

# SAFETY DATA SHEET

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KC-002

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision: 2.1

SDS Revision Date: 11/19/2025

## 1. PRODUCT & COMPANY IDENTIFICATION

|     |                              |                                                             |
|-----|------------------------------|-------------------------------------------------------------|
| 1.1 | Product Name:                | Seoul-Control Creme Permanent Hair Color (All Shades)       |
| 1.2 | Chemical Name:               | NA                                                          |
| 1.3 | Synonyms:                    | NA                                                          |
| 1.4 | Trade Names:                 | Seoul-Control Creme Permanent Hair Color (All Shades)       |
| 1.5 | Product Uses & Restrictions: | Professional or Cosmetic Use Only                           |
| 1.6 | Distributor's Name:          | C-CARE, LLC                                                 |
| 1.7 | Distributor's Address:       | 979 Corporate Boulevard, Linthicum Heights, MD 21090 USA    |
| 1.8 | Emergency Phone:             | CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN XXXXX) |
| 1.9 | Business Phone / Fax:        | +1 (410) 850-0035                                           |

## 2. HAZARDS IDENTIFICATION

|     |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     |
|-----|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 2.1 | Hazard Identification: | This product is classified as a HAZARDOUS SUBSTANCE but NOT as DANGEROUS GOODS according to the classification criteria of NOHSC: 1088 (2004) and ADG Code (Australia).<br><b>WARNING! CAUSES MILD SKIN IRRITATION. CAUSES EYE IRRITATION.</b><br>Classification: Skin Irrit. 3; Eye Irrit. 2B                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     |
| 2.2 | Label Elements:        | <p><b>Hazard Statements (H):</b> H316 – Causes mild skin irritation. H320 – Causes eye irritation.</p> <p><b>Precautionary Statements (P):</b> P264 – Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P270 – Do not eat, drink or smoke while using this product. P280 – Wear protective gloves and eye/face protection. P305+P351+P338 – IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention. P332+P313 – If skin irritation occurs: get medical advice/attention. P405 – Store locked up. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).</p> |  |
| 2.3 | Other Warnings:        | <p><b>KEEP OUT OF REACH OF CHILDREN. NOTICE:</b> This product is designed and intended for use by a licensed cosmetologist/professional hairdresser only, and carries no warranty, expressed or implied, if used by others.</p> <p><b>CAN CAUSE AN ALLERGIC REACTION.</b> Preliminary patch testing is recommended. Tattoos, including black and temporary henna, may increase the risk of allergy. If a severe allergic reaction should occur, seek immediate medical attention. This product must not be used for dyeing the eyelashes or eyebrows - to do so may cause blindness</p>                                                                                                                                                   |                                                                                     |

## 3. COMPOSITION & INGREDIENT INFORMATION

| CHEMICAL NAME(S)   | CAS No.                                | RTECS No. | EINECS No. | %      | EXPOSURE LIMITS IN AIR (mg/m <sup>3</sup> ) |      |        |         |         |      |      |      |          | OTHER |
|--------------------|----------------------------------------|-----------|------------|--------|---------------------------------------------|------|--------|---------|---------|------|------|------|----------|-------|
|                    |                                        |           |            |        | ACGIH                                       |      | NOHSC  |         |         | OSHA |      |      |          |       |
|                    |                                        |           |            |        | ppm                                         |      | ppm    |         |         | ppm  |      |      |          |       |
|                    |                                        |           |            |        | TLV                                         | STEL | ES-TWA | ES-STEL | ES-PEAK | PEL  | STEL | IDLH |          |       |
| WATER / AQUA       | 7732-18-5                              | ZC0110000 | 231-791-2  | 50-70  | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |
| CETEARYL ALCOHOL   | 67762-27-0                             | NA        | 267-008-6  | 10-15  | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |
| CETEARETH-20       | 68439-49-6                             | NA        | NA         | 5-10   | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |
| LINALOOL           | 78-70-6                                | NA        | 201-134-4  | 0.1-10 | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   | ALLERGEN |       |
| PROPYLENE GLYCOL   | 57-55-6                                | TY2000000 | 200-338-0  | 1-5    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |
| AMMONIUM HYDROXIDE | 1336-21-6                              | BQ9625000 | 215-647-6  | 1-5    | 25                                          | 35   | 25     | 50      | NF      | 25   | NA   | NA   | 25 NIOSH |       |
|                    | Skin Irrit. 3; Eye Irrit. 2;H316; H320 |           |            |        |                                             |      |        |         |         |      |      |      |          |       |
| DIOLEYL PHOSPHATE  | 14450-07-8                             | NA        | 238-431-3  | 1-5    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |
|                    | Skin Corr. 1B; H314                    |           |            |        |                                             |      |        |         |         |      |      |      |          |       |
| LIMONENE           | 5989-27-5                              | GW6360000 | 227-813-5  | 1-5    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   | ALLERGEN |       |
| GERANIOL           | 106-24-1                               | RG5830000 | 203-377-1  | 1-5    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   | ALLERGEN |       |
| COUMARIN           | 91-64-5                                | NA        | 202-086-7  | 0-2    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   | ALLERGEN |       |
| p-PHENYLENEDIAMINE | 106-50-3                               | SS8050000 | 203-404-7  | 0-1    | NA                                          | NA   | NF     | 0.1     | NF      | NA   | NA   | 25   |          |       |
| RESORCINOL         | 108-46-3                               | NA        | 203-585-2  | 0-1    | NA                                          | NA   | NF     | NF      | NF      | NA   | NA   | NA   |          |       |





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## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION – cont'd

|     |                  |                                                                                                                                                                                                                                                                                                                                                                     |                                                                                     |
|-----|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 8.4 | Eye Protection:  | Avoid eye contact. None required under normal conditions of use. When handling large quantities (e.g., ≥ 1 gallon (3.8 L)) safety glasses with side shields should be used.                                                                                                                                                                                         |  |
| 8.5 | Hand Protection: | Required under normal conditions of use to prevent staining and keep exposure level to a minimum. Use latex or PVC gloves. When handling large quantities (e.g., ≥ 1 gallon (3.8 L)), wear rubber or impervious plastic gloves must be worn.                                                                                                                        |  |
| 8.6 | Body Protection: | No apron required when handling small quantities. Lab coat or apron should be worn to protect skin and clothing. When handling large quantities (e.g., ≥ 1 gallon), eye wash stations and deluge showers should be available. Upon completion of work activities involving large quantities of this product, wash any exposed areas thoroughly with soap and water. |                                                                                     |

## 9. PHYSICAL & CHEMICAL PROPERTIES

|      |                                               |                       |
|------|-----------------------------------------------|-----------------------|
| 9.1  | Appearance:                                   | Paste, color varies   |
| 9.2  | Odor:                                         | Mild to no odor       |
| 9.3  | Odor Threshold:                               | NA                    |
| 9.4  | pH:                                           | 10 - 11               |
| 9.5  | Melting Point/Freezing Point:                 | NA                    |
| 9.6  | Initial Boiling Point/Boiling Range:          | NA                    |
| 9.7  | Flashpoint:                                   | (101.0 °C) Closed Cup |
| 9.8  | Upper/Lower Flammability Limits:              | NA                    |
| 9.9  | Vapor Pressure:                               | NA                    |
| 9.10 | Vapor Density:                                | NA                    |
| 9.11 | Relative Density:                             | NA                    |
| 9.12 | Solubility:                                   | Slightly soluble      |
| 9.13 | Partition Coefficient (log P <sub>ow</sub> ): | NA                    |
| 9.14 | Autoignition Temperature:                     | NA                    |
| 9.15 | Decomposition Temperature:                    | NA                    |
| 9.16 | Viscosity:                                    | 40,000-80,000 cPs     |
| 9.17 | Other Information:                            | NA                    |

## 10. STABILITY & REACTIVITY

|      |                                   |                                                                                                     |
|------|-----------------------------------|-----------------------------------------------------------------------------------------------------|
| 10.1 | Stability:                        | Stable under normal conditions; unstable with heat or contamination.                                |
| 10.2 | Hazardous Decomposition Products: | Oxides of carbon (CO, CO <sub>2</sub> ), nitrogen (NO <sub>x</sub> ) and sulfur (SO <sub>2</sub> ). |
| 10.3 | Hazardous Polymerization:         | Will not occur.                                                                                     |
| 10.4 | Conditions to Avoid:              | Open flames, sparks, high heat, incompatible substances and direct sunlight.                        |
| 10.5 | Incompatible Substances:          | Avoid extreme heat and ignition sources. Store away from oxidizers.                                 |

## 11. TOXICOLOGICAL INFORMATION

|      |                              |                                                                                                                                                                                                                        |                 |                |
|------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|
| 11.1 | Routes of Entry:             | Inhalation: YES                                                                                                                                                                                                        | Absorption: YES | Ingestion: YES |
| 11.2 | Toxicity Data:               | This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is available for some of the components of the product but is not presented in this document.  |                 |                |
| 11.3 | Acute Toxicity:              | Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.                                                           |                 |                |
| 11.4 | Chronic Toxicity:            | This material may aggravate any pre-existing skin condition (e.g., dermatitis).                                                                                                                                        |                 |                |
| 11.5 | Suspected Carcinogen:        | This product contains p-Phenylenediamine and Resorcinol, which are not carcinogenic to humans, but are listed as Group 3 carcinogens by the IARC. This product contains p-Phenylenediamine listed by ACGIH in group A4 |                 |                |
| 11.6 | Reproductive Toxicity:       | This product is not reported to produce reproductive toxicity in humans.                                                                                                                                               |                 |                |
|      | Mutagenicity:                | This product is not reported to produce mutagenic effects in humans.                                                                                                                                                   |                 |                |
|      | Embryotoxicity:              | This product is not reported to produce embryotoxic effects in humans.                                                                                                                                                 |                 |                |
|      | Teratogenicity:              | This product is not reported to cause teratogenic effects in humans.                                                                                                                                                   |                 |                |
|      | Reproductive Toxicity:       | This product is not reported to cause reproductive effects in humans.                                                                                                                                                  |                 |                |
| 11.7 | Irritation of Product:       | The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.                                                                                                   |                 |                |
| 11.8 | Biological Exposure Indices: | NE                                                                                                                                                                                                                     |                 |                |
| 11.9 | Physician Recommendations:   | Treat symptomatically.                                                                                                                                                                                                 |                 |                |

## 12. ECOLOGICAL INFORMATION

|      |                              |                                                                                                   |
|------|------------------------------|---------------------------------------------------------------------------------------------------|
| 12.1 | Environmental Stability:     | The components of this product will slowly degrade over time into a variety of organic compounds. |
| 12.2 | Effects on Plants & Animals: | There are no specific data available for this product.                                            |
| 12.3 | Effects on Aquatic Life:     | There are no specific data available for this product.                                            |

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## 13. DISPOSAL CONSIDERATIONS

|      |                         |                                                                                                                                                                                                                                                                                                                      |
|------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.1 | Waste Disposal:         | Products covered by this SDS, in their original form, when disposed as waste, are considered non-hazardous waste according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations. Dispose of in accordance with federal, state and local regulations. |
| 13.2 | Special Considerations: | California Waste Code: 331                                                                                                                                                                                                                                                                                           |

## 14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

|      |                      |               |
|------|----------------------|---------------|
| 14.1 | 49 CFR (GND):        | NOT REGULATED |
| 14.2 | IATA (AIR):          | NOT REGULATED |
| 14.3 | IMDG (OCN):          | NOT REGULATED |
| 14.4 | TDGR (Canadian GND): | NOT REGULATED |
| 14.5 | ADR/RID (EU):        | NOT REGULATED |
| 14.6 | SCT (MEXICO):        | NOT REGULATED |
| 14.7 | ADGR (AUS):          | NOT REGULATED |

## 15. REGULATORY INFORMATION

|      |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15.1 | SARA Reporting Requirements:      | This product contains <u>Ammonium Hydroxide</u> (as ammonia) and <u>p-Phenylenediamine</u> , substances subject to SARA Title III, Section 313 reporting requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 15.2 | SARA Threshold Planning Quantity: | This product is not subject to the reporting requirements of SARA Title III, Section 302.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 15.3 | TSCA Inventory Status:            | All components of this product are listed in the TSCA Inventory or are exempt.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 15.4 | CERCLA Reportable Quantity (RQ):  | <u>Ammonium Hydroxide</u> (Ammonia): 454 kg (1,000 lbs); <u>p-Phenylenediamine</u> : 2,270 kg (5,000 lbs).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15.5 | Other Federal Requirements:       | This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics). This material does not contain any hazardous air pollutants. None of the components in this product are listed as priority pollutants under the CWA. None of the components in this product are listed as toxic pollutants under the CWA.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 15.6 | Other Canadian Regulations:       | This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS D2B (Other Toxic Effects).                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 15.7 | State Regulatory Information:     | <u>Ammonium Hydroxide</u> (as ammonia) is found on the following state criteria list: Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Pennsylvania Right-to-Know List (PA)<br>No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). |
| 15.8 | Other Requirements:               | This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information, go to <a href="http://www.P65warnings.ca.gov">www.P65warnings.ca.gov</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



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## 16. OTHER INFORMATION

|      |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                     |
|------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 16.1 | Other Information:   | <p><b>WARNING! CAUSES MILD SKIN IRRITATION. CAUSES EYE IRRITATION.</b> For external use only. Use only as directed. Discontinue use immediately if irritation develops. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves and eye/face protection. IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If skin irritation occurs: get medical advice/attention. Store locked up.</p> <p><b>KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.</b></p> <p><u>California Proposition 65:</u> This product does not contain any chemicals known to the State of California to cause cancer or other reproductive harm. For more information, go to <a href="http://www.P65warnings.ca.gov">www.P65warnings.ca.gov</a>.</p> <p>This product is designed and intended for use by a licensed cosmetologist/professional hairdresser only, and carries no warranty expressed or implied if used by others. CAN CAUSE AN ALLERGIC REACTION. Preliminary patch testing is recommended. Tattoos, including black and temporary henna, may increase the risk of allergy. If a severe allergic reaction should occur, immediately seek medical attention. This product must not be used for dyeing the eyelashes or eyebrows; to do so may cause blindness.</p> |                                                                                     |
| 16.2 | Terms & Definitions: | See last page of this Safety Data Sheet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     |
| 16.3 | Disclaimer:          | <p>This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's &amp; C-Care, LLC's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                     |
| 16.4 | Prepared for:        | <p><b>C-Care, LLC</b><br/>           979 Corporate Blvd<br/>           Linthicum Heights, MD USA<br/>           Tel: +1 (410) 850-0035<br/> <a href="http://www.c-care-company.com">http://www.c-care-company.com</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| 16.5 | Prepared by:         | <p><b>ShipMate, Inc.</b><br/>           P.O. Box 787<br/>           Sisters, Oregon 97759-0787 USA<br/>           Tel: +1 (310) 370-3600<br/>           Fax: +1 (310) 370-5700<br/> <a href="http://www.shipmate.com">http://www.shipmate.com</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |

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## DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

### GENERAL INFORMATION:

|                   |                                                                      |
|-------------------|----------------------------------------------------------------------|
| <b>CAS No.</b>    | Chemical Abstract Service Number                                     |
| <b>RTECS No.</b>  | Registry of Toxic Effects of Chemical Substances Number              |
| <b>EINECS No.</b> | European Inventory of Existing Commercial Chemical Substances Number |

### EXPOSURE LIMITS IN AIR:

|              |                                                                |
|--------------|----------------------------------------------------------------|
| <b>ACGIH</b> | American Conference on Governmental Industrial Hygienists      |
| <b>IDLH</b>  | Immediately Dangerous to Life and Health                       |
| <b>NOHSC</b> | National Occupational Health and Safety Commission (Australia) |
| <b>OSHA</b>  | U.S. Occupational Safety and Health Administration             |
| <b>PEL</b>   | Permissible Exposure Limit                                     |
| <b>STEL</b>  | Short Term Exposure Limit                                      |
| <b>TLV</b>   | Threshold Limit Value                                          |
| <b>TWA</b>   | Time Weighted Average                                          |

### FIRST AID MEASURES:

|            |                                                                                                                                                                                      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CPR</b> | Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body. |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

|          |                 |
|----------|-----------------|
| <b>0</b> | Minimal Hazard  |
| <b>1</b> | Slight Hazard   |
| <b>2</b> | Moderate Hazard |
| <b>3</b> | Severe Hazard   |
| <b>4</b> | Extreme Hazard  |

|                            |
|----------------------------|
| <b>HEALTH</b>              |
| <b>FLAMMABILITY</b>        |
| <b>PHYSICAL HAZARDS</b>    |
| <b>PERSONAL PROTECTION</b> |

### PERSONAL PROTECTION RATINGS:

|          |                                                                                     |
|----------|-------------------------------------------------------------------------------------|
| <b>A</b> |  |
| <b>B</b> |  |
| <b>C</b> |  |
| <b>D</b> |  |
| <b>E</b> |  |
| <b>F</b> |  |

|          |                                                                                     |
|----------|-------------------------------------------------------------------------------------|
| <b>G</b> |  |
| <b>H</b> |  |
| <b>I</b> |  |
| <b>J</b> |  |
| <b>K</b> |  |
| <b>X</b> | Consult your supervisor or SOPs for special handling directions.                    |

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| Safety Glasses                                                                      | Splash Goggles                                                                      | Face Shield & Protective Eyewear                                                    | Gloves                                                                              |
|  |  |  |  |
| Boots                                                                               | Protective Apron                                                                    | Protective Clothing & Full Suit                                                     | Dust Respirator                                                                     |
|  |  |  |  |
| Full Face Respirator                                                                | Dust & Vapor Half-Mask Respirator                                                   | Full Face Respirator                                                                | Airline Hood/Mask or SCBA                                                           |

### OTHER STANDARD ABBREVIATIONS:

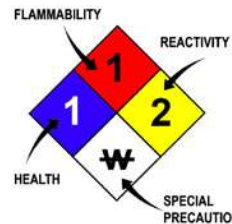
|                |                                                  |
|----------------|--------------------------------------------------|
| <b>Carc</b>    | Carcinogenic                                     |
| <b>Irrit</b>   | Irritant                                         |
| <b>NA</b>      | Not Available                                    |
| <b>NR</b>      | No Results                                       |
| <b>ND</b>      | Not Determined                                   |
| <b>NE</b>      | Not Established                                  |
| <b>NF</b>      | Not Found                                        |
| <b>SCBA</b>    | Self-Contained Breathing Apparatus               |
| <b>Sens</b>    | Sensitization                                    |
| <b>STOT RE</b> | Specific Target Organ Toxicity – Repeat Exposure |
| <b>STOT SE</b> | Specific Target Organ Toxicity – Single Exposure |

### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

| FLAMMABILITY LIMITS IN AIR:     |                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Autoignition Temperature</b> | Minimum temperature required to initiate combustion in air with no other source of ignition                                           |
| <b>LEL</b>                      | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source  |
| <b>UEL</b>                      | Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |

### HAZARD RATINGS:

|                |                 |
|----------------|-----------------|
| <b>0</b>       | Minimal Hazard  |
| <b>1</b>       | Slight Hazard   |
| <b>2</b>       | Moderate Hazard |
| <b>3</b>       | Severe Hazard   |
| <b>4</b>       | Extreme Hazard  |
| <b>ACD</b>     | Acidic          |
| <b>ALK</b>     | Alkaline        |
| <b>COR</b>     | Corrosive       |
| <b>W</b>       | Use No Water    |
| <b>OX</b>      | Oxidizer        |
| <b>TREFOIL</b> | Radioactive     |



### TOXICOLOGICAL INFORMATION:

|                                                                                                                               |                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>LD<sub>50</sub></b>                                                                                                        | Lethal Dose (solids & liquids) which kills 50% of the exposed animals |
| <b>LC<sub>50</sub></b>                                                                                                        | Lethal concentration (gases) which kills 50% of the exposed animal    |
| <b>ppm</b>                                                                                                                    | Concentration expressed in parts of material per million parts        |
| <b>TD<sub>01</sub></b>                                                                                                        | Lowest dose to cause a symptom                                        |
| <b>TCLo</b>                                                                                                                   | Lowest concentration to cause a symptom                               |
| <b>TD<sub>01</sub>, LD<sub>01</sub>, &amp; LD<sub>01</sub> or TC, TC<sub>01</sub>, LC<sub>01</sub>, &amp; LC<sub>01</sub></b> | Lowest dose (or concentration) to cause lethal or toxic effects       |
| <b>IARC</b>                                                                                                                   | International Agency for Research on Cancer                           |
| <b>NTP</b>                                                                                                                    | National Toxicology Program                                           |
| <b>RTECS</b>                                                                                                                  | Registry of Toxic Effects of Chemical Substances                      |
| <b>BCF</b>                                                                                                                    | Bioconcentration Factor                                               |
| <b>TL<sub>m</sub></b>                                                                                                         | Median threshold limit                                                |
| <b>log K<sub>OW</sub> or log K<sub>OC</sub></b>                                                                               | Coefficient of Oil/Water Distribution                                 |

### REGULATORY INFORMATION:

|              |                                                          |
|--------------|----------------------------------------------------------|
| <b>WHMIS</b> | Canadian Workplace Hazardous Material Information System |
| <b>DOT</b>   | U.S. Department of Transportation                        |
| <b>TC</b>    | Transport Canada                                         |
| <b>EPA</b>   | U.S. Environmental Protection Agency                     |
| <b>DSL</b>   | Canadian Domestic Substance List                         |
| <b>NDSL</b>  | Canadian Non-Domestic Substance List                     |
| <b>PSL</b>   | Canadian Priority Substances List                        |
| <b>TSCA</b>  | U.S. Toxic Substance Control Act                         |
| <b>EU</b>    | European Union (European Union Directive 67/548/EEC)     |
| <b>WGK</b>   | Wassergefährdungsklassen (German Water Hazard Class)     |

### WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

|                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |
| Class A                                                                             | Class B                                                                             | Class C                                                                              | Class D1                                                                              | Class D2                                                                              | Class D3                                                                              | Class E                                                                               | Class F                                                                               |
| Compressed                                                                          | Flammable                                                                           | Oxidizing                                                                            | Toxic                                                                                 | Irritation                                                                            | Infectious                                                                            | Corrosive                                                                             | Reactive                                                                              |

### CLP/GHS (1272/2008/EC) PICTOGRAMS:

|                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |
| GHS01                                                                               | GHS02                                                                               | GHS03                                                                                | GHS04                                                                                 | GHS05                                                                                 | GHS06                                                                                 | GHS07                                                                                 | GHS08                                                                                 | GHS09                                                                                 |
| Explosive                                                                           | Flammable                                                                           | Oxidizer                                                                             | Pressurized                                                                           | Corrosive                                                                             | Toxic                                                                                 | Harmful Irritating                                                                    | Health Hazard                                                                         | Environment                                                                           |