



# SAFETY DATA SHEET

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

SDS Revision: 2.0-P

SDS Revision Date: 5/20/2014

## 1. PRODUCT & COMPANY IDENTIFICATION

|     |                        |   |
|-----|------------------------|---|
| 1.1 | Product Name:          | <b>GRANITE GOLD PENETRATING SEALER</b>                |
| 1.2 | Chemical Name:         | Aqueous Solution                                      |
| 1.3 | Synonyms:              | GG0030; GG0036  |
| 1.4 | Trade Names:           | Granite Gold Penetrating Sealer (207-006002-1)        |
| 1.5 | Product Use:           | Sealant   |
| 1.6 | Distributor's Name:    | Granite Gold, Inc.                                    |
| 1.7 | Distributor's Address: | 9170 Chesapeake Drive, San Diego CA 92123 USA         |
| 1.8 | Emergency Phone:       | <b>CHEMTREC +1 (703) 527-3887 / +1 (800) 424-9300</b> |
| 1.9 | Business Phone / Fax:  | Tel: +1 (858) 499-8933                                |

## 2. HAZARDS IDENTIFICATION

|     |                           |   |  |
|-----|---------------------------|---|--|
| 2.1 | Hazard Identification:    | <p>This product is not classified as a HAZARDOUS SUBSTANCE or as DANGEROUS GOODS according to the classification criteria of NOHSC:1088 (2004) and ADG Code (Australia). In the event of an exposure or medical inquiry involving this product, please contact a physician or local poison control center, who may seek advice from the U.S. manufacturer, and show them this SDS. Aqueous solution. <b>WARNING! HARMFUL IF SWALLOWED. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS.</b></p> <p><u>Hazard Statements (H):</u> H302 – Harmful if swallowed. H315 – Causes skin irritation. H319 – Causes serious eye irritation. H336 – May cause drowsiness or dizziness.</p> <p><u>Precautionary Statements (P):</u> P261 – Avoid breathing mist/spray. P264 – Wash thoroughly after handling. P270 – Do not eat, drink or smoke when using this product. P280 – Wear protective gloves. P301+P312 – IF SWALLOWED: call a POISON CENTER/doctor. P330 – Rinse mouth. P302+P352 – IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 - Specific treatment: see section 4 of this Safety Data Sheet. P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362 – Take off contaminated clothing and wash before reuse. P403+233 – Store in a well-ventilated place. Keep container tightly closed. P501 - Dispose of contents/ container to an approved waste disposal plant.</p> |  |
| 2.2 | Effects of Exposure:      | <p><u>Ingestion:</u> If product is swallowed, may cause nausea, vomiting and/or diarrhea.</p> <p><u>Eyes:</u> Moderately irritating to the eyes.</p> <p><u>Skin:</u> This product can cause mild, transient skin irritation with short-term exposure. This product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.</p> <p><u>Inhalation:</u> Vapors of this product may be irritating to the nose, throat and other tissues of the respiratory system.</p>   |  |
| 2.3 | Symptoms of Overexposure: | Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure.  |  |
| 2.4 | Acute Health Effects:     | Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.  |  |
| 2.5 | Chronic Health Effects:   | The material may accentuate any pre-existing dermatitis condition.  |  |
| 2.6 | Target Organs:            | Eyes, skin & respiratory system.  |  |

## 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    |     |      |      |       |
|                     |           |           |            |        | TLV   | STEL | ppm   | ES-TWA | ES-STEL | ES-PEAK | PEL | STEL | IDLH |       |
| WATER               | 7732-18-5 | ZC0110000 | 231-191-2  | 60-100 | NE  | NE   | NF    | NF     | NF      | NE      | NE  | NE   |      |       |
| PROPRIETARY FORMULA | NA        | NA        | NA         | 1-5    | NA  | NA   | NF    | NF     | NF      | NA      | NA  | NA   |      |       |
| FRAGRANCE           | NA        | NA        | NA         | ≤ 0.1  | NA  | NA   | NF    | NF     | NF      | NA      | NA  | NA   |      |       |



