

**MATERIAL SAFETY DATA SHEET
VIVID CONCRETE DYE**

Prepared according to 29CFR 1910.1200

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MSDS NO: 251

DATE PREPARED: March 2007

DATE REVIEWED: July 2008

SECTION I - IDENTIFICATION

L&M CONSTRUCTION CHEMICALS, INC.
14581 CALHOUN ROAD
OMAHA, NE 68152

ASSISTANCE (CHEMTREC) 800-424-9300
EMERGENCY PHONE NO. 402-453-6600

PRODUCT NAME: **VIVID CONCRETE DYE**

UN NO.: Not Applicable
DOT CLASS: Non-regulated

CHEMICAL

NAME: 2:1 CHROMIUM COMPLEX AZO DYE

DOT SHIPPING NAME: Not Applicable

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>INGREDIENT</u>	<u>CAS#</u>	<u>OSHA/PEL</u>	<u>% by WT.</u>
Chromium III compound	None	0.5 mg/m ³	>50%
[N090]Chromium as an integral part of dye molecule	7440-47-3	0.5 mg/m ³	>3%

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

Odor:

Odorless

Solubility in Water:

Insoluble

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point and Method: NA

Flammable Limits: LEL: NA

UEL: NA

Extinguishing Media: WATER SPRAY, DRY CHEMICALS, FOR OR CARBON DIOXIDE.

Special Fire Fighting Procedures: FIREFIGHTERS SHOULD WEAR FULL-FACE, SELF-CONTAINED BREATHING APPARATUS AND IMPERVIOUS PROTECTIVE CLOTHING.

Unusual Fire and Explosion Hazards: NONE EXPECTED, BUT AVOID THE BUILD UP OF DYE DUST CLOUDS WHICH COULD BE EXPLOSIVE, AS OTHER ORGANIC POWDERS ARE.

SECTION 5 – REACTIVITY DATA

Stability: STABLE UNDER NORMAL STORAGE CONDITIONS.

Incompatibility: (Materials to Avoid): OXIDIZING AND REDUCING AGENTS.

Hazardous Decomposition Products: BURNING WILL PRODUCE OXIDES OF CARBON, NITROGEN AND SULFUR.

Hazardous Polymerization: WILL NOT OCCUR UNDER NORMAL CONDITIONS.

SECTION VI – HEALTH HAZARD DATA

Effects of Overexposure

Acute: MAY CAUSE SLIGHT IRRITATION OF EYES AND/OR SKIN.

Chronic: NO CHRONIC ILL EFFECTS KNOWN.

Eyes: IMMEDIATE AND CONTINUOUS IRRIGATION WITH FLOWING WATER FOR AT LEAST FIFTEEN MINUTES. CONSULT PHYSICIAN IF IRRITATION OCCURS.

Skin: IMMEDIATELY FLUSH SKIN WITH PENTY OF WATER. WASH WELL WITH SOAP AND WATER. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Ingestion: IF CONSCIOUS, GIVE TWO GLASSES OF WATER TO DILUTE. INDUCE VOMITING ONY IF ADVISED BY POISON CONTROL CENTER.

Inhalation: REMOVE TO FRESH AIR. IF EFFECTS OCCUR, CONSULT PHYSICIAN

Toxicological Information

LD50 Oral (Ingestion)	N.E.
LD50 Dermal (Skin Contact)	N.E.
LC50 (Inhalation)	N.E.
Primary Route of Exposure	N.E.
Threshold Limit Value	N.E.

NFPA Product code - Health: 1, Fire: 1, Reactivity: 0, Specific: N.A

SECTION VII – PRECAUTIONS FORF SAFE HANDLING AND USE

Precautions To Be Taken In Handling and Storing: AVOID BREATHING DUST, AVOID CONTACT

WITH EYES AND SKIN. MAINTAIN GOOD HOUSEKEEPING TO AVOID DUST BUILD UP. AVOID INGESTION, EYE AND SKIN CONTACT. MINIMIZE INHALATION EXPOSURE BY USING DUST RESPIRATOR.

VIVID CONCRETE DYE
SECTION VII continued:

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WASH HANDS AFTER USING DYE TO AVOID CONTACT OF THE SKIN OR EYES WITH CONTAMINATED HANDS. WASH THOROUGHLY AFTER HANDLING. STORE IN A DRY PLACE AWAY FROM EXCESSIVE HEAT, IN ORIGINAL OR SIMILAR WATERPROOF CONTAINERS. RESEAL CONTAINERS IMMEDIATELY AFTER USE.

Practices: HANDLE WITH DUE CARE AND MINIMIZE EXPOSURE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE PRACTICE.

Ventilation: USE LOCAL EXHAUST VENTILATION TO MINIMIZE EXPOSURE.

Respiratory: A NIOSH/MSHA APPROVED DUST RESPIRATOR SHOULD BE WORN.

Eye Protection: WEAR SIDE-SHIELD SAFETY GLASSES OR CHEMICAL SAFETY GOGGLES.
Protective Gloves: WEAR IMPERVIOUS GLOVES AS A STANDARD HANDLING PROCEDURE.

Other: DELUGE SAFETY SHOWER, EYE WASH STATION, PROTECTIVE CLOTHING.

All chemicals should be handled so as to prevent eye contact and excessive or repeated skin contact. Appropriate eye and skin protection should be employed. Inhalation of dusts and vapors should be avoided.

NFPA Fire Hazards Codes - Minimal:0, Slight:1, Moderate:2, Severe:4

SECTION VIII – CONTROL MEASURES

Accidental Release Measures: UTILIZE RECOMMENDED PROTECTIVE CLOTHING AND RESPIRATORY PROTECTION. MIX MATERIAL WITH SWEEPING COMPOUND TO MINIMIZE DUSTING WHILE SWEEPING UP AND CONTAINING. VACUUM CONTAMINATED AREA.

Disposal Considerations: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL CONTROL REGULATIONS. EMPTIED CONTAINERS RETAIN PRODUCT

TSCA: ALL COMPONENTS OF THIS RODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCE CONTROL ACT.

SARA HAZARD CLASS: ACUTE

SECTION 313: THIS DYE STUFF 100% BY WEIGHT CHROMIUM COMPOUND (N090)WHICH IS REPORTABLE UNDER SECTION 313.

DISCLAIMER

Information contained herein is, to our best knowledge, true and accurate. It is offered for information only, as we cannot guarantee the results of processes not under our direct control.

Prepared by Stuart Wood, August 23, 2005.

N.E. - Not Established N.A. - Not Applicable

MATERIAL SAFETY DATA SHEET
VIVID CONCRETE DYE – WATER BASED
 Prepared according to 29CFR 1910.1200

DATE PREPARED: July 2008

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 MSD NO: 255

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, New Zealand, Japanese, and European Union Standards

SECTION 1: IDENTIFICATION

L&M CONSTRUCTION CHEMICALS, INC.
 14851 CALHOUN ROAD
 OMAHA, NE 68152

ASSISTANCE (CHEMTREC) 800 424-9300
 EMERGENCY PHONE NO. 402 453-6600

PRODUCT NAME: **VIVID DYE - WATER BASED**
 CHEMICAL NAMES: Glycol Ether /Dye Mixture
 PRODUCT USE: Concrete Tint

UN NO.: NA 1993
 HAZCHEM CODE (AUSTRALIA): N/A
 POISONS SCHEDULE NUMBER (AUSTRALIA):
 N/A
 U.N. DANGEROUS GOODS CLASS/SUBSIDIARY
 RISK: N/A
 SYNONYMS: N/A
 HAZCHEM CODE (AUSTRALIA): N/A
 POISONS SCHEDULE NUMBER (AUSTRALIA):
 N/A

SECTION 2. COMPOSITION and INFORMATION ON INGREDIENTS

EU LABELING/CLASSIFICATION: This product meets the definitions of Harmful and Irritant as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

EU CLASSIFICATION: Xn: [Harmful]; Xi [Irritant]
 EU RISK PHRASES: R: 20/21/22; R: 36/38

CHEMICAL NAME	CAS #	EINECS #	AICS Inventory Listing	% w/v	EU CLASSIFICATION FOR COMPONENTS
Proprietary Defoamer				Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Dyes				Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Proprietary Black Dye	Proprietary Unlisted		Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Proprietary Blue Dye	Proprietary Unlisted		Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Proprietary Brown Dye	Proprietary Unlisted		Not Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.

