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BC-002 Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, GHS & 1272/2008/EC Standards SDS Revision: 2.2 SDS Revision Date: 11/29/2018 1. PRODUCT & COMPANY IDENTIFICATION 1 1 Product Name PRESTO® GUN BLUE PEN 1.2 Chemical Name: Acid Mixture 1.3 Synonyms 13201 Trade Names: 1.4 Presto® Gun Blue Pen Product Use: 1.5 Metal Finishing Distributor's Name: 1.6 Birchwood Casey, LLC Distributor's Address: 3260 Winpark Drive, New Hope, MN., 55427 USA 1.7 1.8 Emergency Phone: ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (866) 291-7152 +1 (952) 388-6717 1.9 Business Phone / Fax: 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: 1088 (2004)] and ADG Code (Australia). DANGER! TOXIC IF SWALLOWED. TOXIC IF INHALED. HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS. Classification: Acute Tox.-Oral 3; Acute Tox. -Inh. 3; Aquatic Chronic 3 22 Label Flements: Hazard Statements (H): H301 - Toxic if swallowed. H331 - Toxic if inhaled. H412 - Harmful to aquatic life with long lasting effects. Precautionary Statements (P): P261 - Avoid breathing fume/vapors. P264 - Wash with soap and water thoroughly after handling. P270 - Do not eat, drink, or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P321 -Specific treatments see this container label and section 4 First Aid of this SDS. P330 - Rinse mouth. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P311 - Call a Poison Center +1-866-291-7152/doctor. P403+P233 - Store in a wellventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF) Other Warnings: 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 ppm ppm ppm ES-TI V CHEMICAL NAME(S) CAS No. RTECS No. **EINECS No** STFI TWA STEL PEAK PFI STFI IDI H OTHER 231-791-2 60-100 7732-18-5 ZC0110000 NE NE NF NF NF NE NE NE WATER 7664-38-2 TB6300000 231-633-2 5-10 (1) NA NA 1000 (3) 3 NF PHOSPHORIC ACID Skin Corr. 1B; H314 231-974-7 VS7175000 1-3 (0.2) NA (0.2) NF NF (0.2) NA NA 7783-00-8 SELENIOUS ACID Acute Tox. 3; Acute Tox. 3; Aquatic Acute 1; Aquatic Chronic; H301, H331, H400, H410 7798-23-4 GI7875000 232-254-5 1-3 1 NA NF NA NA **CUPRIC PHOSPHATE** Aquatic Chronic 3; H412 4. FIRST AID MEASURES 4.1 First Aid: DO NOT INDUCE VOMITING. Contact Poison Control Center +1 (866) 291-7152 or the nearest Poison Ingestion: Control Center or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, Eyes: holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately. Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists Skin: and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned. Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial Inhalation: respiration. Seek immediate medical attention. 4.2 Effects of Exposure: Eyes: Severe or permanent eye damage. Skin: Burns upon direct contact.

Ingestion:

Inhalation:

Severe burns of mouth, throat, stomach.

Severe irritation or burns in respiratory tract and mucous membranes. Possible lung damage.



