




# SAFETY DATA SHEET

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards      SDS Revision: 2.1      SDS Revision Date: 10/25/2018

## 1. PRODUCT & COMPANY IDENTIFICATION

|     |                        |  |  |
|-----|------------------------|--|--|
| 1.1 | Product Name:          | <b>NO. 77 MUZZLE MAGIC™ CLEANER</b>  | NZ DISTRIBUTOR<br>Steve's Wholesale Ltd. Units 5 – 7 / 408 The Esplanade<br>Island Bay Wellington 6023 |
| 1.2 | Chemical Name:         | Aqueous Solution   | team@steveswholesale.nz  |
| 1.3 | Synonyms:              | 33745  | Emergency Contact: Steve Collings  |
| 1.4 | Trade Names:           | No. 77 Muzzle Magic Cleaner™   | 0800 303 303   |
| 1.5 | Product Use:           | Metal Polish/Cleanser  | 0274 905 708   |
| 1.6 | Distributor's Name:    | Birchwood Casey, LLC   | Poison Control 0800 POISON (0800 764 766)  |
| 1.7 | Distributor's Address: | 3260 Winpark Drive, New Hope, MN., 55427 USA   |  |
| 1.8 | Emergency Phone:       | <b>ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (866) 291-7152</b> |  |
| 1.9 | Business Phone / Fax:  | +1 (952) 388-6717  |  |

## 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! MAY BE HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION.</b><br>Classification: Acute Tox. Dermal 5; Skin Irrit. 2; Eye Irrit  |   |
| 2.2 | Label Elements:        | <b>Hazard Statements (H):</b> H313 – May be harmful in contact with skin. H315 – Causes skin irritation. H320 – Causes eye irritation.<br><b>Precautionary Statements (P):</b> P261 – Avoid breathing mist/sprays. P272 – Contaminated work clothing should not be allowed out of the workplace. P280 – Wear protective gloves/eye protection. P302+P352 – IF ON SKIN: Wash with plenty of soap and water. P333+P313 – If skin irritation or rash occurs: Get medical advice/attention. P321 – Specific treatment – see section 4 of this Safety Data Sheet. P363 Wash contaminated clothing before reuse. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 – Dispose of contents/container to licenses treatment, storage and disposal facility (TSDF). |  |
| 2.3 | Other Warnings:        | 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.<br><b>KEEP OUT OF REACH OF CHILDREN.</b>   |   |

## 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  | 7732-18-5                               | NA        | 231-791-2  | 60-100 | NE  | NE   | NF     | NF      | NF      | NE   | NE   | NE   |           |       |
| MODIFIED ALKANOLAMIDE                          | 8051-30-7                               | NA        | 232-483-0  | 1-5    | NA  | NA   | NF     | NF      | NF      | NA   | NA   | NA   |           |       |
| SODIUM TETRABORATE                             | 1303-96-4                               | VZ2275000 | NA         | 1-5    | (2)   | (6)  | NF     | NF      | NF      | (2)  | NA   | NA   | (1) NIOSH |       |
| PYROPHOSPHORIC ACID, DISODIUM SALT             | 7758-16-9                               | UX6475000 | 231-835-0  | 1-5    | NA  | NA   | NF     | NF      | NF      | NA   | NA   | NA   |           |       |
|  | Skin Irrit. 2; Eye Damage 1; H315, H318 |           |            |        |   |      |        |         |         |      |      |      |           |       |
| SODIUM XYLENE SULFONATE                        | 1300-72-7                               | ZE5100000 | 215-090-9  | 1-5    | NA  | NA   | NF     | NF      | NF      | NA   | NA   | NA   |           |       |
|  | Acute Tox. Oral 5; H303                 |           |            |        |   |      |        |         |         |      |      |      |           |       |
| Acute Tox. Dermal 5; Eye Irrit. 2A; H313, H319 |   |           |            |        |   |      |        |         |         |      |      |      |           |       |

## 4. FIRST AID MEASURES

|     |                      |   |
|-----|----------------------|---|
| 4.1 | First Aid:           | <b>Ingestion:</b> DO NOT INDUCE VOMITING. Contact Poison Control Center +1 (866) 291-7152 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.<br><b>Eyes:</b> If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately.<br><b>Skin:</b> Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned.<br><b>Inhalation:</b> Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention. |
| 4.2 | Effects of Exposure: | <b>Eyes:</b> Irritation upon direct contact.<br><b>Skin:</b> Mildly irritating. Prolonged or repeated skin contact can result in drying and defatting of the skin, and possible sensitization in some individuals.<br><b>Ingestion:</b> Irritation to the gastrointestinal tract. This material can enter the lungs during swallowing or vomiting and cause lung damage.<br><b>Inhalation:</b> Irritation of respiratory tract and mucous membranes.  |



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## 4. FIRST AID MEASURES – cont'd

|     |  |  |
|-----|--|--|
| 4.3 | Symptoms of Overexposure:                  | <u>Eyes:</u> Redness, burning, irritation, stinging and swelling around eyes.<br><u>Skin:</u> Redness, burning, itching, rash, drying and defatting of the skin.<br><u>Ingestion:</u> Nausea, vomiting, severe abdominal pain.<br><u>Inhalation:</u> Coughing, wheezing, swelling of throat, irritation in mucous membranes, difficulty breathing. |
| 4.4 | Acute Health Effects:                      | Irritation or possible burns upon direct skin contact. Possible irreversible damage to eyes. Irritation and possible sensitization with certain individuals.   |
| 4.5 | Chronic Health Effects:                    | Irritation and possible skin sensitization with certain individuals. Prolonged or repeated skin exposure may cause dermatitis.   |
| 4.6 | Target Organs:                             | Eyes, Skin, Lungs (severe irritant).   |
| 4.7 | Medical Conditions Aggravated by Exposure: | Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system).   |
|     |  | <b>HEALTH</b> 1  |
|     |  | <b>FLAMMABILITY</b> 0  |
|     |  | <b>PHYSICAL HAZARDS</b> 0  |
|     |  | <b>PROTECTIVE EQUIPMENT</b> B  |
|     |  | <b>EYES</b> SKIN   |

## 5. FIREFIGHTING MEASURES

|     |                           |   |
|-----|---------------------------|---|
| 5.1 | Fire & Explosion Hazards: | Non-flammable. Use media as appropriate for surrounding fire.   |
| 5.2 | Extinguishing Methods:    | Carbon Dioxide, Foam, Water Spray, Halon (if permitted), Dry Chemical Extinguisher.   |
| 5.3 | Firefighting Procedures:  | As with any fire, firefighters should wear appropriate protective equipment including a MSHA/NIOSH approved or equivalent self-contained breathing apparatus (SCBA) and protective clothing. Hazardous decomposition products may be released. Thermal degradation may produce oxides of carbon, and/or nitrogen, hydrocarbons and/or derivatives. Fire should be fought from a safe distance. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. |



## 6. ACCIDENTAL RELEASE MEASURES

|     |         |  |
|-----|---------|--|
| 6.1 | Spills: | Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Use safety glasses or safety goggles and face shield; use gloves and other protective clothing (e.g., apron, boots, etc.) to prevent skin contact.<br><u>Small Spills:</u> Wear appropriate protective equipment including gloves and protective eyewear. Use a non-combustible, inert material such as vermiculite or sand to soak up the product and place into a container for later disposal.<br><u>Large Spills:</u> Keep incompatible materials (e.g., organics such as oil) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Recover as much free liquid as possible and collect in acid-resistant container. Use absorbent to pick up residue. Avoid discharging liquid directly into a sewer or surface waters. |
|-----|---------|--|

## 7. HANDLING & STORAGE INFORMATION

|     |                           |   |
|-----|---------------------------|---|
| 7.1 | Work & Hygiene Practices: | Avoid breathing mists or spray. Avoid eye and skin contact. Wear protective equipment when handling product. Keep out of the reach of children. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Immediately clean-up and decontaminate any spills or residues. |
| 7.2 | Storage & Handling:       | Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Keep away from incompatible substances (See Section 10). Protect containers from physical damage.  |
| 7.3 | Special Precautions:      | Empty containers may retain hazardous product residues.   |

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

|     |  |   |       |      |        |         |         |      |      |      |           |
|-----|--|---|-------|------|--------|---------|---------|------|------|------|-----------|
| 8.1 | Exposure Limits:<br>ppm (mg/m <sup>3</sup> ) |   | ACGIH |      | NOHSC  |         |         | OSHA |      |      | OTHER     |
|     |  | <b>CHEMICAL NAME(S)</b>   | TLV   | STEL | ES-TWA | ES-STEL | ES-PEAK | PEL  | STEL | IDLH |           |
|     |  | SODIUM TETRABORATE  | (2)   | (6)  | NF     | NF      | NF      | (2)  | NA   | Na   | (1) NIOSH |
| 8.2 | Ventilation & Engineering Controls:          | When working with large quantities of product, provide adequate ventilation (e.g., local exhaust ventilation, fans). Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.  |       |      |        |         |         |      |      |      |           |
| 8.3 | Respiratory Protection:                      | 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 (e.g., NIOSH approved respirator with full or half-face N95 cartridge) |       |      |        |         |         |      |      |      |           |
| 8.4 | Eye Protection:                              | Safety glasses with side shields must be used when handling or using this product. A protective face shield is also recommended.  |       |      |        |         |         |      |      |      |           |
| 8.5 | Hand Protection:                             | Wear protective, chemical-resistant gloves (e.g., butyl rubber, neoprene, nitrile) when using or handling this product.   |       |      |        |         |         |      |      |      |           |
| 8.6 | Body Protection:                             | Not required under normal conditions of use are recommended when handling or using large quantities (e.g., > 5 gallons (18.9 L)) of this product.   |       |      |        |         |         |      |      |      |           |





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## 9. PHYSICAL & CHEMICAL PROPERTIES

|      |   |  |
|------|---|--|
| 9.1  | Appearance:                                   | Pink liquid                                |
| 9.2  | Odor:   | No odor                                    |
| 9.3  | Odor Threshold:                               | NA   |
| 9.4  | pH:   | 9.0  |
| 9.5  | Melting Point/Freezing Point:                 | NA   |
| 9.6  | Initial Boiling Point/Boiling Range:          | 100 °C (212 °F)                            |
| 9.7  | Flashpoint:                                   | NA   |
| 9.8  | Upper/Lower Flammability Limits:              | LEL: NA; UEL: NA                           |
| 9.9  | Vapor Pressure:                               | NA   |
| 9.10 | Vapor Density:                                | > 1.0 (Air = 1.0)                          |
| 9.11 | Relative Density:                             | 1.012                                      |
| 9.12 | Solubility:                                   | Miscible                                   |
| 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:                            | Evaporation Rate: >1.0 (Ethyl Ether = 1.0) |

## 10. STABILITY & REACTIVITY

|      |                                   |  |
|------|-----------------------------------|--|
| 10.1 | Stability:                        | Stable under normal storage and use conditions.                                  |
| 10.2 | Hazardous Decomposition Products: | Thermal decomposition may produce carbon, potassium, sulfur and nitrogen oxides. |
| 10.3 | Hazardous Polymerization:         | Will not occur.  |
| 10.4 | Conditions to Avoid:              | Avoid high temperatures and incompatible materials.                              |
| 10.5 | Incompatible Substances:          | Strong acids, water-reactive substances and metals such as aluminum and zinc.    |

## 11. TOXICOLOGICAL INFORMATION

|      |                              |  |                 |               |
|------|------------------------------|--|-----------------|---------------|
| 11.1 | Routes of Entry:             | Inhalation: YES  | Absorption: YES | Ingestion: NO |
| 11.2 | Toxicity Data:               | Sodium Pyrophosphate, Dibasic: LD <sub>50</sub> (oral, mouse) = 2,650 mg/kg; Sodium Xylene Sulfonate: LD <sub>50</sub> (oral, rat) ≥ 7,200 mg/kg |                 |               |
| 11.3 | Acute Toxicity:              | See Section 4.4  |                 |               |
| 11.4 | Chronic Toxicity:            | See Section 4.5  |                 |               |
| 11.5 | Suspected Carcinogen:        | NA   |                 |               |
| 11.6 | Reproductive Toxicity:       | This product is not reported to cause 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 cause reproductive effects in humans.  |                 |               |
| 11.7 | Irritancy of Product:        | See Section 4.2  |                 |               |
| 11.8 | Biological Exposure Indices: | NE   |                 |               |
| 11.9 | Physician Recommendations:   | Treat symptomatically.   |                 |               |

## 12. ECOLOGICAL INFORMATION

|      |                              |  |
|------|------------------------------|--|
| 12.1 | Environmental Stability:     | Phosphates may persist indefinitely if released into groundwater. Sodium Xylene Sulfonate: OECD Test Guideline 301B: 83-85% Readily biodegradable. |
| 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.   |

## 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 3. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage and disposal of hazardous waste must be provided by a licensed facility or waste hauler. |
| 13.2 | Special Considerations: | NA  |



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## 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 HSR002530

|      |                               |  |
|------|-------------------------------|--|
| 15.1 | SARA Reporting Requirements:  | This product does not contain any chemicals subject to the SARA Title III, Section 313 reporting requirements.   |
| 15.2 | SARA TPQ:                     | 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:   | NA   |
| 15.5 | Other Federal Requirements:   | NA   |
| 15.6 | Other Canadian Regulations:   | This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDL. None of the components of this product are listed on the Priorities Substances List. Class D2B (Materials Causing Other Toxic Effects).    |
| 15.7 | State Regulatory Information: | <u>Sodium Pyrophosphate, Dibasic</u> is found on the following state criteria lists: New Jersey Right-to-Know List (NJ), and Pennsylvania Right-to-Know List (PA).<br>None of the 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> .   |

## 16. OTHER INFORMATION SW revised 30.12.2020

|      |                      |   |
|------|----------------------|---|
| 16.1 | Other Information:   | <b>WARNING! MAY BE HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION.</b> May be harmful in contact with skin. Causes skin irritation. Causes serious eye irritation. Wear protective gloves/eye protection. If swallowed, immediately call a Poison Center or doctor/physician. Avoid breathing mist/sprays. If skin irritation or rash occurs: Get medical advice/attention.<br><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 & Birchwood Casey, LLC 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>Birchwood Casey, LLC</b><br>3260 Winpark Drive<br>New Hope, MN 55427 USA<br>Tel: +1 (952) 388-6717<br>Email: <a href="mailto:customerservice@birchwoodcasey.com">customerservice@birchwoodcasey.com</a><br><a href="http://www.birchwoodcasey.com">http://www.birchwoodcasey.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>    |



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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                                     |
| RTECS No.  | Registry of Toxic Effects of Chemical Substances Number              |
| EINECS No. | European Inventory of Existing Commercial Chemical Substances Number |

### EXPOSURE LIMITS IN AIR:

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

### 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  |

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

### 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                | 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:

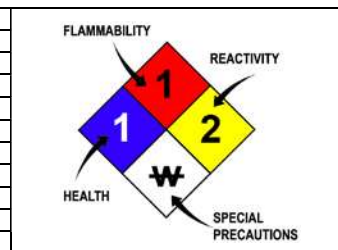
|         |  |
|---------|--|
| Carc    | Carcinogenic                                     |
| Irrit   | Irritant   |
| NA      | Not Available                                    |
| NR      | No Results                                       |
| ND      | Not Determined                              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

### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

|                                    |   |
|------------------------------------|---|
| <b>FLAMMABILITY LIMITS IN AIR:</b> |   |
| <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:

|         |                 |
|---------|-----------------|
| 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:

|   |   |
|---|---|
| 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>10</sub>  | Lowest dose to cause a symptom  |
| TCLo  | Lowest concentration to cause a symptom                               |
| TD <sub>10</sub> , LD <sub>10</sub> , & LD <sub>0</sub> or TC, TC <sub>0</sub> , LC <sub>10</sub> , & LC <sub>0</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 |

### 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 |