

SAFETY DATA SHEET

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


SDS Revision: 2.0

SDS Revision Date: 1/30/2018

1. PRODUCT & COMPANY IDENTIFICATION

1.1	Product Name:	PULP RIOT PERMANENT HAIR COLORS
1.2	Chemical Name:	Dye Solution
1.3	Synonyms:	Pulp Riot Toners: Natural, Silver, Violet, Icy, Ash, Rose Gold
1.4	Trade Names:	Permanent Hair Colors
1.5	Product Uses & Restrictions:	Professional Cosmetic Use Only
1.6	Distributor's Name:	
1.7	Distributor's Address:	
1.8	Emergency Phone:	CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 10069)
1.9	Business Phone / Fax:	

2. HAZARDS IDENTIFICATION

2.1	Hazard Identification:	<p>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).</p> <p>WARNING! CAUSES MILD SKIN IRRITATION. CAUSES EYE IRRITATION. HARMFUL IF SWALLOWED.</p> <p><u>Classification:</u> Skin Irrit. 3; Eye Irrit. 2B; Acute Tox. Oral 4</p> <p><u>Hazard Statements</u> (H): H316 . Causes mild skin irritation. H320 . Causes eye irritation. H302 . Harmful if swallowed.</p> <p><u>Precautionary Statements</u> (P): P264 . Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P270 . Do not eat, drink or smoke while using this product. P280 . Wear protective gloves and eye/face protection. P301+P312 . IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P305+P351+P338 . IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 . If eye irritation persists: Get medical advice/attention. P332+P313 . If skin irritation occurs: get medical advice/attention. P405 . Store locked up. P501 . Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).</p>	
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3. COMPOSITION & INGREDIENT INFORMATION

CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	EXPOSURE LIMITS IN AIR (mg/m ³)									OTHER
					ACGIH		NOHSC			OSHA				
					ppm		ppm			ppm				
					TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH		
AQUA (WATER/EAU)	7732-18-5	ZC0110000	231-791-2	25-80	NA	NA	NF	NF	NF	NA	NA	NA		
AMMONIUM HYDROXIDE	1336-21-6	BQ9625000	215-647-6	m10.0	25	35	25	50	NF	25	NA	NA	25 NIOSH	
	Skin Corr. 1B; Aquatic Acute 1; H314, H400													
P-PHENYLENEDIAMINE	106-50-3	NA	203-404-7	m2	(0.1)	NA	NF	NF	NF	(0.1)	NA	NA		
	Acute Tox. 3 *: Eye Irrit. 2; Skin Sens. 1; H331, H311, H301, H319, H317													
TOLUENE-2,5-DIAMINE SULFATE	615-50-9	VH2009500	210-431-8	m2	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox. 3 *: Skin sens. 1; Acute Tox. 4; Aquatic Chronic 2; H301, H317, H332, H411													
4-AMINO-2-HYDROXYTOLUENE	2835-95-2	SJ6090000	220-618-6	m2	NA	NA	NF	NF	NF	NA	NA	NA		
1-NAPHTHOL	90-15-3	NA	201-969-4	m2	NA	NA	NF	NF	NF	NA	NA	NA	OEL: (0.5)	
m-AMINOPHENOL	591-27-5	NA	209-711-2	m2	NA	NA	NF	NF	NF	NA	NA	NA		
1-HYDROXYETHYL 4,5-DIAMINO PYRAZOLE SULFATE	155601-30-2	NA	209-711-2	m2	NA	NA	NF	NF	NF	NA	NA	NA		
N,N-BIS-HYDROXYETHYL-p-PHENYLENEDIAMINE SULFATE	54381-16-7	NA	259-134-5	m2	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox. 3; Skin Sens. 1; Eye Irrit. 2; H301, H317, H319													
2-METHYLRESORCINOL	608-25-3	VH2009500	210-155-8	m2	NA	NA	NF	NF	NF	NA	NA	NA		
	Acute Tox. 3; Skin Sens. 1; Eye Dam. 1; Aquatic Acute 1; H301, H317, H318, H400													
RESORCINOL	108-46-3	VG9625000	203-585-2	m2	NA	NA	NF	NF	NF	NA	NA	NA		
4-AMINO-M-CRESOL	2835-99-3	GO6826000	220-621-2	m2	NA	NA	NF	NF	NF	NA	NA	NA		
P-AMINOPHENOL	591-27-5	NA	209-711-2	m2	NA	NA	NF	NF	NF	NA	NA	NA		
PROPRIETARY INGREDIENTS	NA	NA	NA	BAL	NA	NA	NF	NF	NF	NA	NA	NA		

4. FIRST AID MEASURES

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4.1	First Aid:	<p><u>Ingestion:</u> 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.</p> <p><u>Eyes:</u> 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.</p> <p><u>Skin:</u> 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.</p> <p><u>Inhalation:</u> Remove victim to fresh air at once.</p>
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4. FIRST AID MEASURES – cont'd

4.2	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. Symptoms of overexposure may include redness, itching, irritation and watering.</p> <p><u>Skin:</u> May be irritating to skin. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.</p> <p><u>Inhalation:</u> None expected.</p>
4.3	Symptoms of Overexposure:	Overexposure in eyes may cause redness, itching and watering. Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) in some sensitive individuals.
4.4	Acute Health Effects:	Moderate irritation to eyes. Symptoms of overexposure may include redness, itching, stinging, irritation and watering. Moderate irritation to skin near affected areas.
4.5	Chronic Health Effects:	No harmful or chronic health effects are expected to occur from a single accidental ingestion.
4.6	Target Organs:	Eyes, skin
4.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes and skin).

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

5. FIREFIGHTING MEASURES

5.1	Fire & Explosion Hazards:	This product is not flammable.
5.2	Extinguishing Methods:	CO ₂ , Halon (if permitted), Dry Chemical, Foam, as authorized.
5.3	Firefighting Procedures:	As in any fire, wear MSHA/NIOSH approved self-contained breathing apparatus (pressure-demand) and full protective gear. Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Fight fire upwind. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.



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 (PPE). Keep incompatible materials (e.g., organics such as oil) away from spill.</p> <p>For <u>small spills</u> (e.g., < 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows). 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). 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>
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7. HANDLING & STORAGE INFORMATION

7.1	Work & Hygiene Practices:	Do not eat, drink, or smoke while handling this product. Wash thoroughly after handling. Avoid contact with flammable or combustible materials. Avoid contamination from any source, including metals, dust and organic materials. Keep bulk covered. Wash unintentional residues with soap and warm water.
7.2	Storage & Handling:	Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans). Keep away from excessive heat and open flames. Avoid temperatures above 120 °F. Keep away from incompatible substances. Protect containers from physical damage.
7.3	Special Precautions:	Spilled material may present a slipping hazard if left unattended. Clean all spills promptly.

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8. EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1	Exposure Limits: ppm (mg/m ³)	CHEMICAL NAME(S)	ACGIH		NOHSC			OSHA			OTHER
			TLV	STEL	ES-TWA	ES-STEL	ES-PEAK	PEL	STEL	IDLH	
		P-PHENYLENEDIAMINE	NA	NA	NF	0.1	NF	NA	NA	25	
		AMMONIUM HYDROXIDE	25	35	25	50	NF	25	NA	NA	25 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:	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.									
8.4	Eye Protection:	Wear protective eyewear (e.g., safety glasses with side-shield) at all times when handling this product. Always use protective eyewear when cleaning spills or leaks. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants.									
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 E.C. member states.									
8.6	Body Protection:	However, 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	Appearance:	Colored Cream
9.2	Odor:	Perfumed, mild floral odor
9.3	Odor Threshold:	NA
9.4	pH:	9.5-11.0
9.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling Range:	NA
9.7	Flashpoint:	NA
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	0.97-1.02 g/mL
9.12	Solubility:	Soluble
9.13	Partition Coefficient (log P _{ow}):	NA
9.14	Autoignition Temperature:	NA
9.15	Decomposition Temperature:	NA
9.16	Viscosity:	NA
9.17	Other Information:	NA

10. STABILITY & REACTIVITY

10.1	Stability:	This product is stable.
10.2	Hazardous Decomposition Products:	Oxides of carbon (CO, CO ₂) and sulfur (SO ₂).
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Open flames, sparks and high heat, direct sunlight.
10.5	Incompatible Substances:	Store away from flammable liquids, flammable solids, aerosols and other incompatible materials (e.g., reducing materials, combustible materials, metal contamination like iron, copper their alloys). Avoid contamination. Do not store any tint, lightener lotion or bleach powder after it has been mixed with developer; the container may rupture. Never return unused material to original container. Avoid extreme heat and ignition sources.

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 toxicological data. There are toxicology data for the components of this product, which are found in the scientific literature, but are not listed on this Safety Data Sheet.		
11.3	Acute Toxicity:	See section 4.4		
11.4	Chronic Toxicity:	See section 4.5		
11.5	Suspected Carcinogen:	This product contains <u>p-Phenylenediamine</u> and <u>Resorcinol</u> , which are not carcinogenic to humans, but are listed as Group 3 carcinogens by IARC. This product contains <u>p-Phenylenediamine</u> , which is on ACGIH's list A4.		

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11. TOXICOLOGICAL INFORMATION – cont'd

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:	There is no specific data available for this product.
12.2	Effects on Plants & Animals:	There is no specific data available for this product.
12.3	Effects on Aquatic Life:	There is no specific data available for this product.

13. DISPOSAL CONSIDERATIONS


13.1	Waste Disposal:	Dispose of in accordance with federal, state and local regulations.
13.2	Special Considerations:	NA

14. TRANSPORTATION INFORMATION

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

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

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements:	This product contains <u>p-Phenylenediamine</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):	<u>P-Phenylenediamine</u> : 2,270 kg (5,000 lbs).	
15.5	Other Federal Requirements:	This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics). This material does not contain any hazardous air pollutants. None of the components in this product are listed as priority pollutants under the CWA. None of the components in this product are listed as toxic pollutants under the CWA.	
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the 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. WHMIS D2B (Other Toxic Effects)	
15.7	State Regulatory Information:	<p><u>Resorcinol</u> is listed on the following state criteria lists: Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), New Jersey Right-to-Know List (NJ), Pennsylvania Right-to-Know List (PA), and Washington Permissible Exposures List (WA).</p> <p><u>p-Phenylenediamine</u> is found on the following state criteria list: FL, MA, MN, NJ, PA and WA. <u>p-Phenylenediamine</u> is found on the following state criteria list: Florida Toxic Substances List (FL), 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).</p> <p><u>Ammonium Hydroxide</u> (as ammonia) can be found on the following state criteria list: IL, MA, NJ, PA and RI.</p> <p>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).</p> <p>California Proposition 65: WARNING! This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.</p>	

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15. REGULATORY INFORMATION – cont'd

15.8	Other Requirements:	<p>The primary components of this product are listed in Annex I of EU Directive 67/548/EEC:</p> <p><u>Ammonium Hydroxide</u>: Irritant (Xi). <u>Risk Phrases</u> (R): 22-36/37/38 . Harmful if swallowed. Irritating to eyes, respiratory system and skin. <u>Safety Phrases</u> (S): 1/2-26-36/37/39-45-61 . Keep locked up and out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. If case of accident or if you feel unwell seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheet.</p> <p><u>p-Phenylenediamine</u>: Harmful (Xn). <u>Risk Phrases</u> (R): 43 . May cause sensitization by skin contact. <u>Safety Phrases</u> (S): 1/2-28-36/37 . Keep locked up and out of reach of children. After contact with skin, was immediately with plenty of water. Wear suitable protective clothing and gloves.</p>	
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16. OTHER INFORMATION

16.1	Other Information:	<p>WARNING! CAUSES MILD SKIN IRRITATION. CAUSES EYE IRRITATION. HARMFUL IF SWALLOWED. For external use only. Use only as directed. Discontinue use immediately if irritation develops. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Do not eat, drink or smoke while using this product. Wear protective gloves and eye/face protection. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If skin irritation occurs: get medical advice/attention. Store locked up. KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.</p>
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.
16.3	Disclaimer:	<p>This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Hair Systems 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.</p>
16.4	Issued by:	

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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
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EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
C	Ceiling Limit
ES	Exposure Standard (Australia)
IDLH	Immediately Dangerous to Life and Health
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:

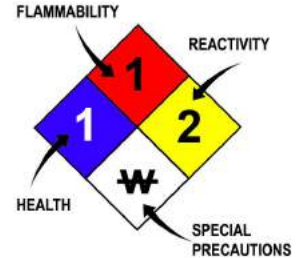
CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.
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HMIS-III HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard	HEALTH FLAMMABILITY PHYSICAL HAZARDS PERSONAL PROTECTION
1	Slight Hazard	
2	Moderate Hazard	
3	Severe Hazard	
4	Extreme Hazard	

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 ₀₁	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD ₀₁ , LD ₀₁ , & LD ₅₀ or TC, TC ₀₁ , LC ₀₁ , & LC ₅₀	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
NOHSC	National Occupational Health and Safety Commission (Australia)
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)
HMIS-III	National Paint & Coatings Association Hazardous Materials Identification System

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

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	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
mg/m ³	milligrams per cubic meter
NA	Not Available
ND	Not Determined
NE	Not Established
NF	Not Found
NR	No Results
ppm	parts per million
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