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4.3		4. FIRST					d				
4.5	Symptoms of Overexposure:	Eyes: Redness, burning, Skin: Redness, burning, Ingestion: Nausea, vomiting, Inhalation: Coughing, wheezin	itching, ras severe abo	sh, bliste dominal p	ring of skir pain.	٦.	us memhr	range dif	ficulty br	eathing	
4.4	Acute Health Effects:	May be harmful if inhaled. Ma respiratory tract. May be harmful	terial is e	xtremely	destructi	ve to the	e tissue	of the m	nucous n	nembrane	es and upp
4.5	Chronic Health Effects:	May damage the nervous system				ay 50 .			· uoug	<u> </u>	
1.6	Target Organs:	Eyes, Skin, Nervous System, Kid				em.					
.7	Medical Conditions	Pre-existing dermatitis, other skir						LTH			3
	Aggravated by Exposure:	organs (eyes, skin, and respiratory system) or impaired kidney functi		ey function	on FLA	MMABII	LITY		0		
		may be more susceptible to the e	enects or th	is substa	ance.		PHY	SICAL	HAZARI	DS	1
										IPMENT	E
							EYES		KIN	LUNG	
1.8	Notes to Physician:	This product contains <u>Selenious</u> should be considered in asymptoedema and multi-organ failure ma	omatic or r	minimally	sympton /	atic pati	sted even ents as de	in smal	l amount oxic effec	ts. 24-ho ts includi	our admissi ng pulmona
		5. FIRE	FIGHT	ING N	IEASU	RES					
5.1	Fire & Explosion Hazards:	Non-flammable. May react with	metals to i				ch can for	rm explo	sive mixt	ures	
5.2	Extinguishing Methods:	with air. May intensity fire; oxidize Use fire-extinguishing media app		GUITTOUR	dina mata	riale					
5.3	Firefighting Procedures:	As with any fire, firefighters shot approved or equivalent self-conta as for surrounding materials. degradation may produce oxide	uld wear a ained brea Hazardo	ppropriat thing app us deco	te protection paratus (Simposition	ve equipi CBA) an product	d protectives may b	ve clothir e releas	ng. Fight sed. The	fires rmal	3 1
		and/or derivatives. Fire should be the fire is out. Use water spra upwind. Prevent runoff from fire or any natural waterway.	y to cool t	fire-expo	sed surfa	ces and	to protect	t persona	al. Fight	t fire	
	T =	6. ACCIDEN									
3.1	Spills:	6. ACCIDEN Before cleaning any spill or lea Equipment (PPE). Use safety gl apron, boots, etc.) to prevent skir Small Spills: Wear appropriate p inert material such as vermiculite Large Spills: Keep incompatible or release. Isolate immediate ha done with minimal risk. Wear a Recover as much free liquid as p discharging liquid directly into a se	ak, individing asses or some contact. In the contact of the contac	uals invo afety goo quipmen soak up (e.g., oro and keep protection	olved in s ggles and it including the produ ganics suc o unauthor ve equipm t in acid-re	pill clear face shie g gloves let and pl h as oil) ized pers	nup must eld; use gl and prote- ace into a away fron sonnel out uding resp	ctive eye containe spill. S of area. iratory p	ewear. Uer for late Stay upwi Stop sp rotection	se a non- r disposa ind and a ill or relea as condi	clothing (e.glector) -combustible I. way from seluse if it cantions warra
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	8.	EXPOSURE CONTROLS & PERSONAL PROTECTION – cont'd	
8.3	Respiratory Protection:	In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia.	
8.4	Eye Protection:	Safety glasses with side shields must be used when handling or using this product. A protective face shield is also recommended.	
8.5	Hand Protection:	T	
6.5	nand Protection.	Wear protective, chemical-resistant gloves (e.g., neoprene) when using or handling this product.	
8.6	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 blue liquid	
9.2	Odor:	Odorless	
9.3	Odor Threshold:	0.29 to 0.98 ppm (Nitric Acid)	
9.4	pH:	0.85	
9.5	Melting Point/Freezing Point:	NA NA	
9.6	Initial Boiling Point/Boiling Range:	> 100 °C (> 214 °F)	
9.7	Flashpoint:	NA NA	
9.8	Upper/Lower Flammability Limits:	NA NA	
9.9	Vapor Pressure:	NA NA	
9.10	Vapor Density:	< 1.0 (Air = 1.0)	
9.11	Relative Density:	1.055	
9.12	Solubility:	Soluble	
9.13	Partition Coefficient (log Pow):	NA NA	
9.14	Autoignition Temperature:	NA NA	
9.15	Decomposition Temperature:	NA NA	
9.16	Viscosity:	NA NA	
9.17	Other Information:	Evaporation Rate: < 1.0 (ethyl ether = 1.0)	
		10. STABILITY & REACTIVITY	
10.1	Stability:	Stable at normal temperatures.	
