| Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS & 2001/58 EC Standards | MSDS Revision: 3.0 | MSDS Revision Date: 03/16/2007 |
|---|---|---|

## 1. PRODUCT IDENTIFICATION

| | |
|---|---|
| 1.1 | Product Name:<br>**OPI NATURAL NAIL STRENGTHENER** |
| 1.2 | Chemical Name:<br>**SOLVENT MIXTURE** |
| 1.3 | Synonyms:<br>**NA** |
| 1.4 | Trade Names:<br>**NTT60** |
| 1.5 | Product Use:<br>**COSMETIC USE ONLY** |
| 1.6 | Manufacturer's Name:<br>**OPI PRODUCTS, INC.** |
| 1.7 | Manufacturer's Address:<br>**13034 SATICOY STREET, NO. HOLLYWOOD, CA 91605 USA** |
| 1.8 | Emergency Phone:<br>**CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300** |
| 1.9 | Business Phone:<br>**+1 (818) 759-2400 / +1 (800) 341-9999** |

## 2. HAZARD IDENTIFICATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.1 | Hazard Identification:<br>**Flammable liquid. This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of NOHSC and ADG Code (Australia).** | | | | | | |
| 2.2 | Routes of Entry: | Inhalation: | **YES** | Absorption: | **YES** | Ingestion: | **YES** |
| 2.3 | Effects of Exposure:<br>**INGESTION:** **If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system depression.**<br>**SKIN & EYES:** **Irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering. May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact.**<br>**INHALATION:** **Vapors of this product may be slightly irritating to the nose, throat and other tissues of the respiratory system. Symptoms of overexposure can include coughing, wheezing, nasal congestion, and difficulty breathing. Inhalation of vapors exceeding the levels listed in Section 2 (Composition and Ingredient Information) can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea).** | | | | | | |
| 2.4 | Symptoms of Overexposure:<br>**Symptoms of skin overexposure in individuals may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering.** | | | | | | |
| 2.5 | Acute Health Effects:<br>**Mild to moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.** | | | | | | |
| 2.6 | Chronic Health Effects:<br>**None known.** | | | | | | |
| 2.7 | Target Organs:<br>**Eyes, skin and respiratory system.** | | | | | | |

NA = Not Available; ND = Not Determined; NE = Not Established; C = Ceiling Limit; See Section 16 for Additional Definitions of Terms Used

NOTE: all WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-2004 format.

## 3. COMPOSITION & INGREDIENT INFORMATION

| CHEMICAL NAME(S) | CAS No. | RTECS No. | EINECS No. | % | EXPOSURE LIMITS IN AIR (mg/m³) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ACGIH - ppm | | OSHA - ppm | | | OTHER |
| | | | | | TLV | STEL | PEL | STEL | IDLH | |
| ETHYL ACETATE | 141-78-6 | AH5425000 | 201-550-6 | ≤ 35.0 | 400 | NE | 400 | NE | 2000 | 400 TWA |
| BUTYL ACETATE | 123-86-4 | AF7350000 | 204-658-1 | ≤ 25.0 | 150 | 200 | 200 | 200 | 1700 | 150 TWA |
| ALCOHOL DENATURED (SD ALCOHOL-40B) | 64-17-5 | KQ300000 | 200-578-6 | ≤ 20.0 | 1900 | NA | 1000 | NA | NA | |
| NITROCELLULOSE | 9004-70-0 | QW0970000 | NA | ≤ 15.0 | NE | NE | NE | NE | NE | |
| ISOPROPYL ALCOHOL | 67-63-0 | NT8050000 | 200-661-7 | ≤ 10.0 | 400 | 500 | 400 | 500 | 2000 | 400 TWA |
| TOSYLAMIDE/FORMALDEHYDE RESIN | 25035-71-6 | NA | NA | ≤ 10.0 | NE | NE | NE | NE | NE | |
| TRIPHENYL PHOSPHATE | 115-86-6 | TC8400000 | NA | ≤ 5.0 | 3 | NA | 3 | NA | NA | |
| TRIMETHYL PENTANYL DIISOBUTYRATE | 6846-50-0 | SA142000 | 229-937-9 | ≤ 5.0 | NA | NA | NA | NA | NA | |
| N-BUTYL ALCOHOL | 71-36-3 | EO140000 | 200-751-6 | ≤ 2.0 | NE | 50 | 100 | 50 | 1400 | |
| CAMPHOR | 76-22-2 | EX1225000 | 200-945-0 | ≤ 2.0 | (2) | NE | (2) | NE | NE | |
| BENZOPHENONE-1 | 131-56-6 | DJ0700000 | 205-029-4 | ≤ 1.0 | NE | NE | NE | NE | NE | |
| DIMETHICONE | 9006-65-9 | NA | 63148-62-9 | ≤ 1.0 | NA | NA | NA | NA | NA | |
| CI 60725 (VIOLET #2) | 81-48-1 | CB7700000 | 201-353-5 | ≤ 1.0 | NE | NE | NE | NE | NE | |
| OTHER COMPONENTS PRESENT IN LESS THAN 1% CONCENTRATION | | | | BAL | THE REMAINING COMPONENTS DO NOT CONTRIBUTE ANY SIGNIFICANT ADDITIONAL HAZARDS | | | | | |

## 4. FIRST AID MEASURES

4.1 First Aid:

**INGESTION:** If ingested, do not induce vomiting. If product has been swallowed, drink plenty of water or milk IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give water or milk to an unconscious person. Contact the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed.

**EYES:** Splashes are not likely; however, if product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes. If irritation occurs, contact a physician.

**SKIN:** If irritation occurs and product is on the skin, rinse thoroughly with lukewarm water, followed by a thorough washing of the effected area with soap and water. If irritation, redness or swelling persists, contact a physician immediately.

**INHALATION:** Remove victim to fresh air at once.

4.2 Medical Conditions Aggravated by Exposure:

**None known.**

| | |
|---|---|
| HEALTH | 1 |
| FLAMMABILITY | 3 |
| REACTIVITY | 0 |
| PROTECTIVE EQUIPMENT | A |
| EYES | |

## 5. FIREFIGHTING MEASURES

| | | | | | |
|---|---|---|---|---|---|
| 5.1 | Flashpoint & Method:<br>**-4 °C (24 °F) estimated.** | | | | |
| 5.2 | Autoignition Temperature:<br>**NA** | | | | |
| 5.3 | Flammability Limits: | Lower Explosive Limit (LEL): | **NE** | Upper Explosive Limit (UEL): | **NE** |
| 5.4 | Fire & Explosion Hazards:<br>**WARNING: Flammable! Keep away from heat, lit cigarettes, sparks & open flame. Keep container closed.** | | | | |
| 5.5 | Extinguishing Methods:<br>**HazChem Code: 3YE**<br>**Hazard Identification Number: 33**<br>**$CO_2$, Halon, Dry Chemical, Foam** | | | | |
| 5.6 | Firefighting Procedures:<br>**This product is a Class IB flammable liquid. When involved in a fire, this product will ignite readily and decompose to produce carbon oxides. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container.**<br>**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:<br>**Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment.**<br>**For small spills (e.g., <1 gallon) 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.**<br>**For spills ≥ 1 gallon, 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.** |

## 7. HANDLING & STORAGE INFORMATION

| | |
|---|---|
| 7.1 | Work & Hygiene Practices:<br>**Avoid prolonged contact with the product. Avoid breathing vapors of this product. Use in a well-ventilated location (e.g., local exhaust ventilation, fans). After use, wash hands and exposed skin with soap and water. Do not eat, drink or smoke while handling product.** |
| 7.2 | Storage & Handling:<br>**Keep this material away from heat, sparks and open flame. Open containers slowly on a stable surface. Keep container closed tightly when not in use. Empty container may contain residual amounts of this product; therefore, empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight, other light sources, or sources of intense heat. Store away from incompatible materials (see Section 10).** |
| 7.3 | Special Precautions:<br>**Open containers slowly on a stable surface. Keep container tightly closed when not in use. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care.** |

## 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

| | |
|---|---|
| 8.1 | Ventilation & Engineering Controls:<br>**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.** |
| 8.2 | Respiratory Protection:<br>**No special respiratory protection is required under typical circumstances of use or handling. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR §1910.134, or applicable U.S. state regulations, or the appropriate standards of Canada, its provinces, E.C. member states, or Australia.** |
| 8.3 | Eye Protection:<br>**Depending on the use of this product, splash or safety glasses may be worn. If necessary, refer to U.S. OSHA 29 CFR §1910.133, Canadian standards, or the European Standard EN166.** |
| 8.4 | Hand Protection:<br>**If anticipated that prolonged & repeated skin contact will occur during use of this product, wear latex or rubber gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, of the E.C. member states.** |
| 8.5 | Body Protection:<br>**No special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA.** |

## 9. PHYSICAL & CHEMICAL PROPERTIES

| | | |
|---|---|---|
| 9.1 | Density: | **0.9998 – 1.0008** |
| 9.2 | Boiling Point: | **171 - 660°F** |
| 9.3 | Melting Point: | **NE** |
| 9.4 | Evaporation Rate: | **NA** |
| 9.5 | Vapor Pressure: | **NA** |
| 9.6 | Molecular Weight: | **NE** |
| 9.7 | Appearance & Color: | **Viscous liquid, ester (fruity) odor** |
| 9.8 | Odor Threshold: | **ND** |
| 9.9 | Solubility: | **Insoluble** |
| 9.10 | pH | **NA** |
| 9.11 | Viscosity: | **1000 cPs TO 3000 cPs** |
| 9.12 | Other Information: | **NA** |

## 10. STABILITY & REACTIVITY

| | |
|---|---|
| 10.1 | Stability:<br>**Stable under ambient conditions when stored properly (see Section 7, Storage and Handling).** |
| 10.2 | Hazardous Decomposition Products:<br>**If exposed to extremely high temperatures, the products of thermal decomposition may include irritating vapors and carbon oxide gases (e.g., CO, $CO_2$).** |
| 10.3 | Hazardous Polymerization:<br>**May occur, if exposed to extremely high temperatures.** |
| 10.4 | Conditions to Avoid:<br>**This product is incompatible with strong oxidizers (e.g., peroxides, superoxides), strong acids (e.g., hydrochloric or muriatic acids), or strong bases (e.g., lye, potassium hydroxide).** |
| 10.5 | Incompatible Substances:<br>**None known.** |

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| 11.1 | Toxicity Data:<br>**This product has NOT been tested on animals to obtain toxicology data. There are toxicology data for the components of the product, which are found in scientific literature. These data have not been presented in this document.** |
| 11.2 | Acute Toxicity:<br>**See Section 2.5** |
| 11.3 | Chronic Toxicity:<br>**See Section 2.6** |
| 11.4 | Suspected Carcinogen:<br>**This product contains Isopropyl Alcohol, which is not carcinogenic to humans, but is listed as Group 3 carcinogens by the IARC.** |
| 11.5 | Reproductive Toxicity:<br>**This product is not reported to cause reproductive toxicity in humans.** |
| | Mutagenicity:<br>**This product is not reported to produce mutagenic effects in humans.** |
| | Embryotoxicity:<br>**This product is not reported to produce embryotoxic effects in humans.** |
| | Teratogenicity:<br>**This product is not reported to cause teratogenic effects in humans.** |
| | Reproductive Toxicity:<br>**This product is not reported to cause reproductive effects in humans.** |
| 11.6 | Irritancy of Product:<br>**See Section 2.3** |
| 11.7 | Biological Exposure Indices:<br>**NE** |
| 11.8 | Physician Recommendations:<br>**Treat symptomatically.** |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| 12.1 | Environmental Stability:<br>**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><br>**Ethyl Acetate: $K_{OC}$ = 0.73. Water solubility: 64,000 mg/l. Bioconcentration Factor = 4-14. Bioconcentration is not anticipated to be significant. This compound can be removed from contaminated environments from volatilization, and biodegradation. This compound's half-life in water is 6.1 hours.**<br><br>**Butyl Acetate: $K_{OC}$ = 1.82. Water solubility: 120 parts $H_2O$ at 25°C (77°F). Bioconcentration Factor = 4-14. Bioconcentration is not anticipated to be significant. This compound can be removed from contaminated environments from volatilization, and biodegradation. This compound's half-life in water is 6.1 hours.**<br><br>**Isopropyl Alcohol: Log $K_{OW}$ = 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:<br>**There are no specific data available for this product.** |
| 12.3 | Effects on Aquatic Life:<br>**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.** |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| 13.1 | Waste Disposal:<br>**Waste disposal must be in accordance with appropriate Federal, state, and local regulations.** |
| 13.2 | Special Considerations:<br>**U.S. EPA WASTE NUMBER: D001 (characteristic - ignitable)** |

## 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):<br>**CONSUMER COMMODITY, ORM-D (≤ 1.0 L)**<br>**UN1263, PAINT, 3, II (> 1.0 L)** |
| 14.2 | IATA (AIR):<br>**CONSUMER COMMODITY, 9, ID8000 (≤ 0.5 L)**<br>**UN1263, PAINT, 3, II (> 0.5 L)** |
| 14.3 | IMDG (OCN):<br>**UN1263, PAINT, 3, II, LTD QTY (≤ 1.0 L)**<br>**UN1263, PAINT, 3, II (> 1.0 L)** |
| 14.4 | TDGR (Canadian GND):<br>**MARK PACKAGE "LIMITED QUANTITY" or "QUANTITÉ LIMITÉE" or "LTD QTY" or "QUANT LTÉE" (≤ 1.0 L)**<br>**UN1263, PAINT, 3, II (> 1.0 L)** |
| 14.5 | ADR/RID (EU):<br>**UN1263, PAINT, 3, II, ADR, LTD QTY (≤ 1.0 L)** |
| 14.6 | SCT (MEXICO):<br>**UN1263, PINTURA, 3, II, CANTIDAD LIMITADA (≤ 1.0 L)** |


## 15. REGULATORY INFORMATION

| | |
|---|---|
| 15.1 | SARA Reporting Requirements:<br>**SARA 304 (40 CFR Table 302.4) – Butyl Acetate, Ethyl Acetate** |
| 15.2 | SARA Threshold Planning Quantity:<br>**There are no specific Threshold Planning Quantities for the components of this product.** |
| 15.3 | TSCA Inventory Status:<br>**The components of this product are listed on the TSCA Inventory.** |
| 15.4 | CERCLA Reportable Quantity (RQ):<br>**Butyl Acetate: 5000 lbs.; Ethyl Acetate: 5000 lbs.** |
| 15.5 | Other Federal Requirements:<br>**This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics).** |
| 15.6 | Other Canadian Regulations:<br>**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/NDSL. None of the components of this product are listed on the Priorities Substances List. Class B2 Flammable Liquid.** |
| 15.7 | State Regulatory Information:<br>**Ingredients in this mixture on found on the following state criteria lists:** |

| | |
|---|---|
| **California OSHA Hazardous Substances List** | **Butyl Acetate, Ethyl Acetate, Isopropanol** |
| **Delaware Air Quality Management List** | **Butyl Acetate, Nitrocellulose, Ethyl Acetate, n-Butanol,** |
| **Massachusetts Hazardous Substances List** | **Butyl Acetate, Nitrocellulose, Ethyl Acetate, Isopropanol, n-Butanol** |
| **Minnesota Hazardous Substances List** | **Butyl Acetate, Ethyl Acetate, Isopropanol, n-Butanol** |
| **New Jersey Right to Know Hazardous Substances List** | **Isopropanol, n-Butanol** |
| **New York List of Hazardous Substances** | **Butyl Acetate, Ethyl Acetate, n-Butanol** |
| **Pennsylvania Hazardous Substances List** | **Butyl Acetate, Ethyl Acetate, Isopropanol, n-Butanol** |
| **Washington Permissible Exposure Limits for Air Contaminants** | **Butyl Acetate, Ethyl Acetate, Isopropanol, n-Butanol** |
| **Wisconsin Hazardous Substances List** | **Ethyl Acetate, n-Butanol** |

## 15. REGULATORY INFORMATION - continued

15.8 67/548/EEC (European Union) Requirements:

**The primary component of this product is not listed in Annex I of EU Directive 67/548/EEC:**

**Ethyl Acetate: Flammable (F). R: 11-36/37/38 – Highly flammable. Irritating to eyes, respiratory system and skin. S: 2-16-23-29-33 – Keep out of the reach of children. Keep away from sources of ignition - No smoking. Do not breathe gas, fumes, vapor or spray. Do not empty into drains. Take precautionary measures against static discharges.**

**Butyl Acetate: Flammable (F). R: Flammable. S: 9-16-33 - Keep container in a well-ventilated place. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.**

## 16. OTHER INFORMATION

16.1 Other Information:

**EXTREMELY FLAMMABLE!** Keep away from heat or flame. Use only as directed. Avoid eye contact. If contact occurs, flush eye thoroughly with running water. Use only in a well-ventilated area. If redness or other signs of adverse reaction occur, discontinue use immediately. Keep container closed. Store in a cool place. **KEEP OUT OF REACH OF CHILDREN.**

16.2 Terms & Definitions:

**See last page of this MSDS.**

16.3 Disclaimer:

This Material 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 & OPI Products' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are 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:

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ShipMate® Dangerous Goods Training & Consulting

## DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. 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 |
| **TLV** | Threshold Limit Value |
| **OSHA** | U.S. Occupational Safety and Health Administration |
| **PEL** | Permissible Exposure Limit |
| **IDLH** | Immediately Dangerous to Life and Health |

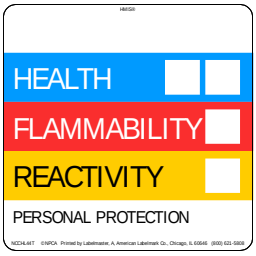
### FIRST AID MEASURES:

| | |
|---|---|
| **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

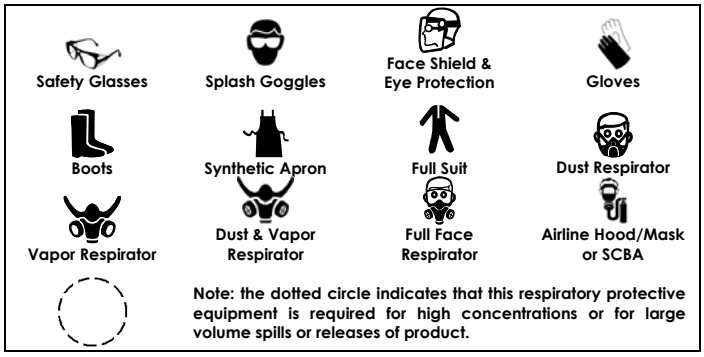
### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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




### PERSONAL PROTECTION RATINGS:

| | | | |
|---|---|---|---|
| **A** | | **G** | |
| **B** | | **H** | |
| **C** | | **I** | |
| **D** | | **J** | |
| **E** | | **K** | |
| **F** | | **X** | Consult your supervisor or S.O.P. for special handling directions. |




### OTHER STANDARD ABBREVIATIONS:

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

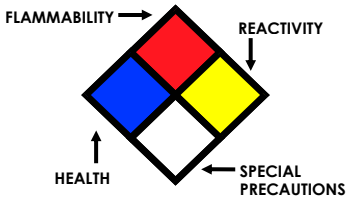
### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

### 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 |




### TOXICOLOGICAL INFORMATION:

| | |
|---|---|
| **$LD_{50}$** | Lethal Dose (solids & liquids) which kills 50% of the exposed animals s |
| **$LC_{50}$** | Lethal concentration (gases) which kills 50% of the exposed animal |
| **ppm** | Concentration expressed in parts of material per million parts |
| **$TD_{lo}$** | Lowest dose to cause a symptom |
| **TCLo** | Lowest concentration to cause a symptom |
| **$TD_{lo}$, $LD_{lo}$, & $LD_o$ or TC, $TC_o$, $LC_{lo}$, & $LC_o$** | 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 |
| **$TL_m$** | Median threshold limit |
| **log $K_{OW}$ or log $K_{OC}$** | 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) |

### EC INFORMATION:

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