SECTION 2 COMPOSITION and INFORMATION ON INGREDIENTS Continued:

CHEMICAL NAME	CAS #	EINECS #	AICS Inventory Listing	% w/v	EU CLASSIFICATION FOR COMPONENTS
Dyes (continued)					
Proprietary Red Dye	Proprietary Unlisted		Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Proprietary Yellow Dye	Proprietary Unlisted		Not Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Ethoxylated Nonylphenol	Proprietary	Proprietary (No-Longer Polymers List)	Listed	Proprietary	Hazard Classification: Not established. Risk Phrases: Not established.
Proprietary Glycol Monobutyl Ether			Listed	Proprietary	Hazard Classification: Xi [Irritant] Risk Phrases: R: 36

NOTE: ALL Canadian WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. All European Union, Australian (NOHSC:2011, 8.30–8.48) information, and Japanese Industrial Standard (JIS Z 7250: 2000) required information is included. See Section 16 for full text of Ingredient Risk Phrases

SECTION 3. HAZARD IDENTIFICATION

EU LABELING/CLASSIFICATION: This product meets the definitions of Harmful and Irritant as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

EU CLASSIFICATION: Xn: [Harmful]; Xi [Irritant]

EU RISK PHRASES: R: 20/21/22; R: 36/38

EMERGENCY OVERVIEW:

Product Description: This product is a liquid with a faint odor that comes in a variety of colors. **Health Hazards:** Harmful if swallowed. Inhalation and skin absorption can be harmful and can cause headache, nausea, dizziness, vomiting, drowsiness, incoordination, and confusion. Causes moderate eye and skin irritation. **Flammability Hazards:** This product is combustible. Vapors from this product are heavier than air and may travel to a source of ignition and flashback to a leak or open container. If involved in a fire, this product will release smoke, acrid vapors and toxic gases (e.g., carbon oxides and peroxides). **Reactivity Hazards:** This product is not reactive. **Environmental Hazards:** Large quantities released to the environment may have an adverse effect. **Emergency Considerations:** Emergency responders should wear appropriate protection for situation to which they respond.

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The health hazard information provided below is pertinent to employees using this product in an occupational setting. The following paragraphs describe the symptoms of exposure by route of exposure.

INHALATION: Inhalation overexposures to vapors, mists, and sprays of this product can cause nasal irritation, a disagreeable metallic taste, a slight increase in nasal discharge, headache, nausea, dizziness, drowsiness, and confusion. Inhalation overexposures to very high vapor levels of this product, as may occur in a poorly ventilated and confined space may cause significant may cause loss of consciousness and death.

CONTACT WITH SKIN or EYES: Vapors of this product can irritate the eyes. Direct eye contact will cause immediate pain, irritation, redness and tearing. Because the eye tissue may be stained, the vision may be temporarily blurred. Skin contact may be irritating. Due to the colorants, skin contact may cause discoloration of contaminated areas. Prolonged or repeated skin overexposures can cause dermatitis (dry red skin).

SECTION 3. HAZARD IDENTIFICATION Continued:

SKIN ABSORPTION: The components of this product are not known to be absorbed through intact skin.

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD (BLUE) 2

FLAMMABILITY HAZARD (RED) 2

PHYSICAL HAZARD (YELLOW) 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

PROTECTIVE EQUIPMENT For Routine Industrial Use and Handling Applications

EYES:	GOGGLES
RESPIRATORY	See SECTION 8
HANDS	RUBBER GLOVES
BODY	See SECTION 8

INGESTION: Ingestion is not a significant route of occupational overexposure and is unlikely to occur. If this product is swallowed, it may irritate the mouth, throat, esophagus and other tissues of the digestive system. Symptoms of ingestion include nausea, vomiting, and diarrhea. Ingestion also causes symptoms such as those described under "Inhalation". Ingestion may harm the kidneys. Additionally, the mouth, teeth, and tissues of the throat may be discolored.

INJECTION: Accidental injection of this product, via laceration or puncture by a contaminated object may cause redness at the site of injection.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Overexposure to this product may cause the following health effects:

ACUTE: The ink may stain hair, skin, and other contaminated tissue. Overexposures to this product can irritate eyes, and mucous membranes. Inhalation, skin absorption, and ingestion overexposure can cause symptoms such as those described under "Inhalation".

