

NICKEL SULFATE

### SAFETY DATA SHEET

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Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision Date: 3/14/2017 SDS Revision: 2.0 1. PRODUCT & COMPANY IDENTIFICATION 1 1 Product Name ABC BLACKENER 1.2 Chemical Name: Acid Mixture 1.3 Synonyms 45910, 45911 1.4 Trade Names: ABC Blackener 1.5 Product Use: Blackening Solution for Non-Ferrous Metals Distributor's Name: 1.6 Precision Brand Products, Inc. 2250 Curtiss Street, Downers Grove IL 60515 USA 1.7 Distributor's Address: 18 Emergency Phone: ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (855) 281-1742 1.9 Business Phone / Fax: +1 (630) 969-7200 / +1 (630) 969-0310 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 INOHSC: 1088 (2004)] and ADG Code (Australia). DANGER! TOXIC IF SWALLOWED. MAY CAUSE SEVERE SKIN BURNS OR EYE DAMAGE. MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. Classification: Acute Tox. 3; Skin Corr. 1A; Serious Eye Dam. 1; Chronic Aquatic Tox. 1; STOT RE1. Label Elements: 2.2 Hazard Statements (H): H301 - Toxic if swallowed. H314 - Causes severe skin burns and eye damage. H373 - May cause damage to organs through prolonged or repeated exposure. H272 -May intensify fire; oxidizer. H410 - Very toxic to aquatic life with long lasting effects. Precautionary Statements (P): P220 - Keep/Store away from clothing/ combustible materials. P273 - Avoid release to the environment. P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 - Dispose of contents/ container to an approved waste disposal plant. Other Warnings: 2.3 In the event of an exposure or medical inquiry involving this product, please contact a physician or local poison control center, who may seek advice from the U.S. manufacturer, and show them this SDS. Keep out of reach of children. 3. COMPOSITION & INGREDIENT INFORMATION EXPOSURE LIMITS IN AIR (mg/m³) ACGIH NOHSC **OSHA** ppm ppm ppm FS-FS-FS-CHEMICAL NAME(S) RTECS No. EINECS No. STEL PEAK PFI STFI IDLH OTHER CAS No TWA STEL 7732-18-5 ZC0110000 231-791-2 60-100 NA NA NF NF NF NA NA NA WATER 16872-11-0 240-898-3 10-30 NA NF NF NA NA NA FLUOBORIC ACID Acute Toxicity-Oral 3; Skin Corrosion 1A; Serious Eye Damage 1; H301, H314 7758-99-8 NA NA 5-10 (1) NA NF NF NF (1) NA 1000 **CUPRIC SULFATE** Acute Toxicity 4; H302 7783-00-8 VS7175000 231-974-7 1-5 (0.2) NA (0.2) NF NF (0.2) NA NA SELENIOUS ACID Acute Toxicity-Inh 3; Acute Toxicity-Oral 3; STOT-Repeated Exp 2; Acute Aquatic Toxicity 1; Chronic Aquatic Toxicity 1; H301, H331, H400, H410 (1) (3) NF NF NF NA NA 1000 7664-38-2 TB6300000 231-633-2 1-5 PHOSPHORIC ACID Metal Corrosion 1; Skin Corrosion1B; H290, H314 QR9600000 (0.1) NA NF NF NF 7786-81-4 232-104-9 0.1-1

Acute Toxicity 4; Skin Irritation 2; Skin Sensitization 1; Respiratory Sensitization 1; Mutagenic 2; Carcinogenic 1A;

Aquatic Toxicity 1; H302, H315, H317, H332, H334, H350i, H360D, H372, H400, H410

Reproductive Toxicity 1B; Specific Target Organ Toxicity - Repeated Exposure 1; Acute Aquatic Toxicity 1; Chronic



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			4. FIRST AID ME	ASURES				
4.1	First Aid:	Ingestion:	O NOT INDUCE VOMITING. Co enter or local emergency telephon ttention. If vomiting occurs sponta spiration.	e number for assistand	ce and instru	ctions. See	k immediate	medica
		Eyes:	product gets in the eyes, flush eyolding eyelid(s) open to ensure conse, consult a physician or emergen	plete flushing. If the ey				
		Skin:	emove contaminated clothing and nd/or the skin reaction worsens, on til after it has been properly cleane	l wash affected areas contact a physician imn				
		Inhalation:	emove victim to fresh air at oncespiration. Seek immediate medica	e. Under extreme co	onditions, if I	breathing sto	ps, perform	artific
4.2	Effects of Exposure:	Eyes:	evere or permanent eye damage.					
		Skin:	urns upon direct contact.					
		Ingestion:	evere burns of mouth, throat, stoma	ach.				
		Inhalation:	evere irritation or burns in respirato	ry tract and mucous me	embranes. P	ossible lung o	damage.	
4.3	Symptoms of Overexposure:	Eyes:	edness, burning, irritation, and swe	lling around eyes				
		Skin:	edness, burning, itching, rash, blist	ering of skin.				
		Ingestion:	ausea, vomiting, severe abdominal	pain.				
		Inhalation:	oughing, wheezing, swelling of thro	at, irritation in mucous	membranes,	difficulty brea	athing.	
4.4	Acute Health Effects:		ul if inhaled. Material is extremel . May be harmful if swallowed. Cau					ıd upp
4.5	Chronic Health Effects:	May damage	e nervous system, kidney and/or liv	er.				
4.6	Target Organs:	Eyes, Skin, I	vous System, Kidneys, Liver, Respi	ratory System, Spleen,	Blood Formi	ng Organs, B	ones.	
4.7	Medical Conditions Aggravated by Exposure:		matitis, other skin conditions, and		HEALTH			3
	Aggravated by Exposure.		skin, respiratory system, liver, bloc		FLAMMA	BII ITY		0
			function may be more susceptible	e to the effects of this			<u> </u>	
		substance.				L HAZARD		2
					PROTECT	TIVE EQUIP	MENT	H
					EYES	SKIN	LUNGS	
1.8	Notes to Physician:	should be co	ontains <u>Selenious Acid</u> and is potidered in asymptomatic or minimal ti-organ failure may occur. 24/7 me	ly symptomatic patients	EYES d even in sm s as delayed	SKIN nall amounts. I toxic effects	LUNGS 24-hour actincluding pu	dmissio ulmona
4.8	Notes to Physician:	should be co	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 me	ly symptomatic patients dical toxicology consulta	EYES d even in sm s as delayed	SKIN nall amounts. I toxic effects	LUNGS 24-hour actincluding pu	dmissio ulmona
	Notes to Physician:  Fire & Explosion Hazards:	should be concederated and a should be conced	idered in asymptomatic or minimal	ly symptomatic patients dical toxicology consults	EYES d even in sm s as delayed ation is availa	SKIN nall amounts. I toxic effects able at +1 (85	LUNGS 24-hour ac including pu 5) 281-1742.	ılmona
5.1		Non-flamma with air. Ma	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release	ly symptomatic patients dical toxicology consults <b>MEASURES</b> hydrogen gas, which	EYES d even in sm s as delayed ation is availa	SKIN nall amounts. I toxic effects able at +1 (85	LUNGS 24-hour ac including pu 5) 281-1742.	dmissio ulmona
5.1	Fire & Explosion Hazards:	Non-flamma with air. Ma Use fire-exti As with any approved or as for surr degradation and/or deriva	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release tensity fire; oxidizer. ishing media appropriate for surrous, firefighters should wear appropriatuivalent self-contained breathing and ding materials. Hazardous decay produce oxides of carbon, phoses. Fire should be fought from a sale	ly symptomatic patients dical toxicology consults were supported by the support of the support o	EYES d even in sm s as delayed ation is availa  can form exp  nt including a rotective clot may be rela d/or nitroger ainers cool un	skin mall amounts. I toxic effects able at +1 (85  colorsive mixture a MSHA/NIO thing. Fight file eased. Therr n, hydrocarbo ntil well after	LUNGS  24-hour are including put 5) 281-1742.  res  SH res nall ons the	dmissio ulmona
5.1	Fire & Explosion Hazards:  Extinguishing Methods:	Non-flamma with air. Ma Use fire-exti As with any approved or as for surridegradation and/or derivatire is out.	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release tensity fire; oxidizer.  ishing media appropriate for surrous, firefighters should wear appropriate uivalent self-contained breathing and ding materials. Hazardous decay produce oxides of carbon, phoses. Fire should be fought from a sat water spray to cool fire-exposed strom fire control or dilution from en	ly symptomatic patients dical toxicology consults were also by drogen gas, which and materials.  The protective equipment operatus (SCBA) and promposition products resphorous, selenium and the distance. Keep contact of the protect	eyes d even in sm s as delayed ation is availa  can form exp  nt including a rotective clot may be rele d/or nitroger ainers cool un personal. Fi	skin mall amounts. I toxic effects able at +1 (85  plosive mixtur  a MSHA/NIO thing. Fight file eased. Therr h, hydrocarbo ntil well after ight fire upwir	LUNGS  24-hour ac including put 5) 281-1742.  res  SH res nal ons the nd.	dmissiona ulmona
5.1	Fire & Explosion Hazards:  Extinguishing Methods:	Non-flamma with air. Ma Use fire-exti As with any approved or as for surridegradation and/or derivatire is out. Uprevent rune	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release tensity fire; oxidizer.  ishing media appropriate for surrous, firefighters should wear appropriate uivalent self-contained breathing and ding materials. Hazardous decay produce oxides of carbon, phoses. Fire should be fought from a sat water spray to cool fire-exposed strom fire control or dilution from en	ly symptomatic patients dical toxicology consultated toxicology consultated toxicology consultated toxicology consultated toxicology and possible toxi	eyes deven in sm s as delayed ation is availa  can form exp  int including a protective clot may be rele d/or nitroger ainers cool un personal. Fi drinking wate	skin mall amounts. I toxic effects able at +1 (85  plosive mixtur  a MSHA/NIO thing. Fight file eased. Therr h, hydrocarbo ntil well after ight fire upwir	LUNGS  24-hour ac including put 5) 281-1742.  res  SH res nal ons the nd.	dmissiona ulmona
5.1	Fire & Explosion Hazards:  Extinguishing Methods:	Non-flamma with air. Ma Use fire-exti As with any approved or as for surredegradation and/or derivatire is out. Use revent rune natural wate  Before clea Equipment (apron, boots	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release tensity fire; oxidizer. ishing media appropriate for surrous, firefighters should wear appropriativalent self-contained breathing and ding materials. Hazardous decay produce oxides of carbon, phoses. Fire should be fought from a sat water spray to cool fire-exposed strom fire control or dilution from entry.  ACCIDENTAL RELEAGE any spill or leak, individuals in E). Use safety glasses or safety gree, to prevent skin contact.	ly symptomatic patients dical toxicology consultated dical	eyes d even in sm s as delayed ation is availa can form exp nt including a rotective clot may be rele d/or nitroger ainers cool ur personal. Fi drinking wate	SKIN mall amounts. I toxic effects able at +1 (85  plosive mixture a MSHA/NIO thing. Fight fire eased. Therm n, hydrocarbo ntil well after ight fire upwin r supply, or a	LUNGS  24-hour ac including puts) 281-1742.  res  SH res mal ons the ind. any  Personal Petective clothic	dmissiculmona ulmona z
5.1 5.2 5.3	Fire & Explosion Hazards:  Extinguishing Methods:  Firefighting Procedures:	Non-flamma with air. Ma Use fire-extire As with any approved or as for surredegradation and/or derivatire is out. I Prevent runce natural wate  Before clea Equipment (apron, boots Small Spills inert material	idered in asymptomatic or minimal ti-organ failure may occur. 24/7 mer  5. FIREFIGHTING I  May react with metals to release tensity fire; oxidizer. ishing media appropriate for surrous, firefighters should wear appropriativalent self-contained breathing and ding materials. Hazardous decay produce oxides of carbon, phoses. Fire should be fought from a sat water spray to cool fire-exposed strom fire control or dilution from entry.  ACCIDENTAL RELEAGE any spill or leak, individuals in E). Use safety glasses or safety grant failure may occur and the same failure for the same failure fail	ly symptomatic patients dical toxicology consultated dical	eyes d even in sm s as delayed ation is availa can form exp nt including a protective clot may be rele d/or nitroger ainers cool un personal. Fi drinking wate  b must wear use gloves a d protective e e into a conta	SKIN  nall amounts. I toxic effects able at +1 (85  plosive mixture a MSHA/NIO thing. Fight fire ased. Therr n, hydrocarbo ntil well after ight fire upwir r supply, or a r appropriate and other pro-	LUNGS  24-hour ac including puts) 281-1742.  res  SH res mal ons the ind. any  Personal Petective clothic e a non-comdisposal.	dmissi ulmona z



