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Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards SDS Revision: 3.0 SDS Revision Date: 1/31/2022

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<u> </u>		1.	. PRODU	CI & CO	<u>MPAN</u>	Y IDE	:N I II	-ICA	HIC	<u>N</u>				
1.1	Product Name:	TRU TE	MP® RPL											
1.2	Chemical Name:	Sodium Nitra	te/Sodium Hydi	roxide Solution	1									
1.3	Synonyms:	611251, 6112	258, 611290											
1.4	Trade Names:	Tru Temp® R	PL Blackener											
1.5	Product Use:	Solution for b	lackening of iro	n and steel										
1.6	Distributor's Name:	Birchwood La	Birchwood Laboratories LLC											
1.7	Distributor's Address:	7900 Fuller R	7900 Fuller Road, Eden Prairie, MN 55344 USA											
1.8	Emergency Phone:	ChemTrec	+1 (800) 424-	9300 / +1 (7	03) 527-3	3887 or	Poise	n Co	ntro	l Cen	ter +	1 (855) 281-1	1742
1.9	Business Phone / Fax:	ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (855) 281-1742 +1 (952) 937-7900 / +1 (952) 937-7979												
							\ A = 1	~						
2.1	Hazard Identification:	T		IAZARDS				_				0	2114 00	055 4040 4000
2.1	Trazard Norminearon.	Prepared in accordance with UN Globally Harmonized standards. Intended to comply with OSHA 29 CFR 191 Canadian WHMIS and Australian Work Health and Safety. DANGER! HARMFUL IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY BE CORF TO METALS. Classification: Acute Tox. (Oral) 4; Skin Corr. 1A, Metal Corr. 1												
2.2	Label Elements:	Hazard Statements (H): H302 – Harmful if swallowed. H314 – Causes severe skin burns and eye damage. Precautionary Statements (P): P234 – Keep only in original packaging. P260 – Do not breathe dust or mist. P264 – Wash hands and exposed skin areas with soap and warm water thoroughly after handling. P271 – Do not eat, drink or soke when using this product. P280 - Wear protective gloves/ protective clothing/eye protection/face protection. P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+P361+P354 – IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. P316 – Get emergency medical help immediately. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 – Specific treatment see section 4 (first aid) of this SDS. Absorb spillage to prevent material-damage. P405 – Store locked up. P406 – Store in a corrosion resistant package/container with resistant inner liner.					1							
2.3	Other Memines		se of contents/											
2.3	Other Warnings:													son control center,
		wno may see	k advice from t	ne U.S. manut	acturer, a	na snow	tnem	nis SL)5. K	eep o	ut ot r	eacn c	or chila	ren.
		3 (COMPOSI	TION & IN	IGREI	JIEN	T INF	OR	MΔ	TIOI	v			
		<u> </u>	 	11011 & 11	TOILE			OIN				IN AIR (ı	ma/m³\	
						ACC	SIH	N	OHSC		LIMITO	OSHA		
						pp	m		ppm			ppm		
														1
CHEMICAL NAME(S)								ES-	ES-	ES-				
CHEMI	CAL NAME(S)	CAS No.	RTECS No.	231 701 2	40.70	TLV		TWA	STEL	PEAK		STEL	IDLH	OTHER
CHEMI WATE		CAS No. 7332-18-5	RTECS No. ZC0110000	231-791-2	% 40-70	TLV NE	STEL NE				PEL NE	NE	NE NE	OTHER
WATE	ER .	7332-18-5	ZC0110000	231-791-2	40-70	NE	NE	NF	NF	PEAK NF	NE	NE	NE	
WATE		7332-18-5 1310-73-2	ZC0110000 WB4900000	231-791-2	40-70 20-40	NE (2)		TWA	STEL	PEAK				OTHER (2) NIOSH
WATE	TR JM HYDROXIDE	7332-18-5 1310-73-2	ZC0110000	231-791-2	40-70 20-40	NE (2)	NE	NF	NF	PEAK NF	NE	NE	NE	
WATE	ER .	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4	ZC0110000 WB4900000 Skin corr. 1A; Met	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3	20-40 , H314, H29	(2)	NE NA	NF NF	NF NF	NF (2)	(2)	NE NA	NE (10)	
SODIL SODIL	JM HYDROXIDE JM NITRATE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0	WB4900000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2 RA1225000	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 2; H272, H319 231-555-9	20-40 , H314, H29	(2)	NE NA	NF NF	NF NF	NF (2)	(2)	NE NA	NE (10)	
WATE SODIU SODIU	TR JM HYDROXIDE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0	ZC0110000 WB4900000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 2; H272, H319 231-555-9	20-40 , H314, H29	(2) 90 10	NE NA NA	NF NF 10	NF NF NF	NF (2)	(2) 15	NE NA NA	(10) NA	
WATE SODIU SODIU	JM HYDROXIDE JM NITRATE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0	ZC0110000 WB4900000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2 RA1225000 d 3; Eye Irritant 2	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 1; H272, H319 231-555-9 1; H272, H319	20-40 , H314, H2: 7-13	(2) 90 10 NA	NA NA NA	NF 10 NF	NF NF NF	NF (2)	(2) 15	NE NA NA	(10) NA	
SODIU SODIU	JM HYDROXIDE JM NITRATE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0	ZC0110000 WB4900000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2 RA1225000 d 3; Eye Irritant 2	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 2; H272, H319 231-555-9	20-40 , H314, H2: 7-13	(2) 90 10 NA	NA NA NA	NF 10 NF	NF NF NF	NF (2)	(2) 15	NE NA NA	(10) NA	
WATE SODIU SODIU	JM HYDROXIDE JM NITRATE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0	WB490000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2 RA1225000 d 3; Eye Irritant 2 DO NOT INI or local eme If vomiting o If product ge holding eyel use, consult Remove cor	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 t; H272, H319 231-555-9 t; H272, H319 FIRST A DUCE VOMITI regency telephocurs spontane curs spontane ets in the eyes id(s) open to e a physician or ntaminated clot	40-70 20-40 H314, H21 7-13 1-5 AID ME NG. Containe numbeeously, key, flush ey, flush ey emergen hing and	NE (2) 90 10 NA	NA N	NF 10 NF 10	NF NF NF NF NF visite (instrinction of the priority of the pri	NF (2) NF 1-1742 ruction (forwal as among so or facts	(2) 15 NA 2 or the s. Se d) to rounts coe bed	NA N	NE (10) NA NA NA NA est Pois ediate the risk r for at wollen odiscomfi	on Control Center medical attention. of aspiration. least 15 minutes, during or following ort persists and/or
SODIU SODIU SODIU	ER JM HYDROXIDE JM NITRATE JM NITRITE	7332-18-5 1310-73-2 Eye Dam. 1; \$ 7631-99-4 Oxidizing Soli 7632-00-0 Oxidizing Soli Ingestion: Eyes:	WB490000 Skin corr. 1A; Met WC5600000 d 3; Eye Irritant 2 RA1225000 d 3; Eye Irritant 2 DO NOT INI or local eme If vomiting o If product ge holding eyel use, consult Remove cor the skin reach has been pro	231-791-2 215-185-5 tal Corr. 1; H318 231-554-3 t; H272, H319 231-555-9 t; H272, H319 FIRST A DUCE VOMITI argency telephoccurs spontanicets in the eyes id(s) open to e a physician or ntaminated clot ction worsens, operly cleaned	20-40 , H314, H2: 7-13 1-5 AID ME NG. Containe numbeously, kee, flush eynsure contact and contact an	NE (2) 90 10 NA NA SEASU act Safe er for as ep victir es thoromore the cy room wash af physicia	NA N	NF 10 NF 10	NF N	NF (2) NF 1-1742 ruction (forwal as among so or factors	NE (2) 15 NA 2 or the s. Serd) to rounts coe become water control or the series of the	NA N	NE (10) NA NA NA NA	on Control Center medical attention. e of aspiration. least 15 minutes, during or following



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		4. FIRST A								
1.3	Symptoms of Overexposure:	Eyes: Redness, burning, Skin: Redness, burning, Ingestion: Nausea, vomiting, Inhalation: Coughing, wheezing	itching, rash, b severe abdomi	olistering of ski inal pain.	n.	us memb	⁻ anes, di	fficulty br	eathing.	
.4	Acute Health Effects:	May be harmful if inhaled. Material tract. Severe burns of mouth, throa	l is extremely de	estructive to th	e tissue d	of the muc	ous men	nbranes a		
.5	Chronic Health Effects:	May damage the lungs. May caus	se severe or pe	rmanent eye o	amage.					
.6	Target Organs:	Eyes, Skin, Lungs (Corrosive).								
7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other ski target organs (eyes, skin, and res				HEALT	Н			3
	, ,	function may be more susceptible				FLAMN	ABILIT	Υ		0
						PHYSIC	AL HA	ZARDS		1
						PROTE	CTIVE	EQUIPN	IENT	В
						EYES	SKII	١	LUNGS	
		5. FIREF	IGHTING	MEASUR	ES					
.1	Fire & Explosion Hazards:	Non-flammable. May react with m with air.				can form	explosive	mixture	s	
.2	Extinguishing Methods:	Use fire-extinguishing media appro	opriate for surro	ounding mater	als.					
		As with any fire, firefighters should approved or equivalent self-contain as for surrounding materials. It degradation may produce oxides should be fought from a safe distate spray to cool fire-exposed surface fire control or dilution from entering	ned breathing a Hazardous de of carbon, and nce. Keep con es and to prote	apparatus (SC composition p d/or nitrogen, I tainers cool u ct personal. F	BA) and products by anydrocarboatil well af ight fire u	orotective or may be in oons and/of ter the fire upwind. F	clothing. released or deriva e is out. Prevent re	Fight fire Thermatives. Fir Use wate Unoff fror	s al e	3 1
		6. ACCIDENT	AL RELE	ASE MEA	SURE	S				
		apron, boots, etc.) to prevent skin Small Spills: Wear appropriate pro inert material such as vermiculite with resistant inner liner for later d Large Spills: Keep incompatible is spill or release. Isolate immediate can be done with minimal risk. Warrant. Recover as much free lig liner. Use absorbent to pick up res	otective equipm or sand to soak lisposal. materials (e.g., e hazard area Wear appropria uid as possible	acids, powde and keep unal ate protective and store in a	et and place red metal athorized equipmer corrosion	s) away fi personne nt includin resistant	corrosion om spill. I out of a g respira package	Stay up Stay up area. Sto atory pro-	t packa wind ar p spill c ection a er with re	ge/contain nd away fro or release i as conditio
		7. HANDLING 8								
7.1	Work & Hygiene Practices:	Avoid breathing mists or spray. Av of the reach of children. Do not ea expose to heat and flame. Use of decontaminate any spills or residu	roid eye and ski t, drink, or smo nly in ventilate	in contact. We ke when hand	ar protect ling this p	tive equipi product. V	Vash tho	roughly a	fter han	dling. Do ı
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 only in original packaging. Store in a corrosion resistant package/container with resistant inner liner. Keep containers covered when not in use. Avoid temperatures above 40 °C (120 °F). Keep away from incompatible substances (See Section 10). Protect containers from physical damage.								
'.3	Special Precautions:	Empty containers may retain haza	rdous product	residues.						
		8. EXPOSURE CONTR	ROLS & P	ERSONA	L PRO	OTECT	ION			
1	Exposure Limits:		ACGIH		NOHSC			OSHA		OTHER
	ppm (mg/m³)	CHEMICAL NAME(S)	TLV ST	EL ES-TWA	ES- STEL	ES- PEAK	PEL	STEL	IDLH	
		SODIUM HYDROXIDE			NF	NF	(2)	NA	(10)	(2) NIOSI
.2	Ventilation & Engineering Controls:	Use local or general exhaust vent handling of this product. Ensure a	ilation to effect	SODIUM HYDROXIDE (2) NA (2) NF NF (2) NA (10) (2) NIOSH SODIUM NITRATE 10 NA 10 NF NF 15 NA NA Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash						
		station).								