CHRONIC: Prolonged or repeated skin overexposures can cause dermatitis (dry red skin).

TARGET ORGANS: **ACUTE:** Skin, eyes, respiratory system, central nervous system. **CHRONIC:** Skin, respiratory system, central nervous system.

SECTION 4. FIRST-AID MEASURES

If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Take a copy of label and MSDS to physician or health professional with the contaminated individual.

SKIN EXPOSURE: If adverse skin effects occur, discontinue use and flush contaminated area. Seek medical attention if adverse effect occurs after flushing.

EYE EXPOSURE: If this product contaminates the eyes, rinse eyes under gently running water. Use sufficient force to open eyelids and then "roll" eyes while flushing. Minimum flushing is for 15 minutes. The contaminated individual must seek medical attention if any adverse effect continues after rinsing.

INHALATION: If vapors of this product are inhaled, causing irritation, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if adverse effect continues after removal to fresh air.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION.

SECTION 4. FIRST-AID MEASURES continued:

If professional advice is not available, DO NOT INDUCE VOMITING. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin, respiratory system, and central nervous system disorders may be aggravated by overexposures to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate exposure.

SECTION 5. FIRE-FIGHTING MEASURES

FLASH POINT: 88°C (190°F) [calculated]

AUTOIGNITION TEMPERATURE: Not established.

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): Not established.

Upper (UEL): Not established.

NFPA RATING

FLAMM ABIL ITY - 2

HEALTH - 2

INST ABIL ITY - 0

Hazard Scale: 0 = Minimal, 1 = Slight,
2 = Moderate, 3 = Serious, 4 = Severe

FIRE EXTINGUISHING MATERIALS: This product is combustible. The following extinguishing materials are recommended for fires involving this product.

Water Spray: OK

Carbon Dioxide: OK

Foam: OK

Dry Chemical: OK

Halon: NO

Other: NO

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is a Class IIIA combustible liquid. When involved in a fire, this material may ignite and produce irritating vapors and toxic gases (e.g., carbon oxides and peroxides). Vapors from the product may travel to a source of ignition, and flashback to a leak or open container.

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus (SCBA) and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. Water fog or spray can also be used by trained firefighters to disperse this product's vapors and to protect personnel. Due to the presence of colorants, the runoff water from these products can discolor contaminated objects. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Trained personnel using pre-planned procedures should respond to uncontrolled releases. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. Eliminate all sources of ignition before cleanup begins. Use non-sparking tools. Minimum Personal Protective Equipment should be double-gloves (rubber over latex gloves) and rubber apron, splash goggles or safety glasses. Monitor area for combustible vapor

SECTION 6. ACCIDENTAL RELEASE MEASURES Continued:

levels to determine level of combustible vapors before personnel are allowed into the spill area. Colorimetric detector tubes are available. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Limits and Personal Protection) and at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA). Absorb spilled liquid with non-combustible absorbent materials. Decontaminate the area thoroughly. If necessary, discard all stained response equipment or rinse with soapy water before returning such equipment to service. Place all spill residue in a double plastic bag and seal. Dispose of in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of the EU and its member states, Australia, New Zealand, Japan, or Canada and its Provinces.

SECTION 7. HANDLING and USE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this material ON YOU or IN YOU. Do not eat, drink, smoke, or apply cosmetics while handling this product. Wash hands thoroughly after handling this product or containers of this product. Avoid breathing vapors or mists generated by this product. Use in a well-ventilated location. Follow SPECIFIC USE INSTRUCTIONS supplied with product.

STORAGE AND HANDLING PRACTICES: Employees must be trained to properly use this product. Keep away from heat, sparks, and other sources of ignition. Use non-sparking tools. Open containers slowly on a stable surface. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Storage areas should be made of fire resistant materials. Post warning and “NO SMOKING” signs in storage and use areas, as appropriate. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers). Keep container tightly closed when not in use. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid or vapors that are combustible; therefore, empty packages should be handled with care. Refer to NFPA 30, Flammable and Combustible Liquids Code, for additional information on storage.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely, if necessary. Collect all rinsates and dispose of according to applicable U.S. Federal, State, and local procedures or with procedures of the EU and its member states, Australia, New Zealand, Japan, or Canada and its Provinces.

SECTION 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Exhaust directly to the outside, taking necessary precautions for environmental protection. If necessary, refer to Australian National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC: 2007 (1994)] for further information.

EXPOSURE LIMITS/GUIDELINES:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLV		OSHA-PEL		NIOSH-RELs		NIOSH	
		TWA	STEL	TWA	STEL	TWA	STEL	IDLH	
		mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
Proprietary Dyes	Defoamer	NE	NE	NE	NE	NE	NE	NE	NE
Black Dye	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE
Blue Dye	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE
Brown Dye	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE
Red Dye	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE
Yellow Dye	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE

SECTION 8. EXPOSURE CONTROLS - PERSONAL PROTECTION Continued:

Ethoxylated Nonylphenol	Proprietary	NE	NE	NE	NE	NE	NE	NE	NE
Glycol Ether	Proprietary	NE	NE	NE	NE	NE	NE	NE	DFG MAKs: TWA = 100 PEAK = 1•MAK 15 minute average value, 1-hr interval DFG MAK Pregnancy Risk Classification: C

NE = Not Established. See Section 16 for Definitions of Terms Used.

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS: Currently, there are no international exposure limits established for the components of this product.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132), equivalent standards of Canada (including CSA Standard Z94.402 and CSA Standard Z94.3-02), standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection), or standards of Australia (including AS/NZS 1715:1994 for respiratory PPE, AS/NZS 4501.2:2006 for protective clothing, AS/NZS 2161.1:2000 for glove selection, and AS/NZS 1336:1997 for eye protection). Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-02, the European Standard EN 529:2005, and EU member state standards, the Australian Standard 1716-Respiratory Protective Devices and Australian Standard 1715-Selection, Use, and Maintenance of Respiratory Protective Devices, New Zealand standards, or Japanese standards. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA’s Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian CSA Standard Z94.3-02, or the European Standard CR 13464:1999, the Australian Standard 1337-Eye Protection for Industrial Applications and Australian Standard 1336-Recommended Practices for Eye Protection in the Industrial Environment, New Zealand standards, or Japanese standards.

HAND PROTECTION: Wear Butyl rubber, Viton™, Barrier (PE/PA/PE), or Tychem™ SL gloves. Check gloves for leaks. Wash hands before putting on gloves and after removing gloves. If necessary, refer to U.S. OSHA 29 CFR 1910.138, appropriate Standards of Canada, the Australian Standard 2161-Industrial Safety Gloves and Mittens and the European Standard CEN/TR 15419:2006, New Zealand standards, or Japanese standards.

BODY/SKIN PROTECTION: Use body protection appropriate for task (e.g., coveralls or apron). If necessary, refer to appropriate Standards of Canada, the European Standard CEN/TR 15419:2006, Australian Standard 3765-Clothing for Protection Against Hazardous Chemicals, New Zealand standards, or Japanese standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee’s feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-02, Protective Footwear.

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES

FOR THE PROPRIETARY GLYCOL ETHER COMPONENT:

BOILING POINT: 230°C (446°F)

FREEZING/MELTING PO INT: -68°C (-154°F)

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES continued:

EVAPORATION RATE (n-BuAc = 1): 0.07–0.08 SOLUBILITY IN WATER: Soluble.
VAPOR PRESSURE @ 25°C (air = 1): 0.02 mm Hg SPECIFIC GRAVITY (water = 1): 0.95
ODOR THRESHOLD: Not established. pH: Not applicable.
VAPOR DENSITY (air = 1): 5.58 MOLECULAR WEIGHT: 162.23
VOC CONTENT: This product contains 0.18–0.37% (1.8–3.7 g/L) VOCs.
COEFFICIENT WATER/OIL DISTRIBUTION: Log KOW = 0.56

FOR PRODUCT:

APPEARANCE, ODOR, AND COLOR: This product is a liquid with a faint odor that comes in a variety of colors.

HOW TO DETECT THIS SUBSTANCE (warning properties in event of accidental release): The odor and appearance may be characteristics to distinguish a release of this product.

