoglobinuria. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

SECTION VII- ACCIDENTAL RELEASE MEASURES

PROTECTIVE MEASURES:	Avoid contact with spilled or released material. Immediately remove all contaminated clothing. Shut off leaks, if possible, without personal risks. Remove all possible sources of ignition in the surrounding area. Take precautionary measures against static discharge.
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CLEAN UP METHODS:	For small liquid spills (less than one drum) transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. For large liquid spills (one drum and greater) transfer by mechanical means to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste.
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SECTION VIII – HANDLING AND STORAGE

GENERAL PRECAUTIONS:	Avoid breathing of or contact with material. Use only in well ventilated areas. Wash thoroughly after handling.
HANDLING:	Avoid inhaling vapor and/or mists. Avoid contact with skin, eyes, and clothing. Electrostatic discharge may cause fire. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge. Avoid splash filling. Do NOT use compressed air for filling, discharging or handling operations. Handling temperature: Ambient.
STORAGE:	Keep container tightly closed. Must be stored in diked (bundled) area. Bulk storage tanks should be diked (bundled), away from sunlight, ignition sources and other sources of heat. Must be kept inhibited during storage and shipment as material can polymerise. Vapors from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapor treatment system. Storage temperature: Ambient.
PRODUCT TRANSFER:	Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.
RECOMMENDED MATERIALS:	For containers or linings, use mild steel, stainless steel.
UNSUITABLE MATERIALS:	Aluminum. Most plastics. Natural, butyl or nitrile rubbers.
ADDITIONAL INFORMATION:	Glycol ethers can be peroxide formers.

SECTION IX– PERSONAL PROTECTION

RESPIRATORY PROTECTION:	Equipment suitable for specific conditions of use and meeting relevant legislation.
HAND PROTECTION:	Longer term protection: Butyl rubber gloves. Incidental contact/Splash protection: Natural rubber. Neoprene rubber. Nitrile rubber.
EYE PROTECTION:	Chemical splash goggles.
PROTECTION CLOTHING:	Clothing which is chemical resistant to this material.

SECTION X – STABILITY & REACTIVITY

STABILITY:	Stable under normal conditions of use. Glycol ethers can be peroxide formers. Potential exists for runaway reaction at elevated temperatures in the presence of strong bases and salts of strong bases. Reacts with strong oxidizing agents.
CONDITIONS TO AVOID:	Exposure to air. Avoid heat, sparks, open flames and other ignition sources.
MATERIALS TO AVOID:	Strong oxidizing agents. Acids. Strong bases. Salts of strong bases. Aluminum.
HAZARDOUS DECOMPOSITION PRODUCTS	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this

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	material undergoes combustion or thermal or oxidative degradation. May form explosive peroxides.
HAZARDOUS REACTIONS:	Hygroscopic.

SECTION XI – TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY:	Moderate toxicity: LD50>500-2000 mg/kg, guinea pig.
ACUTE DERMAL TOXICITY:	Low toxicity LD50>2000 mg/kg, guinea pig.
ACUTE INHALATION TOXICITY:	No deaths at highest tested dose. /1 hours, guinea pig.
SKIN IRRITATION:	Irritating to skin.
EYE IRRITATION:	Risk of serious damage to eyes. Effects did not fully reverse over duration of study.
RESPIRATORY IRRITATION:	Inhalation of vapors or mists may cause irritation to the respiratory system. (2-Butoxyethanol).
SENSITISATION:	Not a skin sensitizer.
MUTAGENICITY:	Not mutagenic.
REPEATED DOSE TOXICITY:	Blood: causes hemolysis of red blood cells and /or anemia in animals, but not considered relevant for man.
CARCINOGENICITY:	US NTP inhalation studies found no evidence of cancer in rats. In mice, a small increase in tumors of the liver and the forestomach occurred, which are of uncertain relevance to man.
REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:	Affects reproductive system in animals at doses which produce other toxic effects. Causes foetotoxicity in animals at doses which are maternally toxic.

SECTION XII – DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
CONTAINER DISPOSAL:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld unclean drums. Send to drum recoverer or metal reclaimer.

SECTION XIII- REGULATORY INFORMATION

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III AND OF 40 CFR 372.
NONE

DISCLAIMER OF LIABILITY

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