

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

<u>TRADE NAME (AS LABELED):</u>	HT Protein Express Reagent Kit, HT Low MW Protein Express Reagent Kit
<u>CODE NUMBERS:</u>	PN 760328, PN 760573
<u>U.N. NUMBER:</u>	Not applicable
<u>U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK:</u>	Not applicable
<u>HAZCHEM CODE (AUSTRALIA):</u>	Not applicable
<u>POISONS SCHEDULE NUMBER (AUSTRALIA):</u>	Not applicable
<u>PRODUCT USE:</u>	Laboratory Biological Research
<u>SUPPLIER/MANUFACTURER'S NAME:</u>	Caliper Life Sciences
<u>ADDRESS:</u>	68 Elm Street Hopkinton, MA 01748
<u>EMERGENCY PHONE:</u>	1-800-255-3924 (CHEM-TEL) in U.S., Canada, Puerto Rico, U.S. Virgin Islands
<u>EMAIL ADDRESS/COMPETENT PERSON FOR MSDS INFORMATION NUMBER:</u>	Technical Support @ Tech.Support@caliperls.com +1-800-LAB-CHIP (toll-free) +1-800-522-2447 (toll-free) +1-508-435-3439 (outside North America)

2. COMPOSITION AND INFORMATION ON INGREDIENTS

TSCA Status: Some components of this product contain ingredients not included in the TSCA Inventory. In accordance with the conditions listed in 40 CFR 720.36 and 721.47, this product must be used only for research and development, pharmaceutical manufacture, or export. It must be used by, or directly under the supervision of, a technically qualified individual. The manufacturer should be consulted prior to using this compound for other applications. Other requirements may apply.

This Material Safety Data sheet describes the HT Protein Express Reagent Kit, w/o Inserts. This product consists of six solutions. This Material Safety Data Sheet provides complete information on all the components described in the following tables. Unless otherwise specified, the information in each of the following sections (Sections 3–16) of this document is pertinent to each solution. The components of this product are mixtures (preparations) of the following chemical components:

CHEMICAL NAME	CAS #	EINECS#	ENCS#	% v/v	EU CLASSIFICATION FOR COMPONENTS
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COMPONENT 1: HT PROTEIN EXPRESS LOWER MARKER CONCENTRATE

Water and Other Non-Hazardous Ingredients

COMPONENT 2: HT PROTEIN EXPRESS LADDER

Sodium Dodecyl Sulfate	151-21-3	205-788-1	2-1679	1–5	SELF-CLASSIFICATION HAZARD CLASSIFICATION: Xi: [Irritant]. RISK PHRASES: R: 43.
Glycerol	56-81-5	200-289-5	Not Listed	10–25	HAZARD CLASSIFICATION: Not applicable. RISK PHRASES: Not applicable.
Other Non-Hazardous Ingredients					

COMPONENT 3: HT PROTEIN EXPRESS WASH BUFFER

Lithium Dodecyl Sulfate	2044-56-6	218-058-2	Not Listed	0.1–0.5	SELF-CLASSIFICATION HAZARD CLASSIFICATION: Xn: [Harmful]. RISK PHRASES: R: 42.
Other Non-Hazardous Ingredients					

COMPONENT 4: HT PROTEIN EXPRESS GEL MATRIX

Water and Other Non-Hazardous Ingredients

COMPONENT 5: HT PROTEIN EXPRESS DYE SOLUTION

Sodium Dodecyl Sulfate	151-21-3	205-788-1	2-1679	3–7	SELF-CLASSIFICATION HAZARD CLASSIFICATION: Xi: [Irritant]. RISK PHRASES: R: 43.
Dimethyl Sulfoxide	67-68-5	200-664-3	2-1553	90–99	HAZARD CLASSIFICATION: Not applicable. RISK PHRASES: Not applicable.
Other Non-Hazardous Ingredients					

COMPONENT 6: HT PROTEIN EXPRESS SAMPLE BUFFER

Lithium Dodecyl Sulfate	2044-56-6	218-058-2	Not Listed	0.5–0.9	SELF-CLASSIFICATION HAZARD CLASSIFICATION: Xn: [Harmful]. RISK PHRASES: R: 42.
Glycerol	56-81-5	200-289-5	Not Listed	3–7	HAZARD CLASSIFICATION: Not applicable. RISK PHRASES: Not applicable.
Other Non-Hazardous Ingredients					

NE = Not Established.

See Section 16 for Definitions of Terms Used.

NOTE: Unless otherwise indicated, the hazard assessments in the following sections are pertinent to all component reagents.

3. HAZARD IDENTIFICATION

EU LABELING/CLASSIFICATION: Some components of this product meet the definition of a hazard class, as defined by the European Union Council Directives 67/548/EEC and 2001/59/EC.

FOR EXPRESS LADDER and DYE SOLUTION:

EU HAZARD CLASSIFICATION: Irritant [Xi]

EU RISK PHRASES: R: 43

FOR ALL OTHER COMPONENTS:

EU HAZARD CLASSIFICATION: Not applicable.

EU RISK PHRASES: Not applicable.

Health Hazards:

LADDER: The Sodium Dodecyl Sulfate constituent of this component is a skin sensitizer; subsequent exposure to very small amounts may cause allergic reaction.

WASH BUFFER and SAMPLE BUFFER: The Lithium Dodecyl Sulfate constituent of these components is known to be a respiratory sensitizer; subsequent exposure to very small amounts may cause allergic reaction.

DYE SOLUTION: Inhalation of vapors, mists, or sprays of this component may cause nausea, headache, and vomiting. The Sodium Dodecyl Sulfate constituent of this component is a skin sensitizer; subsequent exposure to very small amounts may cause allergic reaction. The Dimethyl Sulfoxide constituent of this component can be absorbed through the skin and may carry dissolved chemicals with it into the body. Symptoms of overexposure for a prolonged period of time and a large area of skin may include redness, burning, itching, scaling, vision disturbance, photophobia, headache, and diarrhea. Ingestion of large volumes may cause nausea, vomiting, chills, cramps, and lethargy. Chronic ingestion of the Dimethyl Sulfoxide constituent of this component may affect the liver and kidneys.

For ALL OTHER COMPONENTS the chief hazard in event of overexposure is the potential for irritation of contaminated skin or eyes.

Flammability Hazards:

DYE SOLUTION: This component must be substantially preheated for ignition to become a hazard.

ALL OTHER COMPONENTS: These components present no significant fire hazards. In the event of a fire, this product will not contribute significant additional hazards.

Reactivity Hazards: This product is not reactive.

Environmental Hazards: Negligible.

4. FIRST-AID MEASURES

Contaminated individuals must seek medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to physician or health professional with the contaminated individual.

SKIN EXPOSURE: If this product contaminates the skin, begin decontamination with copious amounts of running water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Contaminated clothing must be removed and laundered before re-use. The contaminated individual must seek medical attention if any adverse effect develops after the area is flushed.

EYE EXPOSURE: If this product contaminates the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have the contaminated individual "roll" eyes. Minimum flushing is for 15 minutes. The contaminated individual must seek medical attention if adverse effects occur after flushing.

INHALATION: If vapors, mists or sprays from this product are inhaled, remove contaminated individual to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers. Seek medical attention if adverse effect continues after removal to fresh air.

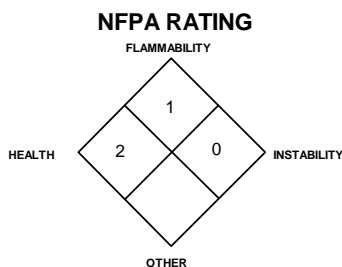
INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING unless directed by medical personnel. Have contaminated individual rinse mouth with water. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. If contaminated individual is convulsing, maintain an open airway and obtain immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing dermatitis, other skin conditions, respiratory conditions, and liver disorders may be aggravated by overexposure to components of this product.

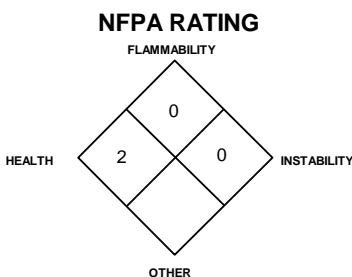
RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

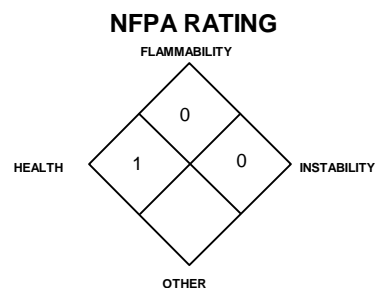
Dye Solution



Express Ladder



All Other Reagents



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

5. FIRE-FIGHTING MEASURES (Continued)

FLASH POINT: Not flammable.

AUTOIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS (in air by volume, %): Not applicable.

FIRE EXTINGUISHING MATERIALS: In the event of a fire, use suppression methods for surrounding materials. Water spray, alcohol-resistant foam, carbon dioxide, or dry chemical.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When involved in a fire, this product's components will decompose and produce irritating vapors and toxic gases (including carbon oxides, dimethylamine, hydrogen sulfide, cyanides, sodium oxides, and nitrogen oxides).

SPECIAL FIRE-FIGHTING PROCEDURES: Do not use halogenated extinguishing media. Move containers from fire area if it can be done without risk to personnel. Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: For small releases take basic hygiene precautions. Lightweight gloves, a lab coat, and eye protection should be worn. Absorb spilled liquid with paper towels. Wash contaminated area with soap and water, absorb with paper towels, and rinse with water. Trained personnel using pre-planned procedures should respond to large releases that are not immediately controlled. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. In the event of a non-incident release, minimum Personal Protective Equipment should be **Level D: lab-gloves, chemical resistant apron, boots, and splash goggles. Respiratory protection should not be necessary.** Absorb spilled liquid with polypads or other suitable absorbent materials. Decontaminate the area thoroughly. Place all spill residue in a suitable container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations, those of Canada, European EU Member States, Australia and its Provinces and those of Japan (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product's components ON YOU or IN YOU. Wash thoroughly after handling this product's components. Avoid splashing or spraying this product's components. Do not eat or drink while handling this product's components.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. This material must be used by, or directly under the supervision of, a technically qualified individual. Avoid breathing vapors or mists generated by this product's components. Ensure containers of this product's components are properly labeled. Open containers slowly on a stable surface. Store vials as directed in the product insert. Keep vials tightly closed when not in use. Store away from incompatible materials. Inspect vials containing this product's components for leaks or damage. Read instructions provided with the product prior to use.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below, if applicable. Ensure eyewash/safety shower stations are available near areas where this product is used.

EXPOSURE LIMITS/GUIDELINES:

NOTE: For constituents not specifically listed, no exposure limits are applicable.

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR									
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELS		NIOSH	AIHA WEELs		OTHER
		TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³	TWA mg/m ³	STEL mg/m ³	IDLH mg/m ³	TWA mg/m ³	STEL mg/m ³	mg/m ³

COMPONENT 2: HT PROTEIN EXPRESS LADDER

Glycerol	56-81-5	10 ppm	NE	15 (Total dust) 5 (Resp. frac.) 10 (Total)	NE	NE	NE	NE	NE	NE	NE
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COMPONENT 6: HT PROTEIN EXPRESS SAMPLE BUFFER

Glycerol	56-81-5	10 ppm	NE	15 (Total dust) 5 (Resp. frac.) 10 (Total)	NE	NE	NE	NE	NE	NE	NE
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NE = Not Established.

See Section 16 for Definitions of Terms Used.

INTERNATIONAL OCCUPATIONAL EXPOSURE LIMITS: Currently the following international exposure limits are in place for the some constituents of this product. Values given may not be the most current; individual country lists should be consulted to determine most current values available.

DIMETHYL SULFOXIDE:

Germany: No MAK Established, JAN 1999

Russia: STEL = 20 mg/m³, JUN 2003

Sweden: TWA = 50 ppm (150 mg/m³), KTV = 150 ppm (500 mg/m³), Skin, JAN 1999

Switzerland: MAK-W = 50 ppm (160 mg/m³), Skin, JAN 1999

DIMETHYL SULFOXIDE (continued):

The Netherlands: MAC-TGG = 150 mg/m³, Skin, 2003

GLYCEROL:

Australia :TWA = 10 mg/m³, JAN 1993

Belgium: TWA = 10 mg/m³, JAN 1993

Finland: TWA = 20 mg/m³, JAN 1999

GLYCEROL (continued):

France: VME = 10 mg/m³, JAN 1999

The Netherlands: MAC-TGG = 10 mg/m³, JAN 1999

United Kingdom: TWA = 10 mg/m³, mist, SEP 2000

In Argentina, Bulgaria, Colombia, Jordan, Korea,

New Zealand, Singapore, Vietnam check ACGIH TLV

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

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 Z94.4-02 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: Respiratory protection is not generally needed when using this product. Maintain airborne contaminant concentrations below limits listed in this section. In instances where inhalable mists or sprays of product may be generated, and respiratory protection is necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), or equivalent U.S. State standards, Canadian CSA Standard Z94.4-02, the European Standard EN 529:2005, and EU member states, or the Australian Standard 1716-Respiratory Protective Devices, the Australian Standard 1715-Selection, Use, and Maintenance of Respiratory Protective Devices, as well as requirements of Japan. 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, SAR with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Depending on the use of this product, splash goggles or safety glasses may be worn. Use goggles or safety glasses for spill response, as stated in Section 6 (Accidental Release Measures) of this MSDS. If necessary, refer to U.S. OSHA 29 CFR 1910.133, the European Standard CR 13464:1999 and the Canadian CSA Standard Z94.3-02, *Industrial Eye and Face Protectors*, the Australian Standard 1337-Eye Protection for Industrial Applications and Australian Standard 1336-Recommended Practices for Eye Protection in the Industrial Environment, as well as requirements of Japan for further information.

HAND PROTECTION: Wear butyl rubber, neoprene, or nitrile rubber or latex gloves for routine use. If necessary, refer to U.S. OSHA 29 CFR 1910.138 appropriate Standards of Canada, the European Standard CEN/TR 15419:2006 or the Australian Standard 2161-Industrial Safety Gloves and Mittens, and applicable Standards of Japan, for further information.

BODY PROTECTION: Use body protection appropriate for task, such as a lab coat. If necessary, use body protection appropriate for task (e.g., Tyvek suit, rubber apron). If necessary, refer appropriate Standards of Canada, the European Standard CEN/TR 15419:2006 to the Australian Standard 3765-Clothing for Protection Against Hazardous Chemicals, or Japan for further information. 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*.

9. PHYSICAL and CHEMICAL PROPERTIES

FOR ALL COMPONENTS UNLESS OTHERWISE INDICATED:

RELATIVE VAPOR DENSITY (air = 1): Not established.

EVAPORATION RATE (nBuAc = 1): Similar to water.

SPECIFIC GRAVITY (water = 1): Not established.

FREEZING/MELTING POINT: Not established.

BOILING POINT: Not established.

SOLUBILITY IN WATER: Completely soluble.

FOR DYE SOLUTION:

VAPOR PRESSURE, mm Hg @ 20°C: Not established.

LOG WATER/OIL DISTRIBUTION COEFFICIENT: Not available.

APPEARANCE AND COLOR: Dark blue liquid with a mildly garlic-like odor.

HOW TO DETECT THIS SUBSTANCE: The odor may act as a warning property associated with this component.

pH: Not established.

ODOR THRESHOLD: Not available.

FOR ALL OTHER COMPONENTS:

VAPOR PRESSURE, mm Hg @ 20°C: Not established.

LOG WATER/OIL DISTRIBUTION COEFFICIENT: Not available.

APPEARANCE, ODOR and COLOR: Clear, odorless, colorless liquids.

HOW TO DETECT THIS SUBSTANCE: There are no unusual warning properties associated with these components.

pH: 6.0–10.7

ODOR THRESHOLD: Not available.

10. STABILITY AND REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Thermal decomposition of this product's components may produce carbon oxides, dimethylamine, hydrogen sulfide, cyanides, sodium oxides, and nitrogen oxides.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:

DYE SOLUTION: Strong oxidizers, acetyl chloride, cyanuric chloride, acid chlorides, phosphorus halides, strong acids, strong reducers, substances that are incompatible with water.

ALL OTHER COMPONENTS: Strong oxidizers, strong acids, some metals, substances that are incompatible with water.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Any conditions that are incompatible with water, mixing this product with incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following information is available for the constituents in constituents in this product present in greater than 1 percent concentration and listed in Section 2 (Composition and Information on Ingredients). Only human data and LD₅₀ Oral-Rat, LD₅₀ Oral-Mouse, LD₅₀ Inhalation-Rat, LD₅₀ Skin-Rabbit, and irritancy data are provided. Other data are available, but are not provided in this MSDS:

DIMETHYL SULFOXIDE:

TDLo (intravenous, man) = 606 mg/kg;
Gastrointestinal: nausea or vomiting; Liver:
jaundice, other or unclassified

DIMETHYL SULFOXIDE (continued):

LD₅₀ (oral, rat) = 14500 mg/kg; Sense Organs and
Special Senses (Eye): hemorrhage; Sense
Organs and Special Senses (Eye): conjunctive
irritation

DIMETHYL SULFOXIDE (continued):

LD₅₀ (oral, mouse) = 7920 mg/kg
Open Irritation Test (skin, rabbit) = 10 mg/24 hours
Standard Draize Test (skin, rabbit) = 500 mg/24
hours; mild

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA (continued):

DIMETHYL SULFOXIDE (continued):

Standard Draize Test (eye, rabbit) = 100 mg
Standard Draize Test (eye, rabbit) = 500 mg/24 hours; mild

GLYCERIN:

Skin Irritancy (rabbit) = 500 mg/24 hours; mild
Eye Irritancy (rabbit) = 126 mg; mild
Eye Irritancy (rabbit) = 500 mg/24 hours; mild
LD₅₀ (oral, rat) = 12600 mg/kg; general anesthetic, muscle weakness, Liver: other changes
LC₅₀ (inhalation, rat) > 570 mg/m³/1 hour

GLYCERIN (continued):

LD₅₀ (oral, mouse) = 4090 mg/kg
LD₅₀ (skin, rabbit) > 10 g/kg
DNA Inhibition (human, lymphocyte) = 200 mmol/L

SODIUM DODECYL SULFATE:

Skin Irritancy (human) = 250 mg/24 hours; mild
Skin Irritancy (human) = 25 mg/24 hours; mild
Skin Irritancy (mouse) = 25 mg/24 hours; moderate
Skin Irritancy (rabbit) = 50 mg/24 hours; severe
Skin Irritancy (rabbit) = 25 mg/24 hours; moderate
Skin Irritancy (rabbit) = 250 mg/24 hours; moderate

SODIUM DODECYL SULFATE (continued):

Skin Irritancy (rabbit) = 50 mg/24 hours; mild
Skin Irritancy (dog) = 25 mg/24 hours; mild
Skin Irritancy (pig) = 25 mg/24 hours; mild
Skin Irritancy (guinea pig) = 25 mg/24 hours; mild
Eye Irritancy (rabbit) = 100 mg/24 hours; moderate
Eye Irritancy (rabbit) = 250 µg; mild
Eye Irritancy (rabbit) = 2 mg
Eye Irritancy (rabbit) = 10 mg; moderate
LD₅₀ (oral, rat) = 1288 mg/kg
LC₅₀ (inhalation, rat) > 3900 mg/m³/1 hour

SUSPECTED CANCER AGENT: The constituents in the components of this product are not found on the following lists: NTP, IARC, FEDERAL OSHA Z-List, and CAL-OSHA and therefore are neither considered to be nor suspected to be cancer causing agents by these agencies.

IRRITANCY OF PRODUCT:

DYE SOLUTION: Depending on the duration and concentration of overexposure, skin and eye contact can irritate contaminated tissue.

ALL OTHER COMPONENTS: Contact with the skin or eyes may cause mild irritation, which is alleviated upon rinsing.

SENSITIZATION TO THE PRODUCT:

LADDER: The Sodium Dodecyl Sulfate constituent of this component is a skin sensitizer; subsequent exposure to very small amounts may cause allergic reaction.

WASH BUFFER and SAMPLE BUFFER: The Lithium Dodecyl Sulfate constituent of these components is known to be a respiratory sensitizer; subsequent exposure to very small amounts may cause allergic reaction.

DYE SOLUTION: The Dimethyl Sulfoxide component of this solution can cause anaphylactic reaction by unspecified exposure routes; symptoms may include rash, abdominal cramps, nausea, chills, and chest pain. The Sodium Dodecyl Sulfate constituent of this component is a skin sensitizer; subsequent exposure to very small amounts may cause allergic reaction.

ALL OTHER COMPONENTS: All other components of this product are not known to cause skin or respiratory sensitization.

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

Mutagenicity: The constituents in the components in this product are not reported to produce mutagenic effects in humans. Human mutation data are available for the Dimethyl Sulfoxide Glycerin constituent in this product's components; these data were obtained during clinical studies on specific human tissues exposed to high doses of these compounds. Animal mutation data are available for the Sodium Hydroxide constituent in a component of this product; these data were obtained during clinical studies on specific animal tissues exposed to high doses of this compound.

Embryotoxicity: The constituents in the components in this product are not reported to cause human embryotoxic effects.

Teratogenicity: The constituents in the components in this product are reported to cause teratogenic effects in humans. Clinical studies on test animals exposed to relatively high doses of the Dimethyl Sulfoxide constituent in this product's components, indicate teratogenic effects.

Reproductive Toxicity: The constituents in the components in this product are not reported to cause adverse reproductive effects in humans. Clinical studies on test animals exposed to relatively high doses of the Dimethyl Sulfoxide Glycerin constituent in this product's components indicate adverse 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 **embryotoxin** 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.*

BIOLOGICAL EXPOSURE INDICES: Currently, there are no Biological Exposure Indices (BEIs) determined for the constituents in this product's components.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The components of this product will degrade in the environment into smaller organic and inorganic constituents. Additional environmental data for components are available as follows:

DIMETHYL SULFOXIDE:

Biological Half-Life: Dermal application resulted in 50-60 mg % in blood in 4-8 hr; half-life 11-14 hr. 220-340 mg % reported following oral admin of 1,000 mg/kg; half-life 20 hours.

Biodegradation: No degradation of Dimethyl Sulfoxide (%) was noted in a screening test using an activated sludge inoculum. Dimethyl Sulfoxide is considered to be very difficult to degrade in water, based on available data. The data used to make this classification were not indicated. A variety of microorganisms, including some that are found in anaerobic lake mud, have the ability to transform Dimethyl Sulfoxide to dimethyl sulfide.

GLYCERIN:

Water Solubility = Miscible. Log K_{ow} = -1.76.

5-Day Biological Oxygen Demand = 0.54 p/p; 10 day BOD = 0.98 p/p; 20 Day BOD = 1.0 p/p:

Terrestrial Fate: If released to soil, glycerin is expected to undergo rapid biodegradation under aerobic conditions. Biodegradation is also expected under anaerobic condition. Based on its Log K_{ow} of -1.76 and its water solubility, the soil absorption coefficients for glycerin can be estimated at 3 and 2, respectively, using regression-derived equations. These values indicated that glycerin will be highly mobile in soil. Glycerin is not expected to significantly volatilize from moist or dry soil to the atmosphere.

Aquatic Fate: If released to an aquatic environment, glycerin is expected to rapidly degrade under aerobic conditions. Degradation is also likely in seawater and under anaerobic conditions. Based on water solubility and its Log K_{ow}, the bio-concentration factors for glycerin can be estimated at 3 and 0.2, respectively. These values indicate that bio-concentration is not significant in aquatic organisms.

Atmospheric Fate: If released to the atmosphere, glycerin may undergo a gas-phase oxidation with photochemically produced hydroxyl radicals. An estimated reaction rate indicates that the atmospheric half-life of glycerin in the atmosphere to be 33 hours. The water solubility of glycerin indicates that it may also undergo atmospheric removal by wet deposition processes.

SODIUM DODECYL SULFATE:

Terrestrial Fate: Based on a classification scheme, an estimated K_{oc} value of 1.0X10⁴, determined from a structure estimation method, indicates that Sodium Lauryl Sulfate is expected to be immobile in soil. Volatilization of Sodium Lauryl Sulfate from moist soil surfaces is not expected to be an important fate process as it is a salt and has a water solubility of 1.0X10⁵ mg/L. Sodium Lauryl Sulfate is not expected to volatilize from dry soil surfaces based upon an estimated vapor pressure of 4.7X10⁻¹³ mm Hg.

12. ECOLOGICAL INFORMATION (Continued)

ENVIRONMENTAL STABILITY (continued):

SODIUM DODECYL SULFATE (continued):

Aquatic Fate: Based on a classification scheme, an estimated Koc value of 1.0×10^4 , determined from an estimation method, indicates that Sodium Lauryl Sulfate is expected to adsorb to suspended solids and sediment in water. Volatilization from water surfaces is not expected based upon a water solubility, 1.0×10^5 mg/L and that it is a salt. According to a classification scheme, an estimated BCF of 71, from its log Kow of 1.6 and a regression-derived equation, suggests the potential for bioconcentration in aquatic organisms is moderate.

Atmospheric Fate: According to a model of gas/particle partitioning of semi-volatile organic compounds in the atmosphere, Sodium Lauryl Sulfate, which has an estimated vapor pressure of 4.7×10^{-13} mm Hg at 25°C, is expected to exist solely in the particulate phase in the ambient atmosphere. Particulate-phase Sodium Lauryl Sulfate may be removed from the air by wet and dry deposition.

Bioconcentration: An estimated BCF of 71 was calculated for Sodium Lauryl Sulfate, using a log Kow of 1.6 and a regression-derived equation. According to a classification scheme, this BCF suggests the potential for bioconcentration in aquatic organisms is moderate.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: Release of large quantities of this product's components into the environment may have adverse effects on plants or animals.

EFFECT OF CHEMICAL ON AQUATIC LIFE: Release of large quantities of this product's components into an aquatic environment may have adverse effects on aquatic plants or animals. Additional aquatic toxicity data are available as follows:

DIMETHYL SULFOXIDE:

TLm (bluegill) 48 hours = 33,500 ppm; fresh water

GLYCERIN:

EC₀ (*Pseudomonas putida* bacteria) 16 hours = >10,000 mg/L
 EC₀ (*Microcystis aeruginosa* algae) 8 days = 2,900 mg/L
 EC₀ (*Scenedesmus quadricauda* green algae) 7 days = > 10,000 mg/L
 EC₀ (*Entosiphon sulcatum* protozoa) 72 hours = 3,200 mg/L
 EC₀ (*Uronema parduczi* Chatton-Lwoff protozoa) = > 10,000 mg/L
 LC₅₀ (goldfish) 24 hours = > 5,000 mg/L
SODIUM DODECYL SULFATE:
 EC<10 (*Pseudomonas putida*) 30 min = >9,050 mg/L
 EC₀ (*Pseudomonas putida*) 16 hours = 290 mg/L
 EC₀ (*Entosiphon sulcatum*) 72 hours = 40 mg/L
 EC₀ (*Uronema parduczi* - Chatton-Lwoff) = 0.75 mg/L
 EC₀ (*Scenedesmus quadricauda*) 7 days = 0.02 mg/L
 EC₀,S (*Daphnia magna*) 24 hours = 17; 23; 27; 5; 41 mg/L
 EC₁,S (*Mycrocystis aeruginosa*) 8 days = 7 mg/L
 EC₁₀ (*Pseudomonas putida*) 16 hours = 9,050 mg/L
 EC₅₀ (*Daphnia magna*) 48 hours = 6.3; 6.2-9; 7.1-49.4 mg/L
 EC₅₀ (*Pseudomonas fluorescens*) = 18 hours = 1,650; 1,700 mg/L
 EC₅₀ (*Neomysis americana*) 96 hours = 5.7-8.8 mg/L
 EC₅₀ (*Cephaloscyllium ventriosum*) avoidance = 160 mg/L
 EC₅₀ (*Heterodontus franciscanus*) avoidance = 174 mg/L
 EC₅₀ (*Crassostrea virginica*) 48 hours = 0.37 mg/L
 EC₅₀ (*Mercenaria mercenaria*) 48 hours = 0.47 mg/L
 EC₅₀ (*Acartia tonsa*) 96 hours = 55 mg/L
 EC₅₀ (*Eurytemora affinis*) 96 hours = 2.0-3.1 mg/L
 EC₅₀ (*Triakis semifasciata*) avoidance = 113 mg/L
 EC₅₀,S (*Aeromonas hydrophila*) 18 hours = 3,700 mg/L
 EC₅₀,S (*Skeletonema costatum*) 2 hours = 2.3 mg/L
 EC₅₀,S (*Pseudoisochrysis paradoxa*) 2 hours = 1.3 mg/L
 EC₅₀,S (*Prorocentrum minimum*) 2 hours = 1.3 mg/L
 EC₅₀,S (*Selenastrum capricornutum*) 8 days = 3.7 mg/L
 EC₅₀,S (*Daphnia magna*) 24 hours = 5-20.2; 33; 38-44; 79 mg/L
 EC₅₀,S (*Acanthomyx sclupta*) 72 hours = 0.94-0.96 mg/L
 EC₅₀,S (*Gammarus pulex*) 4 days = 3.6-4.6; 9.4-13 mg/L
 EC₅₀,S (*Daphnia magna*) 24 hours = 9.8; 10-33; 80 mg/L
 EC₅₀,S (*Palaemonetes pugio*) 96 hours = 13.8; 108 mg/L
 EC₅₀,S (*Mysidopsis bahia*) 72 hours = 4.5-3.8 mg/L
 EC₉₀ (*Spirillum volutans*) 2 hours = 4.2; 43 mg/L
 EC₁₀₀,S (*Daphnia magna*) 24 hours = 58; 63; 118 mg/L
 NOEC (*Pimephales promelas* larvae) 8 days = 2.2-4.6 mg/L
 NOEC,S (*Daphnia magna*) 10 days = 2 mg/L
 LC₀ (*Leuciscus idus*) 48 hours = 10; 12.5 mg/L
 LC₁₀ (*Pimephales promelas* larvae) 8 days = 4-4.5 mg/L
 LC₅₀ (*Pimephales promelas* larvae) 8 days = 4.8-5.9 mg/L
 LC₅₀ (*Artemia salina*) 48 hours = 2.2-3.2 mg/L
 LC₅₀ (*Artemia salina*) 24 hours = 3.6; 6.9; 13.3-19.9; 14.8-18.5; 18.8-24.8; 19.1; 20-22.5 mg/L
 LC₅₀ (*Ceriodaphnia dubia*) 48 hours = 48 mg/L
 LC₅₀ (*Daphnia pulex*) 24 hours = 5-20; 14-18 mg/L
 LC₅₀ (*Daphnia pulex*) 48 hours = 1.4-15; 10-13 mg/L
 LC₅₀ (*Artemia salina*) 24 hours = 3.6; 6.9-25 mg/L
 LC₅₀ (*Artemia salina*) 24 hours = 0.94-21.1 mg/L
 LC₅₀ (*Ceriodaphnia dubia*) = 36-59 mg/L
 LC₅₀ (*Daphnia magna*) 24 hours = 10-33; 13-21; 6.3 mg/L
 LC₅₀ (*Daphnia magna*) 48 hours = 105.4-15; 11-13; 2.8; 1.8 mg/L
 LC₅₀ (*Oryzias latipes*) 48 hours = 10 mg/L
 LC₅₀ (*Tresus capax* larvae) 48 hours = 0.35 mg/L
 LC₅₀ (*Limnaea peregina*) 96 hours = 0.54 mg/L
 LC₅₀ (*Crassostrea gigas*) 48 hours = 0.58-1.16; 1 mg/L
 LC₅₀ (brown trout) 0.07 hour = 560 mg/L
 LC₅₀ (brown trout) 0.08 hour = 320 mg/L

SODIUM DODECYL SULFATE (continued):

LC₅₀ (brown trout) 0.15 hour = 180 mg/L
 LC₅₀ (brown trout) 0.26 hour = 150 mg/L
 LC₅₀ (*Floridichthys carpio*) 5 hours = 3 mg/L
 LC₅₀ (brown trout) 2.15 hours = 100 mg/L
 LC₅₀ (brown trout) 6.5 hours = 56 mg/L
 LC₅₀ (brown trout) 32 hours = 32 mg/L
 LC₅₀ (brown trout) 45 hours = 18 mg/L
 LC₅₀ (*Fundulus heteroclitus*) 1 hour = 4.5-80 mg/L
 LC₅₀ (*Leuciscus idus*) 48 hours = 15.6; 22; 27 mg/L
 LC₅₀ (*Carassius auratus*) 96 hours = 23.7-34.9 mg/L
 LC₅₀ (*Fundulus similis*) 96 hours = 4.5 mg/L
 LC₅₀ (*Brachydanio rerio*) 96 hours = 9.9-20 mg/L
 LC₅₀ (*Cichlasoma nigrofasciatum*) 96 hours = 16-30 mg/L
 LC₅₀ (*Cyprinus carpio*) 96 hours = 1.31 mg/L
 LC₅₀ (*Lebistes reticulatus*) 96 hours = 13.5-18 mg/L
 LC₅₀ (*Lepomis macrochirus*) 96 hours = 4.5 mg/L
 LC₅₀ (*Macrones vittatus*) 96 hours = 1.39 mg/L
 LC₅₀ (*Oncorhynchus mykiss*) 96 hours = 4.62; 4.3 mg/L
 LC₅₀ (*Oncorhynchus mykiss*) 48 hours = 5.95 mg/L
 LC₅₀ (*Oryzias latipes*) 6 hours = 67 mg/L
 LC₅₀ (*Oryzias latipes*) 24 hours = 46; 70 mg/L
 LC₅₀ (*Menidia beryllina*) 96 hours = 1.48 mg/L
 LC₅₀ (*Pleuronectes platessa*) 24 hours = 5.8 mg/L
 LC₅₀ (*Palaemonetes pugio*) 48 hours = 70-162 mg/L
 LC₅₀ (*Oryzias latipes*) 48 hours = 46 mg/L
 LC₅₀ (*Pimephales promelas*) 96 hours = 6.6; 10-22 mg/L
 LC₅₀ (*Atherinops affinis*) 96 hours = 1.88 mg/L
 LC₅₀,F (*Corbicula fluminea*) 5 days = 7.8-23.6 mg/L
 LC₅₀,F (trout) 48 hours = 5.9 mg/L
 LC₅₀,F (trout) 96 hours = 4.6 mg/L
 LC₅₀,F (trout) 10 days = 2.8 mg/L
 LC₅₀,F (*Brachydanio rerio*) 48 hours = 8.8 mg/L
 LC₅₀,F (*Brachydanio rerio*) 96 hours = 8.0 mg/L
 LC₅₀,F (*Brachydanio rerio*) 10 days = 8.0 mg/L
 LC₅₀,F (*Salmo gairdneri*) 96 hours = 5.3 mg/L
 LC₅₀,F (*Jordanella floridae*) 48 hours = 10.0 mg/L
 LC₅₀,F (*Jordanella floridae*) 96 hours = 8.1 mg/L
 LC₅₀,F (*Jordanella floridae*) 10 days = 6.9 mg/L
 LC₅₀,S (*Mysidopsis bahia*) 96 hours = 6.1-7.1; 7-18.3 mg/L
 LC₅₀,S (*Mysidopsis bahia*) 7 days = 5.9-14.5 mg/L
 LC₅₀,S (*Nereis virens*) 96 hours = 13.5 mg/L
 LC₅₀,S (*Crassostrea gigas* larvae) 48 hours = 0.91 mg/L
 LC₅₀,S (*Corbicula fluminea*) 96 hours = 27.2-36.2 mg/L
 LC₁₀₀ (*Leuciscus idus*) 48 hours = 20; 30 mg/L
 LC₅₀,S (*Salmo gairdneri*) 96 hours = 4.6; 6.2 mg/L
 LC₅₀,S (*Pimephales promelas* fry) 96 hours = 10.2 mg/L
 LC₅₀,S (*Pimephales promelas* juvenile) 96 hours = 17 mg/L
 LC₅₀,S (*Pimephales promelas* adult) 96 hours = 22.5 mg/L
 LC₅₀,S (*Pimephales promelas*) 48 hours = 5.1-5.9 mg/L
 LC₅₀,S (*Cichlasoma nigrofasciatum*) 96 hours = 16.1-30 mg/L
 LC₅₀,S (*Poecilia reticulata*) 96 hours = 13.5-18.3 mg/L
 LC₅₀,S (*Carassius auratus*) 6 hours = 60 mg/L
 LC₅₀,S (*Phoxinus phoxinus*) 24 hours = 30.5 mg/L
 LC₅₀,S (*Macrones vittatus*) 96 hours = 1.4-1.5 mg/L
 LC₅₀,S (*Cyprinodon variegatus*) 96 hours = 3.8-4.5; 9 mg/L
 LC₅₀,S (*Cyprinodon variegatus*) 7 days = 1.8-3.4 mg/L
 LC₅₀,S (*Menidia beryllina*) 7 days = 1.5-2.2 mg/L
 LC₅₀,S (*Menidia beryllina*) 96 hours = 1.5; 2.5-3.0; 2.8 mg/L
 LC₅₀,S (*Gasterosteus aculeatus*) 96 hours = 0.5-4.2 mg/L
 LC₅₀,S (*Fundulus heteroclitus*) 96 hours = 4.5-5.6 mg/L at 20 ppt salt
 LC₅₀,S (*Fundulus similis*) 96 hours = 0.5-1.8 mg/L at 20 ppt salt

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Do NOT dispose of any component of this product by pouring down the drain. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. 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.

14. TRANSPORTATION INFORMATION

THIS PRODUCT IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION. TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as dangerous goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION DESIGNATION: This product is not classified as dangerous goods, per rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is not classified as dangerous goods, per rules of the IMO.

Marine Pollutant: No component of this product is designated by the IMO to be a Marine Pollutant.

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 CODE FOR THE TRANSPORTATION OF DANGEROUS GOODS BY ROAD AND RAIL (ADG CODE): This product is not classified by the National Road Transport Commission (NRTC) to be dangerous goods.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The constituents in components of this product are not subject to Sections 302, 304, and 313 reporting requirements under the Superfund Amendment and Reauthorization Act.

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

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

U.S. TSCA INVENTORY STATUS: Some components of this product contain ingredients not included in the TSCA Inventory. In accordance with the conditions listed in 40 CFR 720.36 and 721.47, this product must be used only for research and development, pharmaceutical manufacture, or export. It must be used by, or directly under the supervision of, a technically qualified individual. The manufacturer should be consulted prior to using this product for other applications. Other requirements may apply.

OTHER U.S. FEDERAL REGULATIONS: Not applicable.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 lists.

ANSI LABELING (Z129.1; Provided to Summarize Occupational Hazard Information):

FOR LADDER: CAUTION! MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. MAY CAUSE DISCOMFORT IF SWALLOWED. Do not taste or swallow. Avoid skin or eye contact. Avoid prolonged or repeated skin contact. Avoid breathing mists or sprays. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves and goggles. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention if necessary. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with polypads and place in suitable container. Consult Material Safety Data Sheet for additional information.

FOR WASH BUFFER and SAMPLE BUFFER: CAUTION! MAY CAUSE ALLERGIC RESPIRATORY REACTION. MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. MAY CAUSE DISCOMFORT IF SWALLOWED. Do not taste or swallow. Avoid skin or eye contact. Avoid prolonged or repeated skin contact. Avoid breathing mists or sprays. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves and goggles. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention if necessary. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with polypads and place in suitable container. Consult Material Safety Data Sheet for additional information.

FOR DYE SOLUTION: CAUTION! MAY CAUSE SENSITIZATION BY UNSPECIFIED ROUTE OF EXPOSURE. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. MAY CAUSE DISCOMFORT IF SWALLOWED. Do not taste or swallow. Avoid skin or eye contact. Avoid prolonged or repeated skin contact. Avoid breathing mists or sprays. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves and goggles. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention if necessary. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with polypads and place in suitable container. Consult Material Safety Data Sheet for additional information.

ALL OTHER SOLUTIONS: CAUTION! MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. MAY CAUSE DISCOMFORT IF SWALLOWED. Do not taste or swallow. Avoid skin or eye contact. Avoid prolonged or repeated skin contact. Avoid breathing mists or sprays. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves and goggles. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention if necessary. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with polypads and place in suitable container. Consult Material Safety Data Sheet for additional information.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDL INVENTORY STATUS: Some components of this product contain ingredients not included in the DSL/NDL Inventory. This product must be used only for research and development purposes. The manufacturer should be consulted prior to using this product for other applications. Other requirements may apply.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS: The constituents in components of this product are not on the CEPA Priority Substances Lists.

CANADIAN WHMIS CLASSIFICATION AND SYMBOLS:

EXPRESS LADDER and DYE SOLUTION: D2B Materials Causing Other Toxic Effects (Contains sensitizer in greater than 1%)



ALL OTHER COMPONENTS: Not applicable.

15. REGULATORY INFORMATION (Continued)

EUROPEAN UNION INFORMATION:

EU LABELING/CLASSIFICATION: Some components of this product meet the definition of a hazard class, as defined by the European Union Council Directives 67/548/EEC and 2001/59/EC.

FOR EXPRESS LADDER and DYE SOLUTION:

EU HAZARD CLASSIFICATION: Irritant [Xi]

EU RISK PHRASES: May cause sensitization by skin contact. [R: 43]

EU SAFETY PHRASES: Keep locked up and out of reach of children. [S: 1/2] Avoid contact with skin. [S: 24] Wear suitable gloves. [S: 37] In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). [S: 45]

EU HAZARD SYMBOL:



FOR ALL OTHER COMPONENTS:

EU HAZARD CLASSIFICATION: Not applicable.

EU RISK PHRASES: Not applicable.

EU SAFETY PHRASES: Not applicable.

EU HAZARD SYMBOL: Not applicable.

FOR CONSTITUENTS:

Dimethyl Sulfoxide:

An official classification for this substance has not been published in Commission Directives 93/72EEC, 94/69/EC, 96/56/EC, or 98/98/EC.

Glycerol:

An official classification for this substance has not been published in Commission Directives 93/72EEC, 94/69/EC, 96/56/EC, or 98/98/EC.

Methylurea:

An official classification for this substance has not been published in Commission Directives 93/72EEC, 94/69/EC, 96/56/EC, or 98/98/EC.

Tricine:

An official classification for this substance has not been published in Commission Directives 93/72EEC, 94/69/EC, 96/56/EC, or 98/98/EC.

Sodium Dodecyl Sulfate (Self-classification):

EU CLASSIFICATION: Irritant. [Xi]

EU RISK PHRASES: May cause sensitization by skin contact. [R: 43]

EU SAFETY PHRASES: Keep locked up and out of reach of children. [S: 1/2] Avoid contact with skin. [S: 24] Wear suitable gloves. [S: 37] In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). [S: 45]

Lithium Dodecyl Sulfate (Self-classification):

EU CLASSIFICATION: Irritant. [Xi]

EU RISK PHRASES: May cause sensitization by inhalation. [R: 42]

EU SAFETY PHRASES: Keep locked up and out of reach of children. [1/2] Do not breathe spray. [S: 23] In case of accident by inhalation, remove casualty to fresh air and keep at rest. [S: 63]

AUSTRALIAN INFORMATION FOR PRODUCT:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: The constituents in components of this product are on the AICS as indicated in composition tables in Section 2 (Composition and Information on Ingredients).

LIST OF DESIGNATED SUBSTANCES: Not applicable.

STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS: Not applicable.

LABELING AND CLASSIFICATION:

FOR EXPRESS LADDER and DYE SOLUTION:

HAZARD CLASSIFICATION: Irritant [Xi]

RISK PHRASES: May cause sensitization by skin contact. [R: 43]

SAFETY PHRASES: Keep locked up and out of reach of children. [S: 1/2] Avoid contact with skin. [S: 24] Wear suitable gloves. [S: 37] In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). [S: 45]

HAZARD SYMBOL:



FOR ALL OTHER COMPONENTS:

HAZARD CLASSIFICATION: Not applicable.

RISK PHRASES: Not applicable.

SAFETY PHRASES: Not applicable.

HAZARD SYMBOL: Not applicable.

JAPANESE INFORMATION FOR PRODUCT:

JAPANESE ENCS: The constituents in components of this product are on the ENCS Inventory as indicated in composition tables in Section 2 (Composition and Information on Ingredients).

POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW: No constituent in the components of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

16. OTHER INFORMATION

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 3519, La Mesa, CA 91944-3519
800/441-3365