SECTION 10. STABILITY and REACTIVITY

STABILITY: This product is stable when properly stored at normal temperature and pressures (see Section 7, Handling and Storage). Prolonged exposure to light and air may cause the formation of peroxides. The peroxides are unlikely to be hazardous unless they are concentrated during distillation or allowed to evaporate to dryness

DECOMPOSITION PRODUCTS: If exposed to extremely high temperatures, thermal decomposition may generate irritating fumes and toxic gases (e.g., carbon oxides and peroxides).

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is incompatible with strong oxidizers, perchloric acid, and bases.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to or contact with extreme temperatures, heat, sparks, flames, sunlight, and incompatible chemicals.

SECTION 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicological data are available for the Proprietary Nonylphenol Ethoxylate and Proprietary Glycol Ether components of this product.

PROPRIETARY GLYCOL ETHER: PROPRIETARY GLYCOL ETHER (continued):

Standard Draize Test (eye, rabbit) = 20 mg; TLo (inhalation, rat) = 5 mg/m³/24 hours/17 severe weeks/continuous; Brain and Coverings:

Standard Draize Test (eye, rabbit) = 20 mg/24 recordings from specific areas of CNS; Blood hours; moderate changes

LD50 (oral, rat) = 5660 mg/kg LD50 (intraperitoneal, mouse) = 850 mg/kg;

LD50 (oral, mouse) = 2400 mg/kg Respiratory changes; changes in tubules; changes in spleen

TDLo (oral, rat) = 83 g/kg/13 weeks/intermittent; weight loss or decreased PROPRIETARY ETHOXYLATED NONYLPHENOL: weight gain TDLo (Oral-Rat) 2500 mg/kg; female 6-15

TDLo (oral, rat) = 109 g/kg/6 day(s) after conception: Reproductive: weeks/intermittent; food intake (animal);

Maternal Effects: other effects; Specific pigmented or nucleated red blood cells; Developmental

Abnormalities: musculoskeletal weight loss or decreased weight gain system

LD50 (oral, rabbit) = 2200 mg/kg TDLo (Intraperitoneal- Non-Mammalian Species)

LD50 (skin, rabbit) = 2700 mg/kg 12 mg/kg/6 days-intermittent: Liver: other

LD50 (oral, guinea pig) = 2 g/kg; general changes anesthetic; Gastrointestinal changes; Kidney, Ureter, Bladder: other changes

IRRITANCY OF PRODUCT: The liquid or vapors of this product are irritating to contaminated tissue.

SECTION 11. TOXICOLOGICAL INFORMATION continued:

SENSITIZATION OF PRODUCT: This product is not known to be a human skin or respiratory sensitizer.

SUSPECTED CANCER AGENT: It cannot be confirmed that the components of this product NOT listed by CAS# in Section 2

(Composition and Information on Ingredients) are not found on the following lists: U.S. FEDERAL OSHA Z LIST, NTP, and CAL/OSHA.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects this product and its components on human and animal reproductive systems.

MUTAGENICITY: The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not reported to cause human mutagenic effects.

EMBRYOTOXICITY: The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not reported to cause human embryotoxic effects.

TERATOGENICITY: The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not reported to cause teratogenic effects in humans.

REPRODUCTIVE TOXICITY: The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not reported to cause human reproductive effects.

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generation lines. An embryo toxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of this product.

SECTION 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: This product will be relatively stable under ambient environmental conditions.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: No specific information is currently available on the effect of this product on plants or animals in the environment. This product may be harmful to contaminated plant and animal life, especially if released to the environment in large quantities.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No information is currently available on the effect of this product on aquatic plants or animals in the environment. Release of this product to an aquatic environment may be harmful to aquatic plant and animal life in contaminated bodies of water, especially in large quantities. The following aquatic toxicity data are available for components of this product, as follows:

PROPRIETARY GLYCOL ETHER:

EC0 (Pseudomonas putida bacteria) 16 hours = 255 mg/L

EC0 (Microcystis aeruginosa algae) 8 days = 53 mg/L

EC0 (Scenedesmus quadricauda green algae) 7 days = 1,000 mg/L

EC0 (Entosiphon sulcatum protozoa) 72 hours = 73 mg/L

EC0 (Uronema parduczi Chatton-Lwoff protozoa) = 420 mg/L

LC50 (goldfish) 24 hours = 2,700 mg/L

LC0,S (Lepomis macrochirus) 24 hours = 1,800 mg/L

LC0,S (Lepomis macrochirus) 48 hours = 1,800 mg/L

LC0,S (Lepomis macrochirus) 72 hours = 100 mg/L

LC0,S (Lepomis macrochirus) 96 hours = 100 mg/L

LC50,S (Lepomis macrochirus) 24 hours = 2,400 mg/L

LC50,S (Lepomis macrochirus) 48 hours = 2,400 mg/L

SECTION 12. ECOLOGICAL INFORMATION continued:

LC50,S (Lepomis macrochirus) 72 hours = 2,400 mg/L
LC50,S (Lepomis macrochirus) 96 hours = 1,300 mg/L
LC100,S (Lepomis macrochirus) 48 hours = 3,200 mg/L
LC0,S (Menidia beryllina) 24-48 hours = 2,400 mg/L
LC0,S (Menidia beryllina) 72 hours = 1,800 mg/L
LC50,S (Menidia beryllina) 96 hours = 2,400 mg/L
LC0,S (Menidia beryllina) 72 hours = 1,000 mg/L
LC50,S (Menidia beryllina) 96 hours = 2,400 mg/L
LC50 (Menidia beryllina) 96 hours = 2,000 mg/L

SECTION 13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations or with regulations of Canada and its Provinces, Australia, New Zealand, Japan, the EU, or EU member States. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA WASTE NUMBER: Not applicable.

EUROPEAN EWC WASTE CODES: 08: Wastes from the Manufacture, Formulation, Supply and Use (mfsu) of Coatings (Paints, Varnishes and Vitreous Enamels), Adhesives, Sealants and Printing Inks 04 99: Wastes not otherwise specified.

SECTION 14. TRANSPORTATION INFORMATION

THIS PRODUCT IS HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

PROPER SHIPPING NAME: Combustible liquid

HAZARD CLASS NUMBER and DESCRIPTION: Combustible liquid

UN IDENTIFICATION NUMBER: NA 1993

PACKING GROUP: III

DOT LABEL(S) REQUIRED: None

EMERGENCY RESPONSE GUIDEBOOK NUMBER (2004): 128

MARINE POLLUTANT: This product is not classified by the U.S. DOT as a Marine Pollutant (as defined by 49 CFR 172.101, Appendix B).

NOTE: Shipments of this product can qualify for specific exceptions, as follows:

Shipments under 30 mL (1 ounce): Such shipments qualify for the small quantity exception (per 49 CFR 173.4). These shipments must be properly marked and packaged, per 49 CFR 173.4.

Shipments of not more than 5 L (1.3 gallons): Such shipments qualify for limited quantity exception and may qualify to be shipped as a consumer commodity. These shipments must be properly marked and packaged, per 49 CFR 173.150.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is not classified as dangerous goods under rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is not classified as Dangerous Goods by the International Maritime Organization.

SECTION 14. TRANSPORTATION INFORMATION continued:

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

AUSTRALIAN FEDERAL OFFICE OF ROAD SAFETY CODE FOR THE TRANSPORTATION OF DANGEROUS GOODS BY ROAD OR RAIL: This product is not classified as dangerous goods, per regulations of the Federal Office of Road Safety.

SECTION 15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act, as follows:

CHEMICAL NAME SARA 302 (40 CFR 355, Appendix A)

SARA 304 (40 CFR Table 302.4)

SARA 313 (40 CFR 372.65)

Proprietary Glycol Ether (Glycol Ether Category) No No Yes

U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: Yes; REACTIVE: No; SUDDEN RELEASE: No

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Proprietary Glycol Ether = Under the generic Glycol Ether category, this compound does not have a RQ assigned, but are CERCLA Hazardous Wastes.

U.S. TSCA INVENTORY STATUS: The Dye components of this product are not included in the public TSCA Inventory. According to the manufacturer/importer of the Dye components of this product, "All components of this product are in compliance with the Toxic Substance Control Act."

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

VOC CONTENT: This product contains 0.18–0.37% (1.8–3.7 g/L) VOCs as defined by the U.S. Environmental Protection Agency's Volatile Organic Compounds Master List.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not on the California Proposition 65 lists.

ANSI LABELING (Z129.1): **WARNING! COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED, ABSORBED THROUGH THE SKIN, OR SWALLOWED. CAUSES SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. CAN CAUSE CENTRAL NERVOUS SYSTEM EFFECTS.** Keep away from heat and flame. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors, mists, or sprays. Do not taste or swallow. Avoid prolonged or repeated skin contact. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear appropriate eye, hand, and body protection. Avoid exposure to elevated temperatures.

FIRST-AID: In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO₂. IN CASE OF SPILL: Wipe up spilled liquid. Place residual in appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations

SECTION 15. REGULATORY INFORMATION continued:

or those of Canada, EU Member States or Australia. Consult Material Safety Data Sheet for additional information.

CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The Dye components of this product are not specified on the DSL or NDSL. This product is subject to the New Substances Notifications Regulations (Chemicals and Polymers) of the Canadian Environmental Protection Act, 1999.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this product listed by CAS# in Section 2 (Composition and Information on Ingredients) are not on the CEPA Priorities Substances Lists.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS:

Class B3: Combustible liquid

Class D2B: Toxic Material Causing Other Toxic Effects

EUROPEAN UNION INFORMATION:

EU LABELING/CLASSIFICATION: This product meets the definitions of Harmful and Irritant as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

EU CLASSIFICATION: Xn: [Harmful]; Xi [Irritant]

EU RISK PHRASES: [R: 20/21/22]: Harmful by inhalation, in contact with skin, and if swallowed. [R: 36/38]: Irritating to eyes and skin.

EU SAFETY PHRASES: [S: 2]: Keep out of reach of children. (This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.) [S: 7]: Keep container tightly closed. [S: 16]: Keep away from sources of ignition-No smoking. [S: 36/37]: Wear suitable protective clothing and gloves. [S: 46]: If swallowed, seek medical advice immediately and show this container or label. [S: 60]: This material and its container must be disposed of as hazardous waste.

EUROPEAN UNION ANNEX II HAZARD SYMBOL: Xn [Harmful]; Xi [Irritant]

AUSTRALIAN INFORMATION:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: The Solvent Brown 43 and Solvent Yellow 90 components of this product are not listed on the AICS. Any chemical not included in AICS is regarded as a new industrial chemical unless it is outside the scope of the Industrial Chemicals (Notification and Assessment) Act 1989 OR is otherwise exempt from notification.

New industrial chemicals must be notified and assessed before being manufactured or imported into Australia.

HAZARDOUS SUBSTANCES INFORMATION SYSTEM (HSIS): The Proprietary Glycol Ether component of this product is listed in the HSIS.

AUSTRALIAN INFORMATION (continued):

CLASSIFICATION: Xn: [Harmful]; Xi [Irritant]

RISK PHRASES: [R: 20/21/22]: Harmful by inhalation, in contact with skin, and if swallowed. [R: 36/38]: Irritating to eyes and skin.

SAFETY PHRASES: [S: 2]: Keep out of reach of children. (This safety phrase can be omitted from the label when the substance or preparation is sold for industrial use only.) [S: 7]: Keep container tightly closed. [S: 16]: Keep away from sources of ignition-No smoking. [S: 36/37]: Wear suitable protective clothing and gloves. [S: 46]: If swallowed, seek medical advice immediately and show this container or label. [S: 60]: This material and its container must be disposed of as hazardous waste.

SECTION 15. REGULATORY INFORMATION (Continued)

POISONS SCHEDULE NUMBER: Not applicable.

NEW ZEALAND INFORMATION:

HAZARDOUS SUBSTANCES AND NEW ORGANISMS ACT (1996): The Proprietary Glycol Ether and Proprietary Nonylphenol Ethoxylate components of this product are registered as hazardous substances with the Environmental Risk Management Authority.

Specific controls apply to Proprietary Glycol Ether and may apply to this product.

JAPANESE INFORMATION:

JAPANESE ENCS: The Proprietary Glycol Ether component of this product is on the ENCS Inventory.

JAPANESE MINISTRY OF ECONOMY, TRADE, AND INDUSTRY (MITI) STATUS: None of the components of this product is listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese

MITI.

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: None of the components of this product is listed as a Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

SECTION 16. OTHER INFORMATION

This MSDs was reviewed by Stuart Wood, 17 July 17, 2008.