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	ΩΙ	EXPOSURE CONTROLS & PERSONAL PROTECTION – cont'd
3.4	Eye Protection:	Safety glasses with side shields must be used when handling or using this product. A protective face
	·	shield is also recommended.
3.5	Hand Protection:	Wear protective, chemical-resistant gloves (e.g., neoprene) when using or handling this product.
3.6	Body Protection:	A chemical resistant apron and/or protective clothing are recommended when handling or using this product.
		9. PHYSICAL & CHEMICAL PROPERTIES
9.1	Appearance:	Clear liquid
1.2	Odor:	Odorless
.3	Odor Threshold:	NA NA
1.4	pH:	14.0
.5	Melting Point/Freezing Point:	NA
9.6	Initial Boiling Point/Boiling	
	Range:	> 100 °C (> 212 °F)
.7	Flashpoint:	NA NA
.8	Upper/Lower Flammability Limits:	NA NA
.9	Vapor Pressure:	NA NA
.10	Vapor Density:	NA NA
.11	Relative Density:	1.295
.12	Solubility:	Complete (Water)
.13	Partition Coefficient (log Pow):	NA NA
.14	Autoignition Temperature:	NA NA
.15	Decomposition Temperature:	NA NA
.16	Viscosity:	NA NA
.17	Other Information:	Evaporation Rate: < 1.0 (Ethyl Ether = 1.0)
0.1	Stability:	10. STABILITY & REACTIVITY Stable.
0.2	Hazardous Decomposition Products:	Contact with metals such as aluminum and zinc may produce hydrogen gas.
10.3	Hazardous Polymerization:	Will not occur.
0.4	Conditions to Avoid:	Incompatible substances.
0.5	Incompatible Substances:	Water-reactive substances, metals (e.g. aluminum, zinc) strong acids, oxidizers.
		11. TOXICOLOGICAL INFORMATION
1.1	Routes of Entry:	Inhalation: YES Absorption: YES Ingestion: NO
1.2	Toxicity Data:	Sodium Hydroxide: LD₅₀ (oral, mouse) = 6600 mg/kg; Sodium Hydroxide: LD₅₀ (oral, rabbit) = 500 mg/kg; Sodium Nitra LD₅₀ (oral, rat) = 1267 mg/kg; LD₅₀ (oral, rabbit) = 2680 mg/kg.
1.3	Acute Toxicity:	See Section 4.4
1.4	Chronic Toxicity:	See Section 4.5
1.5	Suspected Carcinogen:	NA
1.6	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 cause teratogenic effects in humans.
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.
1.7	Irritancy of Product:	See Section 4.2
1.8	Biological Exposure Indices:	NE
1.9	Physician Recommendations:	Treat symptomatically.
		12. ECOLOGICAL INFORMATION
	Environmental Stability:	No data available.
12.1 12.2	Effects on Plants & Animals:	No data available.



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		13. DISPOSAL CONSIDERATIONS				
10.1	Waste Disposal:					
13.1	disposal method for the ingredients listed in Section 2. 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:	U.S. EPA Hazardous Waste – Characteristic - Corrosive (D002)				
		14. TRANSPORTATION INFORMATION				
		ber, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Ac required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.	ditional			
14.1	49 CFR (GND):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III LTD				
	10 01 11 (0112).	QTY (IP VOL \le 5.0 L)				
14.2	IATA (AIR):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 0.5 L), PI Y841	>			
14.3	IMDG (OCN):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)				
14.4	TDGR (Canadian GND):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)				
14.5	ADR/RID (EU):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)				
14.6	SCT (MEXICO):	UN3266, LIQUIDOS CORROSIVOS, BASICO, INORGANICO, N.E.P. (HIDROXIDO DE SODIO), 8, III, CANTIDAD LIMITADA (IP VOL ≤ 5.0 L)				
14.7	ADGR (AUS):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)				
		15. REGULATORY INFORMATION				
15.1	SARA Reporting Requirements:	This product does not contain any substances subject to SARA Title III, sections 302 or 313 reporting requirements	nents.			
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:	Sodium Hydroxide: 1,000 lbs (454 kg)				
15.5	Other Federal Requirements:	NA NA				
15.6	Other Canadian Regulations:	This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR. 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 Class E (corrosive material). WHMIS Class D2B (materials causing other toxic effects).	T			
15.7	State Regulatory Information:	Sodium Hydroxide is found on the following state criteria lists: Florida Toxic Substances List (FL), Mass Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know Pennsylvania Right-to-Know List (PA), and Washington Permissible Exposures List (WA). Sodium Nitrate is found on the following state criteria lists: FL, MA, MN, PA, WA. No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the follow criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic St. List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota H Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pen Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List product does not contain any chemicals known to the State of California to cause cancer or other reproductive more information go to www.P65Warnings.ca.gov.	List (NJ), wing state ubstances Hazardous nnsylvania (WI). This			
15.8	Other Requirements:	This product is found on the following inventory lists: Australia - AICS, China – IECSC, Europe – ELINCS/EINI Japan – ENCS; Korea – KECI; New Zealand – NZIoC; {Philippines – PICCS; USA – TSCA	EC,			
	1	-, -, -, -, -, -, -, -, -, -, -, -, -, -				



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		16. OTHER IN	FORMATION				
16.1	Other Information:	DANGER! HARMFUL IF SWALLOWED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY BE CORROSIVE TO METALS. Keep only in original packaging. Do not breathe dust or mist. Wash hands and exposed skin areas with soap and warm water thoroughly after handling. Do not eat, drink or soke when using this product. Wear protective gloves/ protective clothing/eye protection/face protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Get emergency medical help immediately. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment see section 4 (first aid) of this SDS. Absorb spillage to prevent material-damage. Store in a corrosion resistant package/container with a resistant inner liner. Store locked up. KEEP LOCKED UP AND OUT OF REACH OF CHILDREN.					
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.					
16.3	Disclaimer:	government regulations must be reviewed for Technologies' knowledge, the information consuitability or completeness is not guaranteed. The information contained herein relates only to	o OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other or applicability to this product. To the best of ShipMate's & Birchwood stained herein is reliable and accurate as of this date; however, accuracy, and no warranties of any type, either expressed or implied, are provided to the specific product(s). If this product(s) is combined with other materials, . Data may be changed from time to time. Be sure to consult the latest				
16.4	Prepared for:	Birchwood Technologies 7900 Fuller Road Eden Prairie, MN 55344 USA Tel: +1 (952) 937-7900 Fax: +1 (952) 937-7979 http://www.birchwoodtechnologies.com	BIRCHWOOD® TECHNOLOGIES				
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	ShipMate Dangerous Goods Training & Consulting				



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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

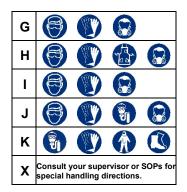
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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



PERSONAL PROTECTION RATINGS:

Α			
В			
С			
D			
Е			
F		TT.	





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	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:

Minimal Hazard		FLAMMABILITY
1	Slight Hazard	\
2	Moderate Hazard	REACTIVITY
3	Severe Hazard	
4	Extreme Hazard	
ACD	Acidic	
ALK	Alkaline	
COR	Corrosive	/ ₹₩ У
₩	Use No Water	HEALTH
ОХ	Oxidizer	SPECIAL
TREFOIL	Radioactive	PRECAUTIONS

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 _{Io}	Lowest dose to cause a symptom			
TCLo	Lowest concentration to cause a symptom			
TD _{io} , LD _{io} , & LD _o or	Lowest dose (or concentration) to cause lethal or toxic effects			
TC, TCo, LCio, & LCo				
IARC	International Agency for Research on Cancer			
NTP	National Toxicology Program			
RTECS	Registry of Toxic Effects of Chemical Substances			
BCF	Bioconcentration Factor			
TLm	Median threshold limit			
log Kow or log Koc	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	PSL Canadian Priority Substances List				
TSCA	TSCA U.S. Toxic Substance Control Act				
EU	European Union (European Union Directive 67/548/EEC)				
WGK	GK Wassergefährdungsklassen (German Water Hazard Class)				

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

0	(4)	(2)	®	\odot	®		R
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:

	③		\Diamond			\Diamond		*
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment