1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	**OPI START-TO-FINISH FORMALDEHYDE-FREE FORMULA**
1.2	Chemical Name:	Solvent Mixture
1.3	Synonyms:	NA
1.4	Trade Names:	NTT71, NTT67
1.5	Product Use:	Cosmetic Use Only
1.6	Distributor's Name:	OPI Products, Inc.
1.7	Distributor's Address:	4500 Park Granada Blvd, Calabasas, CA 91302 USA
1.8	Emergency Phone:	**CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 16377)**
1.9	Business Phone / Fax:	Tel: +1 (818) 999-5112

2. HAZARDS IDENTIFICATION

2.1 Hazard Identification:

This product is classified as a HAZARDOUS SUBSTANCE and as DANGEROUS GOODS according to the classification criteria of NOHSC: 1008 (2004) and ADG Code (Australia).

DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION. AVOID SKIN CONTACT DUE TO SENSITIZING POTENTIAL.

Classification: Flam. Liq. 2; Skin Sens. 1A; Eye Irrit. 2B

2.2 Label Elements:

Hazard Statements (H): H225 – Highly flammable liquid and vapor. H317 – May cause an allergic skin reaction. H320 – Causes eye irritation.

Precautionary Statements (P): P210 – Keep away from heat/sparks/open flame/hot surfaces – No Smoking. P233 – Keep container tightly closed. P243 – Take precautionary measures against static discharge. P261 – Avoid breathing vapors. P264 – Wash exposed skin areas thoroughly with soap and water after handling. P272 – Contaminated work clothing should not be allowed out of the workplace. P280 – Wear protective gloves/eye protection/face protection. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 – IF ON SKIN: Wash with soap and water. P305+P351+P338 – IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P333+P313 – If skin irritation or a rash occurs - Get medical advice/attention. P321 – For specific first aid treatment (See Section 4 of this Safety Data Sheet). P363 – Wash contaminated clothing before reuse. P370+P378 - In case of fire, CO_2, Halon (if permitted), dry chemical, or foam for extinction. P403+P235 – Store in a well-ventilated place. Keep cool. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).

2.3 Other Warnings: **KEEP OUT OF REACH OF CHILDREN.**

3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m³) ACGIH ppm TLV	ACGIH ppm STEL	NOHSC ppm ES-TWA	NOHSC ppm ES-STEL	NOHSC ppm ES-PEAK	OSHA ppm PEL	OSHA ppm STEL	OSHA ppm IDLH	OTHER
SD ALCOHOL 40-B	64-17-5	KQ6300000	200-578-6	10-30	1000	1900	1880	NF	NF	1000	1900	3300	
	Flam. Liq. 2; H225												
ETHYL ACETATE	141-78-6	AH5425000	205-500-4	10-30	400	400	200	400	NF	NA	NA	2000	400 TWA
	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336												
BUTYL ACETATE	123-86-4	AF7350000	204-658-1	10-30	150	200	150	200	NF	200	200	1700	150 TWA
	Flam. Liq. 3; STOT SE 3; H226, H336												
HEPTANE	142-82-5	MI7700000	205-563-8	7-13	400	500	400	1640	NF	500	NA	750	
	Flam. Liq. 2; Skin Irrit. 2; STOT-SE 3; Asp. 1; Acute Aq. Tox. 1; Chronic Aq. Tox. 2; H225, H304, H315, H336, H410												
NITROCELLULOSE	9004-70-0	QW0970000	NA	≤ 2.0	400	400	400	200	NF	NA	NA	2000	400 TWA
	Flam. Liq. 2; H225												
TOSYLAMIDE/EPOXY RESIN	25035-71-6	QW0970000	NA	≤ 2.0	NA	NA	NF	NF	NF	NA	NA	NA	
ISOPROPYL ALCOHOL	67-63-0	NT8050000	200-661-7	≤ 2.0	400	500	400	500	NF	400	500	2000	400 TWA
	Flam. Liq. 2; Skin Irrit. 3; Eye Irrit. 2A; STOT SE 3; H225, H316, H319												
POLYVINYL BUTYRAL	63148-65-2	NA	NA	≤ 2.0	NA	NA	NF	NF	NF	NA	NA	NA	
TRIPHENYL PHOSPHATE	115-86-6	TC840000	204-112-2	≤ 2.0	NA	NA	NF	NF	NF	NA	NA	NA	
	Acute Aq. Tox. 1; Chronic Aq. Tox. 1; H400, H410												
TRIMETHYL PENTANYL DIISOBUTYRATE	6846-50-0	SA1420000	229-934-9	≤ 2.0	NA	NA	NF	NF	NF	NA	NA	NA	
n-BUTYL ALCOHOL	71-36-3	EO1400000	200-751-6	0.1-1	NA	NA	NF	NF	50	100	NA	1400	
	Flam. Liq. 3; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H226, H302, H315, H318, H335, H336												
CAMPHOR	76-22-2	EX12250000	200-945-0	0.1-1	2	NA	12	19	NF	2	NA	200	
	Flam. Sol. 2; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H228, H302, H315, H319, H335												

3. COMPOSITION & INGREDIENT INFORMATION – cont'd.

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m³) ACGIH ppm TLV	ACGIH ppm STEL	NOHSC ppm ES-TWA	NOHSC ppm ES-STEL	NOHSC ppm ES-PEAK	OSHA ppm PEL	OSHA ppm STEL	OSHA ppm IDLH	OTHER
BENZOPHENONE-1	131-56-6	DJ0700000	205-029-4	0.1-1	NA	NA	NF	NF	NF	NA	NA	NA	
	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319, H335												
CI 60725 (VIOLET 2)	81-48-1	CB7700000	201-353-5	0.1-1	NA	NA	NF	NF	NF	NA	NA	NA	

4. FIRST AID MEASURES

4.1 First Aid:

Ingestion: If ingested, do not induce vomiting. 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 affected 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 Effects of Exposure:

Ingestion: If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system depression.

Eyes: Irritating to eyes. Symptoms of overexposure may include redness, itching, irritation and watering.

Skin: May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact.

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 3 (Composition and Ingredient Information) can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea).

4.3 Symptoms of Overexposure: Symptoms of skin overexposure in individuals may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering.

4.4 Acute Health Effects: Mild to moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea.

4.5 Chronic Health Effects: No chronic health effects are known, although symptoms and discomfort may occur for several days following overexposure.

4.6 Target Organs: Eyes, Skin, Respiratory System.

4.7 Medical Conditions Aggravated by Exposure: None known

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZARDS	0
PROTECTIVE EQUIPMENT	B
EYES / SKIN	

5. FIREFIGHTING MEASURES

5.1 Fire & Explosion Hazards: **DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR.** Keep away from heat, lit cigarettes, sparks & open flame. Keep container closed. 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.

5.2 Extinguishing Methods: CO_2, Halon (if permitted), Dry Chemical, Foam

HazChem Code: 3YE

Hazard Identification Number: 33

5.3 Firefighting Procedures: 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.

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:	Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment. 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. For large 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 drains, municipal sewers and open bodies of water.

7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	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:	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:	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 Exposure Limits: ppm (mg/m^3)

	ACGIH		NOHSC			OSHA			OTHER
CHEMICAL NAME(S)	TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
SD ALCOHOL 40-B	1000	1900	1880	NF	NF	1000	1900	3300	
ETHYL ACETATE	400	400	200	400	NF	NA	NA	2000	400 TWA
BUTYL ACETATE	150	200	150	200	NF	200	200	1700	150 TWA
HEPTANE	400	500	400	1640	NF	500	NA	750	
NITROCELLULOSE	400	400	400	200	NF	NA	NA	2000	400 TWA
ISOPROPYL ALCOHOL	400	500	400	500	NF	400	500	2000	400 TWA
n-BUTYL ALCOHOL	NA	NA	NF	NF	50	100	NA	1400	
CAMPHOR	2	NA	12	19	NF	2	NA	200	

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:	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, EU member states, or Australia.	
8.4	Eye Protection:	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.	
8.5	Hand Protection:	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 EU member states.	
8.	Body Protection:	No special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate standards of Canada, the EU member states, or U.S. OSHA.	

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Appearance:	Viscous liquid
9.2	Odor:	Ester-like (fruity) odor
9.3	Odor Threshold:	ND
9.4	pH:	NA
9.5	Melting Point/Freezing Point:	NE
9.6	Initial Boiling Point/Boiling Range:	NA
9.7	Flashpoint:	- 4 °C (24 °F) estimated
9.8	Upper/Lower Flammability Limits:	NE
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	0.9980 – 1.0008
9.12	Solubility:	Insoluble in water

9. PHYSICAL & CHEMICAL PROPERTIES – cont'd

9.13	Partition Coefficient (log P_{ow}):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	1,000 to 3,000 cPs
9.17	Other Information:	NA

10. STABILITY & REACTIVITY

10.1	Stability:	Stable under ambient conditions when stored properly (See Section 7, Storage and Handling).
10.2	Hazardous Decomposition Products:	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:	May occur, if exposed to extremely high temperatures.
10.4	Conditions to Avoid:	High temperatures, direct sunlight, sources of heat and incompatible materials.
10.5	Incompatible Substances:	This product is incompatible with strong oxidizers, (e.g., peroxides, superoxides), strong acids (e.g., hydrochloric or muriatic acids), nitrates, or strong bases (e.g., lye, potassium hydroxide).

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. There are toxicology data for the components of the product, which are found in scientific literature, but are not presented in this document.					
11.3	Acute Toxicity:	See Section 4.4					
11.4	Chronic Toxicity:	See Section 4.5					
11.5	Suspected Carcinogen:	This product contains Isopropyl Alcohol, which is not carcinogenic to humans, but is listed as a Group 3 by 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 cause teratogenic effects in humans.					
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.					
11.7	Irritancy of Product:	See Section 4.3					
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: 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. 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. 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:	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:	Waste disposal must be in accordance with appropriate Federal, state, and local regulations.
13.2	Special Considerations:	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):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L); or CONSUMER COMMODITY, ORM-D – until 01/01/2021	
14.2	IATA (AIR):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 0.5 L); or ID8000, CONSUMER COMMODITY, 9 (IP VOL ≤ 0.5 L)	
14.3	IMDG (OCN):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	
14.4	TDGR (Canadian GND):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	
14.5	ADR/RID (EU):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	
14.6	SCT (MEXICO):	UN1263, PRODUCTOS PARA PINTURA, 3, II, (CANT. LTDA., (IP VOL ≤ 1.0 L)	
14.7	ADGR (AUS):	UN1263, PAINT RELATED MATERIAL, 3, II, (LTD QTY, IP VOL ≤ 1.0 L)	

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains Isopropanol, a substance subject to SARA Title III, Section 313 reporting requirements. This product contains Ethyl Acetate, a substance that is subject to SARA Title III, Section 304 reporting.	
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 or are otherwise exempt.	
15.4	CERCLA Reportable Quantity (RQ):	Ethyl Acetate: 2,270 kg (5,000 lbs); Butyl Acetate: 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).	
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the CPR and the Safety Data Sheet 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 B2, D2B (Flammable Liquid, Other Toxic Effects)	
15.7	State Regulatory Information:	Butyl Acetate is found on the following state criteria lists: California OSHA Hazardous Substances List (CA), Delaware Air Quality Management List (DE), Massachusetts Hazardous Substances List (MA), New Jersey Right-to-Know List (NJ), New York List of Hazardous Substances (NY), Pennsylvania Right-to-Know List (PA), and Washington Permissible Exposures List for Air Contaminants (WA), Wisconsin Hazardous Substances List (WI). Ethyl Acetate is found on the following state criteria lists: CA, DE, MA, MN, NJ, NY, PA, and WA. Isopropanol is found on the following state criteria lists: CA, MA, MN, NJ, PA, and WA. Nitrocellulose is found on the following state criteria lists: DE, MA, and PA. Heptane is found on the following state criteria list: FL, MA, MN, PA and WA. Camphor is found on the following state criteria list: FL, MA, MN, PA and WA. 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 www.P65warnings.ca.gov.	

16. OTHER INFORMATION

16.1	Other Information:	**DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES EYE IRRITATION. AVOID SKIN CONTACT DUE TO SENSITIZING POTENTIAL.** 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 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 & OPI'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:	**OPI Products, Inc.** 4500 Park Granada Blvd Calabasas, CA 91302 USA Tel: +1 (818) 999-5112 http://www.opi.com
16.5	Prepared by:	**ShipMate, Inc.** P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com

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

HEALTH
FLAMMABILITY
PHYSICAL HAZARDS
PERSONAL PROTECTION

PERSONAL PROTECTION RATINGS:

A		**G**	
B		**H**	
C		**I**	
D		**J**	
E		**K**	
F		**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:

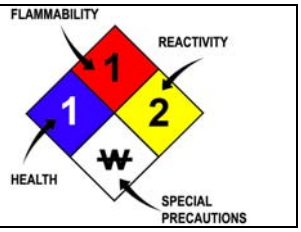
Carc	Carcinogenic
Irrit	Irritant
NA	Not Available
NR	No Results
ND	Not Determined
NE	Not Established
NF	Not Found
SCBA	Self-Contained Breathing Apparatus
Sens	Sensitization
STOT RE	Specific Target Organ Toxicity – Repeat Exposure
STOT SE	Specific Target Organ Toxicity – Single Exposure

NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

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:

LD_{50}	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
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)
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