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## 4. FIRST AID MEASURES

|                             |  |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |
|-----------------------------|--|--|---------------|----------|---------------------|----------|-------------------------|----------|-----------------------------|----------|-------------|-------------|--|--|
| 4.1                         | First Aid:                                 | <p><u>Ingestion:</u> <b>DO NOT INDUCE VOMITING.</b> Contact ChemTrec at +1 (703) 527-3887 or the nearest Poison Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.</p> <p><u>Eyes:</u> Flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If irritation persists, seek immediate medical attention.</p> <p><u>Skin:</u> Remove contaminated clothing and wash affected areas with soap and water. If irritation persists, seek prompt medical attention. Do not wear contaminated clothing until after it has been properly cleaned.</p> <p><u>Inhalation:</u> Avoid breathing mist/spray. Remove victim to fresh air at once. If breathing is difficult, administer supplemental oxygen and seek immediate medical attention. If breathing stops, perform artificial respiration.</p> |               |          |                     |          |                         |          |                             |          |             |             |  |  |
| 4.2                         | Medical Conditions Aggravated by Exposure: | <p>Persons with pre-existing skin disorders, eye problems, or impaired kidney function may be more susceptible to the effects of the substance.</p> <table border="1"> <tr><td><b>HEALTH</b></td><td><b>2</b></td></tr> <tr><td><b>FLAMMABILITY</b></td><td><b>1</b></td></tr> <tr><td><b>PHYSICAL HAZARDS</b></td><td><b>0</b></td></tr> <tr><td><b>PROTECTIVE EQUIPMENT</b></td><td><b>B</b></td></tr> <tr><td><b>EYES</b></td><td><b>SKIN</b></td><td></td><td></td></tr> </table>  | <b>HEALTH</b> | <b>2</b> | <b>FLAMMABILITY</b> | <b>1</b> | <b>PHYSICAL HAZARDS</b> | <b>0</b> | <b>PROTECTIVE EQUIPMENT</b> | <b>B</b> | <b>EYES</b> | <b>SKIN</b> |  |  |
| <b>HEALTH</b>               | <b>2</b>                                   |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |
| <b>FLAMMABILITY</b>         | <b>1</b>                                   |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |
| <b>PHYSICAL HAZARDS</b>     | <b>0</b>                                   |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |
| <b>PROTECTIVE EQUIPMENT</b> | <b>B</b>                                   |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |
| <b>EYES</b>                 | <b>SKIN</b>                                |  |               |          |                     |          |                         |          |                             |          |             |             |  |  |

## 5. FIREFIGHTING MEASURES

|     |                           |   |  |
|-----|---------------------------|---|--|
| 5.1 | Fire & Explosion Hazards: | This product is a non-flammable liquid. When involved in a fire, this product may ignite and decompose to form toxic gases (e.g., CO, CO <sub>2</sub> , NO <sub>x</sub> ).  |  |
| 5.2 | Extinguishing Methods:    | CO <sub>2</sub> , Halon (if permitted), Dry Chemical, Foam.   |  |
| 5.3 | Firefighting Procedures:  | This product is a combustible liquid. When involved in a fire, this product may ignite readily and decompose to produce carbon oxides. First responders should wear eye protection. Structural firefighters must wear SCBAs and full protective equipment. Use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product. |  |

## 6. ACCIDENTAL RELEASE MEASURES

|     |         |  |
|-----|---------|--|
| 6.1 | Spills: | <p>Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. <b>CAUTION – may be slippery if spilled.</b></p> <p>For <u>small spills</u> (e.g., &lt; 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows) and secure all sources of ignition. Remove spilled material with absorbent material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse.</p> <p>For <u>large spills</u> (e.g., ≥ 1 gallon (3.8 L)), deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g., sand or earth). Use ONLY non-sparking tools for recovery and cleanup. Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.</p> |
|-----|---------|--|

## 7. HANDLING & STORAGE INFORMATION

|     |                           |   |
|-----|---------------------------|---|
| 7.1 | Work & Hygiene Practices: | Use normal hygiene practices. Avoid direct skin contact. Wash hands thoroughly after using this product and before eating, drinking, or smoking. Good personal hygiene practices, such as washing any skin contact areas and removing contaminated clothing, are recommended. |
| 7.2 | Storage & Handling:       | Keep away from sources of heat.   |
| 7.3 | Special Precautions:      | Follow all instructions on product label. Keep container closed when not in use. Keep this and all chemicals out of reach of children.  |

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

|     |                                     |  |  |
|-----|-------------------------------------|--|--|
| 8.1 | Ventilation & Engineering Controls: | Not required under normal conditions of use. Use with adequate ventilation (e.g., open doors and windows, local exhaust ventilation).  |  |
| 8.2 | Respiratory Protection:             | Not required under normal conditions of use. In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia. |  |
| 8.3 | Eye Protection:                     | Avoid eye contact. Protective eyewear that conforms to ANSI Z87.1 (or other applicable and appropriate standards) should be used when handling any chemical product.   |  |
| 8.4 | Hand Protection:                    | Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected.  |  |
| 8.5 | Body Protection:                    | Not required under normal conditions of use. Use appropriate protective equipment (e.g., apron) as necessary to prevent or reduce exposure if frequent or prolonged contact is expected.   |  |



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## 9. PHYSICAL & CHEMICAL PROPERTIES

|      |   |                             |
|------|---|-----------------------------|
| 9.1  | Appearance:                                   | Clear liquid                |
| 9.2  | Odor:   | Slight alcohol odor         |
| 9.3  | Odor Threshold:                               | NA                          |
| 9.4  | pH:   | 7.0-8.0                     |
| 9.5  | Melting Point/Freezing Point:                 | NA                          |
| 9.6  | Initial Boiling Point/Boiling Range:          | 100 °C (212 °F) @ 760 mm Hg |
| 9.7  | Flashpoint:                                   | > 121.11 °C (> 250 °F)      |
| 9.8  | Upper/Lower Flammability Limits:              | NA                          |
| 9.9  | Vapor Pressure:                               | NA                          |
| 9.10 | Vapor Density:                                | NA                          |
| 9.11 | Relative Density:                             | 1.000 @ 25°C (77 °F)        |
| 9.12 | Solubility:                                   | Complete                    |
| 9.13 | Partition Coefficient (log P <sub>ow</sub> ): | NA                          |
| 9.14 | Autoignition Temperature:                     | NA                          |
| 9.15 | Decomposition Temperature:                    | NA                          |
| 9.16 | Viscosity:                                    | NA                          |
| 9.17 | Other Information:                            | VOC 6.4%                    |

## 10. STABILITY & REACTIVITY

|      |                                   |  |
|------|-----------------------------------|--|
| 10.1 | Stability:                        | Stable under normal conditions of use.           |
| 10.2 | Hazardous Decomposition Products: | None known.                                      |
| 10.3 | Hazardous Polymerization:         | Will not occur.                                  |
| 10.4 | Conditions to Avoid:              | Strong oxidizers and reducing agents.            |
| 10.5 | Incompatible Substances:          | Strong oxidizing agents, strong acids and bases. |

## 11. TOXICOLOGICAL INFORMATION

|      |                              |   |                |                |
|------|------------------------------|---|----------------|----------------|
| 11.1 | Routes of Entry:             | Inhalation: YES   | Absorption: NO | 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 and is presented below:<br><u>Butoxyethanol</u> : LD <sub>50</sub> (oral, rat) = 470 mg/kg; LC <sub>50</sub> (inh-4h, rat) = 450 ppm; ACGIH – Biological Exposure Indices (BEI) 200 mg/g |                |                |
| 11.3 | Acute Toxicity:              | See section 2.4   |                |                |
| 11.4 | Chronic Toxicity:            | See section 2.5   |                |                |
| 11.5 | Suspected Carcinogen:        | This product contains <u>Butoxyethanol</u> , and <u>Isopropyl Alcohol</u> , which are not carcinogenic to humans, but are listed as Group 3 carcinogens by the IARC.  |                |                |
| 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 produce teratogenic effects in humans.  |                |                |
|      | Reproductive Toxicity:       | This product is not reported to produce reproductive effects in humans.   |                |                |
| 11.7 | Irritancy of Product:        | See section 2.3   |                |                |
| 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. Specific environmental data available for the components of this product are as follows:<br><u>Isopropyl Alcohol</u> : Log K <sub>ow</sub> = 0.05-0.14. Isopropyl alcohol occurs naturally; it is generated during microbial degradation of plant and animal wastes. When released on land or water, it is apt to volatilize and biodegrade. The estimated half-life in water is 5.4 days. Isopropyl alcohol is not expected to bioconcentrate. |
| 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; however, very large releases of this product may be harmful or fatal to overexposed aquatic life.  |



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## 13. DISPOSAL CONSIDERATIONS

|      |                         |   |
|------|-------------------------|---|
| 13.1 | Waste Disposal:         | Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. |
| 13.2 | Special Considerations: | NA  |

## 14. TRANSPORTATION INFORMATION

|      |                      |               |
|------|----------------------|---------------|
| 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>Isopropanol</u> , a substance subject to SARA Title III, section 313 reporting requirements.   |
| 15.2 | SARA Threshold Planning Quantity: | There are no specific Threshold Planning Quantities for the components of this product.   |
| 15.3 | TSCA Inventory Status:            | The components of this product are listed on the TSCA Inventory.  |
| 15.4 | CERCLA Reportable Quantity (RQ):  | NA  |
| 15.5 | Other Federal Requirements:       | 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 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.    |
| 15.7 | State Regulatory Information:     | <u>Isopropanol</u> is found on the following state criteria lists: California Proposition 65 (CA65), Massachusetts Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), Pennsylvania Right-to-Know List (PA), and Washington Permissible Exposures List (WA).<br><u>Butoxyethanol</u> is found on the following state criteria list: FL, MA, MN, NJ, PA and WA.<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:               | The primary components of this product are listed in Annex I of EU Directive 67/548/EEC:<br><u>Isopropanol</u> : Flammable (F).<br><u>Risk Phrases</u> (R): 11-36/37 – Highly flammable. Irritating to eyes and respiratory system. <u>Safety Phrases</u> (S): 2-7-16-24/25/26 – Keep out of the reach of children. Keep container tightly closed. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.<br><u>Butoxyethanol</u> : Irritant (Xi).<br><u>Risk Phrases</u> (R): 36/38 – Irritating to eyes and skin. <u>Safety Phrases</u> (S): 2-36/37-46 – Keep out of reach of children. Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this container or label.     |



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## 16. OTHER INFORMATION

|      |                      |   |  |
|------|----------------------|---|--|
| 16.1 | Other Information:   | <b>WARNING! Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. CAUTION – may be slippery if spilled.</b> Wash exposed skin areas thoroughly with soap and water after handling. Avoid eye contact. Wear protective gloves/eye protection/face protection. IF ON SKIN: Wash with soap and water. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If skin irritation or a rash occurs – Get medical advice/attention. Store in a well-ventilated place. Keep cool. Use only as directed. <b>KEEP OUT OF REACH OF CHILDREN.</b>  |  |
| 16.2 | Terms & Definitions: | See last page of this Safety Data Sheet.  |  |
| 16.3 | Disclaimer:          | 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 & Granite Gold'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. |  |
| 16.4 | Prepared for:        | <b>Granite Gold, Inc.</b><br>9170 Chesapeake Drive<br>San Diego, CA 92123 USA<br>Tel: +1 (858) 499-8933<br><a href="http://www.granitegold.com/">http://www.granitegold.com/</a>  |    |
| 16.5 | Prepared by:         | <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>  | <br><i>Dangerous Goods<br/>Training &amp; Consulting</i> |



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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:

|         |                                  |
|---------|----------------------------------|
| CAS No. | Chemical Abstract Service Number |
|---------|----------------------------------|

### EXPOSURE LIMITS IN AIR:

|       |   |
|-------|---|
| ACGIH | American Conference on Governmental Industrial Hygienists |
| C     | Ceiling Limit   |
| IDLH  | Immediately Dangerous to Life and Health                  |
| OSHA  | U.S. Occupational Safety and Health Administration        |
| PEL   | Permissible Exposure Limit                                |
| TLV   | Threshold Limit Value                                     |

### FIRST AID MEASURES:

|     |  |
|-----|--|
| CPR | 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:

|   |                 |
|---|-----------------|
| 0 | Minimal Hazard  |
| 1 | Slight Hazard   |
| 2 | Moderate Hazard |
| 3 | Severe Hazard   |
| 4 | Extreme Hazard  |

|                     |
|---------------------|
| HEALTH              |
| FLAMMABILITY        |
| PHYSICAL HAZARDS    |
| PERSONAL PROTECTION |

### PERSONAL PROTECTION RATINGS:

|   |  |
|---|--|
| A |  |
| B |  |
| C |  |
| D |  |
| E |  |
| F |  |

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

|                      |                                   |                                  |                           |
|----------------------|-----------------------------------|----------------------------------|---------------------------|
| Safety Glasses       | Splash Goggles                    | Face Shield & Protective Eyewear | Gloves                    |
| Boots                | Synthetic 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:

|      |                                    |
|------|------------------------------------|
| ML   | Maximum Limit                      |
| NA   | Not Available                      |
| NE   | Not Established                    |
| NF   | Not Found                          |
| ND   | Not Determined                     |
| NR   | No Results                         |
| SCBA | Self-Contained Breathing Apparatus |

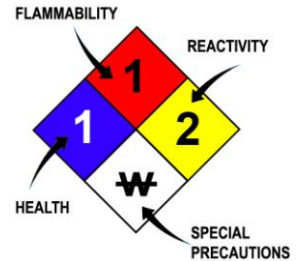
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

### FLAMMABILITY LIMITS IN AIR:

|                          |   |
|--------------------------|---|
| Autoignition Temperature | Minimum temperature required to initiate combustion in air with no other source of ignition   |
| LEL                      | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source  |
| UEL                      | 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:

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



### TOXICOLOGICAL INFORMATION:

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

### REGULATORY INFORMATION:

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

### EC (67/548/EEC) INFORMATION:

|           |           |           |         |           |       |          |         |
|-----------|-----------|-----------|---------|-----------|-------|----------|---------|
|           |           |           |         |           |       |          |         |
| C         | E         | F         | N       | O         | T     | Xi       | Xn      |
| Corrosive | Explosive | Flammable | Harmful | Oxidizing | Toxic | Irritant | Harmful |

### 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 |