10.2	Hazardous Decomposition Products:	Reaction with organics and strong reducing agents can produce organoselenides and hydrogen seledecomposition may produce selenium, nitrogen, phosphoric and copper oxides.	enide. Therma
10.3	Hazardous Polymerization:	Will not occur.	
10.4	Conditions to Avoid:	Excessive heat, shock, friction.	
10.5	Incompatible Substances:	Cyanides, water-reactive substances, strong reducing agents, chlorinated cleaners or sanitizers, comb materials, most metals.	oustible organic
		11 TOVICOLOGICAL INFORMATION	
11 1	Routes of Entry	11. TOXICOLOGICAL INFORMATION	
11.1	Routes of Entry:	Inhalation: YES Absorption: YES Ingestion: YE	
11.1	Routes of Entry: Toxicity Data:	Inhalation: YES Absorption: YES Ingestion: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification in the control of the cont	_
11.2	Toxicity Data:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg.	_
11.2	Toxicity Data: Acute Toxicity:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4	_
11.2 11.3 11.4	Toxicity Data: Acute Toxicity: Chronic Toxicity:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD 50 (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5	fic literature, is
11.2 11.3 11.4 11.5	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum	fic literature, is
11.2 11.3 11.4	Toxicity Data: Acute Toxicity: Chronic Toxicity:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans.	fic literature, is
11.2 11.3 11.4 11.5	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum	fic literature, is
11.2 11.3 11.4 11.5	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity: Mutagenicity:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans. This product is not reported to produce mutagenic effects in humans.	fic literature, is
11.2 11.3 11.4 11.5	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity: Mutagenicity: Embryotoxicity:	Inhalation: YES Absorption: YES Ingestion: YES Ingestion: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans. This product is not reported to produce mutagenic effects in humans. This product is not reported to produce embryotoxic effects in humans.	fic literature, is
11.2 11.3 11.4 11.5	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity: Mutagenicity: Embryotoxicity: Teratogenicity: Reproductive Toxicity: Irritancy of Product:	Inhalation: YES Absorption: YES Ingestion: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans. This product is not reported to produce mutagenic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause reproductive effects in humans. See Section 4.2	fic literature, is
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11.2 11.3 11.4 11.5 11.6	Toxicity Data: Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity: Mutagenicity: Embryotoxicity: Teratogenicity: Reproductive Toxicity: Irritancy of Product: Biological Exposure Indices:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans. This product is not reported to produce mutagenic effects in humans. This product is not reported to produce embryotoxic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause reproductive effects in humans. See Section 4.2 NE Treat symptomatically.	fic literature, is
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11.2 11.3 11.4 11.5 11.6	Acute Toxicity: Chronic Toxicity: Suspected Carcinogen: Reproductive Toxicity: Mutagenicity: Embryotoxicity: Teratogenicity: Reproductive Toxicity: Irritancy of Product: Biological Exposure Indices: Physician Recommendations:	Inhalation: YES Absorption: YES Ingestion: YES This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientification available for some of the components of the product. Phosphoric Acid: LD ₅₀ (oral, rat) = 1530 mg/kg. See Section 4.4 See Section 4.5 Components in this product are listed by IARC as Group 3 (Not classifiable as to its carcinogenicity to hum This product is not reported to cause reproductive toxicity in humans. This product is not reported to produce mutagenic effects in humans. This product is not reported to produce embryotoxic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause teratogenic effects in humans. This product is not reported to cause reproductive effects in humans. See Section 4.2 NE Treat symptomatically.	fic literature, is



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

SDS Revision: 2.2

SDS Revision Date: 11/29/2018

		13. DISPOSAL CONSIDERATIONS
13.1	Waste Disposal:	Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropria disposal method for the ingredients listed in Section 2. Any disposal practice must be in compliance with local, state, a federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage a 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), Characteristic - Toxic (D010)
		14. TRANSPORTATION INFORMATION
		proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive informat ICAO, IMDG and the CTDGR.
14.1	49 CFR (GND):	UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACIDS), 8, II, LTD QTY (IP VOL ≤ 1.0 L) CONSUMER COMMODITY
14.2	IATA (AIR)*:	UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACIDS), 8,II, LTD QTY (IP VOL ≤ 0.1 L)
14.3	IMDG (OCN):	UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACIDS), 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 ACIDS), 8, II, LTD QTY (IP VOL ≤ 1.0 L)
14.5	ADR/RID (EU):	UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACIDS), 8, II, LTD QTY (IP VOL ≤ 1.0 L)
14.6	SCT (MEXICO):	UN3264, LIQUIDOS, CORROSIVOS, ACIDO, INORGANICO, N.E.P. (ACIDO SELENIO, ACIDO NITRICO), 8, II, CANTIDAD LIMITADA (IP VOL ≤ 1.0 L)
14.7	ADGR (AUS):	UN3264, CORROSIVE LIQUIDS, ACIDIC, INORGANIC, N.O.S. (SELENIOUS ACID, PHOSPHORIC ACIDS), 8, II, LTD QTY (IP VOL ≤ 1.0 L)
		15. REGULATORY INFORMATION
15.1	SARA Reporting Requirements:	This product contains <u>Cupric Sulfate</u> , <u>Selenious Acid</u> and <u>Phosphoric Acid</u> , substances subject to SARA Title III, Sect 313 reporting requirements.
15.2	SARA TPQ:	NA NA
15.3	TSCA Inventory Status:	The components of this product are listed on the TSCA Inventory.
15.4	CERCLA Reportable Quantity:	Selenious Acid: 10 lbs (4.54 kg); Cupric Sulfate: 10 lbs (4.54 kg); Phosphoric Acid: 5,000 lbs (2,270 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 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).
15.7	State Regulatory Information:	Selenious Acid is found on the following state criteria lists: Florida Toxic Substances List (FL), Massachuse Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), Pennsylvania Right-to-Know List (P and Wisconsin Hazardous Substances List (WI). 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 followis state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida To: Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (M Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substance List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardo 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



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		16. OTHER INFO	DRMATION
DANGER! TOXIC IF SWALLOWED. TOXIC IF INHALED. HARMFUL TO AQUATIC LIFE WITH L EFFECTS. May be fatal if swallowed or harmful if inhaled. Keep away from clothing and other combu Avoid breathing fume/vapors. Wash with soap and water thoroughly after handling. Do not eat, drink, using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. KEEP LOCKED UP AND 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 & Birchwood Casey LLC 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, a component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.	
16.4	Prepared for:	Birchwood Casey, LLC 3260 Winpark Drive New Hope, MN 55427 USA Tel: +1 (952) 388-6717 Email: customerservice@birchwoodcasey.com http://www.birchwoodCasey.com	BIRCHWOOD CASEY
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

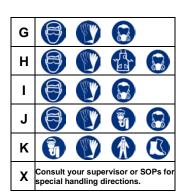
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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



PERSONAL PROTECTION RATINGS:

Α			
В			
С		THE STATE OF THE S	
D		THE STATE OF THE S	
Е			
F		TH.	





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

FLAMMABILI	FLAMMABILITY LIMITS IN AIR:		
Autoignition	Minimum temperature required to initiate combustion in air with no other source		
Temperature	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	FLAMMABILITY
1	Slight Hazard	\ \ \ \ \
2	Moderate Hazard	REACTIVITY
3	Severe Hazard	
4	Extreme Hazard	
ACD	Acidic	
ALK	Alkaline	
COR	Corrosive	/ \ \ \ \
₩	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}	TD _{lo} Lowest dose to cause a symptom			
TCLo	Lowest concentration to cause a symptom			
TD _{Io} , LD _{Io} , & LD _o or	b, & LDo 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	Canadian Priority Substances List			
TSCA	U.S. Toxic Substance Control Act			
EU	U European Union (European Union Directive 67/548/EEC)			
WGK	Wassergefährdungsklassen (German Water Hazard Class)			

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

0	®			Θ	(%)		
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:

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