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7.1	Work & Hygiene Practices:	Avoid breathing mists or spranger of the reach of children. Do expose to heat and flame. Undecontaminate any spills or response.	not eat, drink o Jse only in ve	r smoke	when han	dling this	product.	Wash the	oroughly	after ha	andling. Do no
7.2	Storage & Handling:	Use and store in a cool, dr sunlight. Store in acid-resist (120 °F). Keep away from in	ant containers	. Keep o	ontainers of	covered v	vhen not i	n use. A	void tem	perature	es above 40 °C
7.3	Special Precautions:	Avoid breathing mists or spranger of the reach of children. Do expose to heat and flame. I decontaminate any spills or response.	ay. Avoid eye a not eat, drink o Jse only in ve	and skin or smoke	contact. W when han	ear prote	ctive equi product.	pment wh Wash th	nen hand oroughly	lling pro after ha	duct. Keep ou andling. Do no
		8. EXPOSURE CO	NTROLS	& PE	RSON	AL PF	ROTEC	TION			
3.1	Exposure Limits:		AC	GIH		NOHSC			OSHA		OTHER
	ppm (mg/m³)	OUEMICAL NAME(O)	T1.1/	OTEL	50 TMA	ES-	ES-	DEL	OTE		
		CHEMICAL NAME(S) CUPRIC SULFATE	TLV (1)	STEL NA	ES-TWA NF	STEL NF	PEAK NF	PEL (1)	STEL NA	1000	
		SELENIOUS ACID	(1)			NF NF	NF NF	(1)		NA	+
			(0.2)	NA (0)	(0.2)			(0.2)	NA		
		PHOSPHORIC ACID	(1)	(3)	NF	NF	NF	NA	NA	1000	<u> </u>
		NICKEL SULFATE	(0.1)	NA	NF	NF	NF	(1)	NA	NA	L
8.2	Ventilation & Engineering Controls:	Use local or general exhaus handling of this product. E wash station).									
8.3	Respiratory Protection:	In instances where vapors o use only protection authorize CAS Standard Z94.4-93 an Australia.	ed by 29 CFR §	§1910.13	4, applicab	le U.S. S	state regul	ations, or	the Can	adian	
8.4	Eye Protection:	Safety glasses with side shi shield is also recommended.	elds must be u	used who	en handling	g or usin	g this pro	duct. A p	orotective	e face	
8.5	Hand Protection:	Wear protective, chemical-re	sistant gloves	(e.g., ne	oprene) wh	en using	or handlir	ng this pr	oduct.		
8.6	Body Protection:	A chemical resistant apron product.	and/or protect	ive cloth	ing are re	commen	ded when	handling	or usin	g this	
		9. PHYSIC	AL & CH	EMIC	AL PRO	OPER'	TIES				
9.1	Appearance:	Clear, blue liquid									
9.2	Odor:	Odorless									
9.3	Odor Threshold:	NA									
9.4	pH:	< 1.0									
9.5	Melting Point/Freezing Point:	NA									
9.6	Initial Boiling Point/Boiling	> 100 °C (> 212 °F)									
9.7	Range: Flashpoint:	NA									
9.8	Upper/Lower Flammability										
	Limits:	NA									
9.9	Vapor Pressure:	NA									
9.10	Vapor Density:	< 1.0 (air = 1.0)									
9.11	Relative Density:	1.099									
9.12	Solubility:	Complete (water)									
9.13	Partition Coefficient (log Pow):	NA									
9.14	Autoignition Temperature:	NA									
9.15	Decomposition Temperature:	NA									
9.16	Viscosity:	NA									
9.17	Other Information:	Evaporation Rate: < 1.0 (eth)	yl ether = 1.0)								
				·	EAOTU	//=>/					
10.4	Chability i		STABILIT	r & K	EACII	VIIY					
10.1	Stability:	Stable at normal temperature									.,
10.2	Hazardous Decomposition Products:	Reaction with organics and decomposition may produce									
10.3	Hazardous Polymerization:	Will not occur.									
10.4	Conditions to Avoid:	Excessive heat.									
10.5	Incompatible Substances:	Cyanides, water-reactive su	hetaneae etro	na redu	ring agent	e chlorin	cala hater	nere or e	anitizers	comb	ustible organi



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Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision Date: 3/14/2017 SDS Revision: 2.0 11. TOXICOLOGICAL INFORMATION Absorption: YES Routes of Entry 11 1 Inaestion: YES 11.2 Toxicity Data: Solution: LD<sub>50</sub> (oral, rat) = 1,030 mg/kg; Phosphoric Acid: LD<sub>50</sub> (oral, rat) = 1,530 mg/kg; LD<sub>50</sub> (oral, rat) = 4,640 mg/kg; Nickel Sulfate:  $LD_{50}$  (oral, rat) = 361 mg/kg;  $LC_{50}$  (4h, rat) = 2.48 mg/L; Fluoboric Acid:  $LD_{50}$  (oral, rat) – 100 mg/kg; 11.3 Acute Toxicity: See Section 4.4 See Section 4.5 11.4 Chronic Toxicity Suspected Carcinogen: 11.5 Nickel Sulfate is listed as a human carcinogen (IARC Group 1, NTP) 11.6 Reproductive Toxicity: This product is not reported to cause reproductive toxicity in humans. Mutagenicity: This product is not reported to produce mutagenic effects in humans. Embryotoxicity This product is not reported to produce embryotoxic effects in humans. Teratogenicity This product contains nickel sulfate, which is reported to cause teratogenic effects in humans Reproductive Toxicity: This product is not reported to cause reproductive effects in humans. Irritancy of Product: 117 See Section 4.2 Biological Exposure Indices: 118 NE 11.9 Physician Recommendations: Treat symptomatically 12. ECOLOGICAL INFORMATION 12.1 Environmental Stability: No data available 12.2 Effects on Plants & Animals: No data available Effects on Aquatic Life: 12.3 Very toxic to aquatic life with long lasting effects. Phosphoric Acid: EC<sub>50</sub> (Daphnia magna, 12h) = 4.6 mg/L 13. DISPOSAL CONSIDERATIONS 13 1 Waste Disposal: Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 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. Special Considerations: U.S. EPA Hazardous Waste - Characteristic - Corrosive (D002), Characteristic - Toxic (D010) 13 2 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. 49 CFR (GND): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L) IATA (AIR): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, 14.2 PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 0.1 L) UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, IMDG (OCN): 14.3 PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L) 14.4 TDGR (Canadian GND): UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L) ADR/RID (EU): 14.5 UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L) SCT (MEXICO): 14 6 UN3264, LIQUIDOS, CORROSIVOS, ACIDO, INORGANICO, N.E.P. (ACIDO SELENIO, ACIDO FOSFORICO), 8, II, (CANTIDAD LIMITADA, IP VOL ≤ 1.0 L) ADGR (AUS): 14.7 UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID. PHOSPHORIC ACID), 8, II, (LTD QTY, IP VOL ≤ 1.0 L) 15. REGULATORY INFORMATION 15.1 SARA Reporting Requirements: This product contains Selenious Acid, Cupric Sulfate and Phosphoric Acid, substances subject to SARA Title III, section 313 reporting requirements. SARA TPO: 15.2 TSCA Inventory Status: 15.3 The components of this product are listed on the TSCA Inventory. Selenious Acid: 10 lbs (4.54 kg); Cupric Sulfate: 10 lbs (4.54 kg); Phosphoric Acid: 5,000 lbs (2,270 kg) 15.4 CERCLA Reportable Quantity 15.5 Other Federal Requirements 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/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class E (Corrosive Material). WHMIS Class D1 (Materials Causing Immediate and

Serious Toxic Effects).



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		15. REGULATORY INFORMATION – cont'd
15.7	State Regulatory Information:	Selenious Acid is found on the following state criteria lists: Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), Pennsylvania Right-to-Know List (PA), and Wisconsin Hazardous Substances List (WI).  Nickel Sulfate is found on the following state criteria lists: MA, and PA.  Fluoboric Acid is found on the following state criteria lists: NJ.  Phosphoric Acid is found on the following state criteria lists: FL, MA, MN, and PA.  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:	NA NA
		16. OTHER INFORMATION
16.1	Other Information:	DANGER! TOXIC IF SWALLOWED. MAY CAUSE SEVERE SKIN BURNS OR EYE DAMAGE. MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. Keep/Store away from clothing/ combustible materials. Avoid release to the environment. P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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 & Precision Brand Products, Inc.'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:	Precision Brand Products, Inc. 2250 Curtiss Street Downers Grove, IL 60515 USA Tel: +1 (630) 969-7200 Fax: +1 (630) 969-0310 http://www.precisionbrand.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



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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

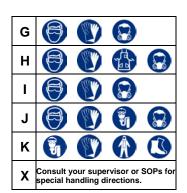
#### **HEALTH, FLAMMABILITY & REACTIVITY RATINGS:**

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



#### PERSONAL PROTECTION RATINGS:

Α			
В			
С		THE STATE OF THE S	
D	(ELL)	THE THE	
Ε			
F		THE SECOND	





#### OTHER STANDARD ABBREVIATIONS:

Carc	Carcinogenic
	Ÿ
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

FLAMMABILI	FLAMMABILITY LIMITS IN AIR:				
Autoignition Minimum temperature required to initiate combustion in air with no other sour of ignition					
LEL Lower Explosive Limit - lowest percent of vapor in air, by volume, that 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	FLAMMABILITY
1	Slight Hazard	\
2	Moderate Hazard	REACTIVITY
3	Severe Hazard	
4	Extreme Hazard	
ACD	Acidic	
ALK	Alkaline	
COR	Corrosive	/ <b>Y W Y</b>
W	Use No Water	HEALTH
ох	Oxidizer	SPECIAL
TREFOIL	Radioactive	PRECAUTIONS

#### TOXICOLOGICAL INFORMATION:

Lethal Dose (solids & liquids) which kills 50% of the exp LC 50 Lethal concentration (gases) which kills 50% of the exp ppm Concentration expressed in parts of material per million TD 10 Lowest dose to cause a symptom	osed animal
ppm Concentration expressed in parts of material per million	
	parts
TD <sub>Io</sub> Lowest dose to cause a symptom	
TCLo Lowest concentration to cause a symptom	
TD <sub>Io</sub> , LD <sub>Io</sub> , & LD <sub>o</sub> or Lowest dose (or concentration) to cause lethal or toxic	effects
TC, TC <sub>o</sub> , LC <sub>io</sub> , & LC <sub>o</sub>	
IARC International Agency for Research on Cancer	
NTP National Toxicology Program	
RTECS Registry of Toxic Effects of Chemical Substances	
BCF Bioconcentration Factor	
TL <sub>m</sub> Median threshold limit	
log 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	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:

0	<b>*</b>	<b>(2)</b>		$\odot$	(4)		
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:

	<b>*</b>		$\Diamond$			<b>\_</b>		*
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment