SAFETY DATA SHEET

This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012) and equivalent state Standards. It has also been developed in accordance with the United Nations Globally Harmonized System of Classification of Chemicals (GHS) and the Canadian Workplace Hazardous Materials Information System (WHMIS). Refer to Section 16 of this document for the definition of terms and abbreviations.

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

- MANUFACTURER ITEM NUMBER(S): 5162-04-BCE00YL
- PRODUCT NAME: **KLEENLINE Antimicrobial Hand Soap**
  - 5162-04-BCE00YL: 1250 mL

1.2 RELEVANT IDENTIFIED USES OF THE MIXTURE

- RECOMMENDED USE: For personal care in occupational settings.
- IDENTIFIED USERS: For sale to, use and storage by service persons only.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

- **MANUFACTURER/ SUPPLIER:** **Envoy Solutions**
- **ADDRESS:** 2101 Claire Ct; Glenview, IL 60025
- **BUSINESS PHONE:** 1-800-995-4466
- **EMERGENCY PHONE:** 1-800-255-3924 (CHEMTEL; 24 hours)

1.4 OTHER PERTINENT INFORMATION

- Not appliable.

SECTION 2: HAZARD IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

OSHA/HCS Status
Classification of the Substance or Mixture Flammable liquids (Category 3); Serious Eye Damage/Irritation (Category 1)

2.2 LABEL ELEMENTS:

Hazard Pictograms

Signal Word DANGER
Hazard Statements H226: Flammable liquid and vapor. H318. Causes serious eye damage.
Precautionary Statements
Prevention P102: Keep out of reach of children. P103: Read label before use. P210: Keep away from heat, sparks, open flames, and hot surfaces – No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static electrical discharge. P264: Wash hands thoroughly after use. P280: Wear eye protection/face protection.
Response P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P310: Immediately call a POISON CENTER or doctor/physician. P370+P378: IN CASE OF FIRE: Use Class B Fire Extinguisher (e.g., dry chemical, alcohol resistant foam).
Storage P410+403: Store in a cool dry place at room temperature away from direct sunlight. Triple rinse container and offer for recycling.
Disposal P501: Dispose of contents and container according to the local, city, state, and federal regulations

SECTION 2: HAZARD IDENTIFICATION (Continued)

2.3 OTHER PERTINENT HAZARDS NOT OTHERWISE CLASSIFIED

- **OTHER POTENTIAL HEALTH EFFECTS:** Not applicable.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 SUBSTANCES/MIXTURES

CHEMICAL	CAS NUMBER	GHS HAZARD CLASSIFICATION FOR CHEMICAL	% (w/w)
Ethyl Alcohol	64-17-5	Flammable liquids (Category 2); Acute toxicity, Oral (Category 4); Specific target organ toxicity - single exposure (Category 1); Acute aquatic toxicity (Category 2); Chronic aquatic toxicity (Category 2)	>= 1 - < 5
Ammonium Laureth Sulfate	67762-19-0	Eye Damage (Category 1)	>= 1 - < 5
Ammonium Lauryl Sulfate	2235-54-3	Skin irritation (Category 2), Eye irritation (Category 2A), Acute aquatic toxicity (Category 2), Chronic aquatic toxicity (Category 2)	>= 1 - < 5
Propylene Glycol	57-55-6	Not classified as hazardous.	>= 1 - < 5
Chloroxylenol	88-04-0	Skin irritation (Category 2); Eye irritation (Category 2A); Skin sensitization (Category 1); Acute aquatic toxicity (Category 1); Chronic aquatic toxicity (Category 1)	>= 0.1 - < 1

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

AREA EXPOSED

Eye Contact — Flush with copious amounts of water. “Roll” eyes during flush. Check for and remove contact lenses. Seek medical attention immediately.

Skin Contact — Not applicable: Product for use on skin.

Inhalation — Obtain fresh air. Blow nose.

Ingestion — If conscious only: Rinse mouth with water. Do not induce vomiting. Contact a Poison Control Center or physician for instructions.

4.2 MOST IMPORTANT ACUTE AND CHRONIC EXPOSURE SYMPTOMS

- **ACUTE HEALTH EFFECTS:**

AREA EXPOSED

Eye Contact — Direct exposure to product can cause serious damage to the eyes.

Skin Contact — Prolonged contact has the potential to be mildly irritating.

Inhalation — The vapors may cause mild respiratory tract irritation; symptoms may include coughing and sneezing depending on volume of mist/spray inhaled.

Ingestion — May cause gastrointestinal system irritation; symptoms may include pain, sore throat, nausea and vomiting if large volumes are ingested.

- **CHRONIC HEALTH EFFECTS:** None reported.
- **TARGET ORGANS:** Eyes.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- **GENERAL INFORMATION: For all exposures:** In case of accident, or if you feel unwell, seek medical advice immediately. Take this document and a copy of the label to the healthcare professional.
- **RECOMMENDATIONS TO PHYSICIANS:** Treat symptomatically.
- **MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** None reported.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- **RECOMMENDED FIRE EXTINGUISHING MEDIA:** Dry Powder, Foam, Carbon Dioxide, or any other Class B extinguisher.
- **UNSUITABLE FIRE EXTINGUISHING MEDIA:** None known.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- **NFPA FLAMMABILITY CLASSIFICATION:**

NFPA Rating

NFPA Classification Class II Combustible Liquid

- **UNUSUAL HAZARDS IN FIRE SITUATIONS:**

Decomposition Products	Carbon dioxide, carbon monoxide, compounds containing nitrogen, chlorine, and sulfur, and irritating vapors.
Explosion Sensitivity to Mechanical Impact	Not applicable.
Explosion Sensitivity to Static Discharge	Static electrical sparks may ignite vapors; not anticipated to be a significant hazard for product

5.3 ADVICE FOR FIREFIGHTERS

- Self-Contained Breathing Apparatus and full protective equipment for fire response should be worn in any situation. Move containers from fire area if it can be done without risk to personnel. Otherwise, use water spray to keep fire-exposed containers cool. Because this is product is a soap, any equipment that comes in contact with this product can be rinsed thoroughly with water and then returned to service.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- **RESPONSE TO INCIDENTAL RELEASES:** Personnel who have received basic chemical safety training can generally handle small-scale releases. Gloves and safety glasses should be worn when cleaning-up spills, to avoid prolonged contact and splash protection. Use caution during clean-up; contaminated floors and items may be slippery.
- **RESPONSE TO NON-INCIDENTAL RELEASES:** Generally, releases of this product will be no larger than the loss of one shipment of material. Subsequently, personnel can follow the instructions for incidental releases. As needed, respond to non-incidental chemical releases of this product (such as the simultaneous destruction of several pallets of this product) by clearing the impacted area and contacting appropriate emergency personnel.
- **RESPONSE PROCEDURES FOR ANY RELEASE:** Absorb spilled liquid with polypads or other suitable absorbent materials. Rinse area thoroughly.

6.2 ENVIRONMENTAL PRECAUTIONS

- Avoid accidental dispersal of spilled material into soil, waterways, and sewers.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- **SPILL RESPONSE EQUIPMENT:** Polypad or other absorbent material.

6.4 REFERENCES TO OTHER SECTIONS

- **SECTION 8:** For exposure levels and detailed personal protective equipment recommendations.
- **SECTION 13:** For waste handling guidelines.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Hygiene Practices

Keep out of reach of children**.** Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of vapors, mists, sprays. Use in well-ventilated area. Avoid contact with eyes

Handling Practices

Employees must be appropriately trained to use this product safely as needed. Keep away from heat, sparks, and flame. Store in a closed container away from incompatible materials.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage Practices

Ensure all containers are correctly labeled. Store containers away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible. Empty containers may contain residual material; therefore, empty containers should be handled with care. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Incompatibilities

See Section 10 (Stability and Reactivity).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

- **AIRBORNE EXPOSURE LIMITS:**

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
Ethyl Alcohol	1000 ppm (STEL)	1000 ppm	1000 ppm	CAL OSHA TWA = 1000 ppm
Propylene glycol	NE	NE	NE	TWA = 10 mg/m^3 (IHA WEEL)

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS**: Not established.

8.2 EXPOSURE CONTROLS

Engineering Controls

Use in well-ventilated environment.

Respiratory Protection

None needed in normal circumstances of use.

Hand Protection

None needed in normal circumstances of use. Neoprene, nitrile, or butyl gloves are recommended in the event of spill response. Ensure gloves are intact prior to use.

Eye Protection

None needed in normal circumstances of use Safety glasses or goggles in the event of spill response or if use of product creates a splash/spray hazard.

Body Protection

None needed in normal circumstances of use.

8.3 PERSONAL PROTECTION SYMBOLS

Hand Protection
(Spill Response)

Eye Protection
(Spill Response/Splash Hazard)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, translucent, yellow-orange to amber liquid
Odor	Odor like fruit.
Odor Threshold	Not determined.
pH	4.5-8.5
Melting Point/Freezing Point	Not applicable.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (Continued)

Initial Boiling Point/Boiling Range	83 °C (141 °F)
Flash Point	59.89 °C (139 °F)
Evaporation Rate (nBuAc= 1)	Not determined.
Flammability	Class II Combustible Liquid
Upper/Lower Explosive Limits	Not determined.
Vapor Pressure	Not determined.
Vapor Density	Not determined.
Relative Density	0.9962 (8.31 lb./gal)
Solubility	100%.
Partition Coefficient/n-octanol/water	Not determined.
Autoignition Temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	10 - 20 mm2/s (20 °C)

9.2 OTHER INFORMATION

- **VOC (less water & exempt):** Not determined. **WEIGHT% VOC:** Not determined.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

- Not reactive under typical conditions of use or handling.

10.2 CHEMICAL STABILITY

- Normally stable under standard temperatures and pressures.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

- This product is not self-reactive, water-reactive, or air-reactive.
- This product will not undergo hazardous polymerization.

10.4 CONDITIONS TO AVOID

- Avoid contact with incompatible chemicals.

10.5 INCOMPATIBLE MATERIALS

- Strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

- Thermal decomposition produces carbon dioxide, carbon monoxide, compounds containing nitrogen, chlorine, and sulfur, and irritating vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

- **ACUTE TOXICITY:**
  - **PRODUCT TOXICOLOGY DATA:**
    - Acute Toxicity Estimate (oral) > 5000 mg/kg
  - **COMPONENT TOXICITY DATA:** The following data are available for components of this product:

ETHYL ALCOHOL
LD_{50} (Oral, Rat) = 7060 mg/kg
LC_{50} (Inhalation, Rat) = 20,000 mg/kg; 10 hours

AMMONIUM LAURETH SULFATE
LD_{50} (Oral, Rat) = 4,100 mg/kg
LD_{50} (Dermal, Rat) = > 2,000 mg/kg

AMMONIUM LAURYL SULFATE
LD_{50} (Oral, Rat) = 2,000 mg/kg

PROPYLENE GLYCOL
LD_{50} (Oral, Rat) = > 5,000 mg/kg
LC_{50} (Inhalation, Rabbit) = > 159 mg/l, > 51091 ppm
LD_{50} (Dermal Rabbit) = > 2,000 mg/kg

CHLOROXYLENOL
Acute toxicity estimate: 500 mg/kg
LC_{50} (Inhalation, Rat): > 6.29 mg/l
LD_{50} (Dermal, Rat): > 2,000 mg/kg

  - **DEGREE OF IRRITATION**: Causes serious eye damage. See Section 4 (First Aid Measures) for more details.

SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

- **SENSITIZATION:** This product does not contain a skin or respiratory sensitizer.
- **REVIEW OF ACUTE SYMPTOMS AND EFFECTS BY ROUTE OF EXPOSURE:** See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for additional details.

Eyes	Direct exposure to product can cause serious damage to the eyes**.**
Skin	May be mildly irritating to skin upon prolonged exposure.
Inhalation	May cause mild respiratory tract irritation and central nervous system effects if vapors are inhaled.
Ingestion	May cause gastrointestinal system irritation and central nervous system effects if ingested.

- **CHRONIC TOXICITY:**
  - **CARCINOGENICITY STATUS:** Not of the components of this product are listed as human carcinogens by IARC, NTP or OSHA. The following additional classifications are available for components of this product:
    - **Ethyl Alcohol:** ACGIH-A3: Confirmed animal carcinogen with unknown relevance to humans.
  - **REPRODUCTIVE TOXICITY INFORMATION:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure.
  - **MUTAGENIC EFFECTS:** The components of this product are not reported to cause mutagenic effects under typical circumstances of exposure.
  - **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
  - **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Not applicable.
  - **ASPIRATION HAZARD:** Not applicable.
- **OTHER INFORMATION:**
  - **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.
  - **ADDITIONAL TOXICOLOGY:** Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

- Based on available data, this product may be harmful to contaminated terrestrial or aquatic plants or animals, depending on the volume released into the environment.
- The following aquatic toxicity data are available for components of this product.

ETHYL ALCOHOL
LC50 (Pimephales promelas): > 1,000 mg/l - 96 hours
EC50 (Daphnia magna): > 1,000 mg/l- 48 hours
EC50 (Chlorella vulgaris): 275 mg/l – 72 hours
NOEC (Daphnia magna): 9.6 mg/l – 9 days
EC50 (Photobacterium phosphoreum): 32.1 mg/l -0.25h

ALPH-SULFO-OMEGA-(DODECYLOXY)-POLY(OXY-1,2-ETHANEDIYL), AMMONIUM SALT
LC50 (Danio rerio (zebra fish)): 7.1 mg/l – 96h
EC50 (Daphnia magna (Water flea)): 7.4 mg/l – 48h
ErC50 (D. Subspicatus (green algae)): 27.7 mg/l – 72h
NOEC (D. Subspicatus (green algae)): 0.95 mg/l – 72h
NOEC (Oncorhynchus mykiss (rainbow trout)): 0.14 mg/l - 28d
NOEC (Daphnia magna (Water flea)): 0.27 mg/l – 21d
EC10 (Pseudomonas putida): > 10 g/l – 16h

AMMONIUM DODECYL SULPHATE
LC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l – 96h
EC50 (Daphnia magna (Water flea)): 4.7 mg/l – 48h
ErC50 (Desmodesmus subspicatus (green algae)): > 20 mg/l – 72h
EC10 (Desmodesmus subspicatus (green algae)): 5.4 mg/l – 72h
NOEC (Ceriodaphnia dubia (water flea)): 0.88 mg/l – 7d
EC0 (Pseudomonas putida): 409 mg/l – 16h

PROPYLENE GLYCOL
LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l -96h
EC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l – 48h
EC50 (Skeletonema costatum (marine diatom)): 19,000 mg/l – 48h
Chronic Toxicity (fish) Value: 2,500 mg/l – 30d
NOEC (Ceriodaphnia dubia (water flea)): 29,000 mg/l – 7d
NOEC (Pseudomonas putida): > 20,000 mg/l – 18h

4-CHLORO-3,5-DIMETHYLPHENOL
LC50 (Oncorhynchus mykiss (rainbow trout)): 0.76 mg/l -96h

12.2 PERSISTENCE AND DEGRADABILITY

- When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.

SECTION 12: ECOLOGICAL INFORMATION (Continued)

- The following data are available for components of this product.
  - **Ethyl Alcohol**: Readily biodegradable.; Biodegradation: 84 % Exposure time: 20 days
  - **Ammonium Laureth Sulfate:** : Readily biodegradable. Biodegradation: 100 % Exposure time: 28 days
  - **Ammonium Lauryl Sulfate:** Readily biodegradable. Biodegradation: 75.7 % Exposure time: 28 days
  - **Propylene Glycol:** Readily biodegradable. Biodegradation: 98.3 % Exposure time: 28 days

12.3 BIOACCUMULATIVE POTENTIAL

- When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.
- The following data are available for components of this product.
  - **Ethyl Alcohol**: log Pow: -0.35
  - **Ammonium Laureth Sulfate:** : log Pow: 0.3
  - **Ammonium Lauryl Sulfate:** log Pow: 0.8 - 0.91
  - **Propylene Glycol:** log Pow: -1.07
  - **Chloroxylenol**: log Pow: 3.27

12.4 MOBILITY IN SOIL

- It is expected this product will have some mobility in soil.

12.5 OTHER ADVERSE EFFECTS

- None reported.

SECTION 13: DISPOSAL CONSIDERATION

13.1 WASTE TREATMENT METHODS

- Dispose of in accordance with local, State and Federal regulations.

13.2 DISPOSAL CONSIDERATIONS

- **EPA RCRA WASTE CODE:** D001; Not applicable to wastes consisting only of this product.

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SECTION 14: TRANSPORT INFORMATION

14.1 DANGEROUS GOODS BASIC DESCRIPTION AND OTHER TRANSPORT INFORMATION

UN/NA Number	Proper Shipping Name	Packing Group	Hazard Class	Label	North American Emergency Response Guide #	Marine Pollutant Status
Not applicable. This product can be reclassified as a combustible liquid and is not regulated for transport because it is in non-bulk packaging.						

- **CANADIAN TRANSPORTATION INFORMATION**: Refer to above information.
- **IATA DESIGNATION**: Per IATA Special Provision A58, because this product is an aqueous solution less than 24% Ethyl Alcohol, this product is not regulated as dangerous goods for transport.
- **IMO DESIGNATION**: Per IMDG Code Special Provision 144, because this product is an aqueous solution less than 24% Ethyl Alcohol, this product is not regulated as dangerous goods for transport.

14.2 ENVIRONMENTAL HAZARDS

- None described, as related to transportation.

14.3 SPECIAL PRECAUTIONS FOR USERS

- Not applicable.

14.4 TRANSPORT IN BULK

- Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH, AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT

- **OTHER IMPORTANT U.S. REGULATIONS**
  - **U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21):** Flammable liquids; Eye damage/irritation.
  - **U.S. CERCLA REPORTABLE QUANTITY (RQ):** Not applicable.
  - **U.S. SARA 313**: Not applicable.
  - **U.S. TSCA INVENTORY STATUS:** All components of this product are listed on the TSCA Inventory.
  - **CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS:** Not applicable.
- **INTERNATIONAL REGULATIONS**
  - **CANADIAN REGULATORY STATUS: CANADIAN REGULATORY STATUS:** The product is classified as hazardous under Hazardous Products Regulations (SOR-2022-272).
    - WHMIS 2015: See section 2.
    - This SDS contains all the information required by the HPR.
  - **CANADIAN DSL/NDSL INVENTORY STATUS:** The listed components of this product are on inventory or exempted.
  - **CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS:** The listed components of this product are not on the CEPA Priority Substances Lists.

SECTION 16: OTHER INFORMATION

16.1 INDICATION OF CHANGE

- **DATE OF REVISION**: September 29, 2023
- **SUPERCEDES**: Not applicable.
- **CHANGE INDICATED:** Update of manufacturer information'

16.2 KEY LITERATURE REFERENCES AND SOURCES FOR DATA

- SAFETY DATA SHEETS FOR COMPONENT PRODUCTS.
- Federal OSHA Hazard Communication Standard: 29 CFR 1910.1200.

16.3 HAZARDOUS MATERIALS CLASSIFICATION SYSTEM

Product as SOLD

Health	**2**
Flammability	**3**
Physical Hazard	**0**
Protective Equipment	**B**

HMIS Personal Protective Equipment Rating: Spill clean-up situations: B - Safety glasses and gloves.

16.4 DISCLAIMER

Envoy Solutions makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of their own use, handling, and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Envoy Solutions as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Envoy Solutions assume any liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Envoy Solutions do not recommend blending this product with any other chemicals. All information, recommendations and data contained herein concerning this product are based upon information available at the time of writing from recognized technical sources.

SECTION 16: OTHER INFORMATION (Continued)

16.5 ABBREVIATIONS AND ACRONYMS

ALL SECTIONS: OSHA: U.S. Federal Occupational Safety and Health Administration. WHMIS: Canadian Workplace Hazardous Materials Standard. GHS: Globally Harmonized System of Classification of Chemical Substances.

SECTION 3: CAS Number: Chemical Abstract Service Number, which is used by the American Chemical Society to uniquely identify a chemical.

SECTION 5: NFPA: National Fire Protection Association. NFPA FLAMMABILITY CLASSIFICATION: The NFPA uses the flash point (Fl.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: Fl.P. below 73°F and BP below 100°F. Class IB: Fl.P. below 73°F and BP at or above 100°F. Class IC: Fl.P. at or above 73°F and BP at or above 100°F. Class II: Fl.P. at or above 100°F and below 140°F. Class IIIA: Fl.P. at or above 140°F and below 200°F. Class IIIB: Fl.P. at or above 200°F. NFPA HAZARDOUS MATERIALS RATING: This is a rating system used to summarize physical and health hazards to firefighters. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

SECTION 8: NE: Not established. ACGIH: American Conference of Government Industrial Hygienists; TWA: Time-Weighted Average (over an 8-hour work day); STEL: Short-Term Exposure Limit (15-minute average, no more than 4-times daily and each exposure separated by one-hour minimally); C: Ceiling Limit (concentration not to be exceeded in a work environment). PEL: Permissible Exposure Limit. NIOSH: National Institute of Occupational Safety and Health; REL: Recommended Exposure Limit. ppm: Parts per Million. mg/m^3: Milligrams per cubic meter. mppcf: Millions of Particles per Cubic Foot. BEI: Biological Exposure Limit.

SECTION 9: pH: Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. FLASH POINT: Temperature at which a liquid generates enough flammable vapors so that ignition may occur. AUTOIGNITION TEMPERATURE: Temperature at which spontaneous ignition occurs. LOWER EXPLOSIVE LIMIT (LEL): The minimal concentration of flammable vapors in air which will sustain ignition. UPPER EXPLOSIVE LIMIT (UEL): The maximum concentration of flammable vapors in air which will sustain ignition. ≈: Approximately symbol. VOC: Volatile Organic Compound.

SECTION 11: CARCINOGENICITY STATUS: NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. REPRODUCTIVE TOXICITY INFORMATION: Mutagen: Substance capable of causing chromosomal damage to cells. Embryotoxin: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. TOXICOLOGY DATA: LD*xx* or LC*xx*: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (*xx*) of exposed test animals by the designate route of administration. This value is used to assess the toxicity of chemical substances to humans. TD*xx* or TC*xx*: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (*xx*) of exposed test animals by the designate route of administration.

SECTION 12: EC50: Effect Concentration (on 50% of study group); BOD: Biological Oxygen Demand. COD: Chemical Oxygen Demand. ThOD: Theoretical Oxygen Demand. TLM: Median Tolerance Limit.

SECTION 13: RCRA: Resource Conservation and Recovery Act. The regulations promulgated under this act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. EPA RCRA Waste Codes: Defined in 40 CFR Section 261.

SECTION 15: CERCLA: Comprehensive Environmental Response Compensation and Liability Act (a.k.a. “Superfund”) and SARA: (Superfund Amendment and Reauthorization Act). The regulations promulgated under this Act are located under 40 CFR 300 ff. and provide “community right-to-know” requirements. TSCA: Toxic Substances Control Act: Rules regulating the manufacture and sale of chemicals found in 40 CFR 700-766. DSL/NDSL: Canadian Domestic Substances and Non-Domestic Substances Lists.

SECTION 16: HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING: This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.