

Page 1 of 6 **BTI-015**

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 2.1

SDS Revision Date: 6/3/2021

											-			ate. 0/3/2021
		1.	. PRODUC	CT & CON	/IPAN	/ IDE	NTII	FICA	TIO	N				
1.1	Product Name:		/IP® 2 nd Ge											
1.2	Chemical Name:				<u> </u>									
1.3	Synonyms:		Sodium Hydroxide Solution /Sodium Nitrate 611451, 611458, 611490											
1.4	Trade Names:		Tru Temp® 2 nd Gen											
1.5	Product Use:		Solution for blackening iron and steel											
1.6	Distributor's Name:		aboratories LLC	0.00.										
1.7	Distributor's Address:	7900 Fuller F	Road, Eden Prair	ie, MN 55344	USA									
1.8	Emergency Phone:		+1 (800) 424-9	•		887 or	Poise	on Co	ntrol	Cent	er +	1 (855) 281-	1742
1.9	Business Phone / Fax:		7-7900 / +1 (952)											
			•											
0.4	11 11 65 6			<u>AZARDS</u>										
2.1	Hazard Identification:						ndards	. Inte	nded to	o con	nply v	vith OS	SHA 29	CFR 1910.1200
			HMIS and Austra			-	MACE							
		_	CAUSES SEVEN 1: Skin Corrosion 1		NO AND	I E DA	WAGE	-						
2.2	Label Elements:		ements (H): H31	,	vere skin	hurne ai	nd eve	dama	nne					
			y Statements (P							hand	s and	expose	ed	
		skin areas w	rith soap water a	, after handling.	P280 - \	Vear pro	otectiv	e glov	es/ pro	tectiv	e clot	thing/ey	уe	
		protection/fac	ce protection. P	301+P330+P3	31 – IF	SWALLO	OWED	: Rins	e mout	h. Do	ON c	T indu	ce	
			03+P361+P353 -											
			ith water [or sho : Remove perso											
			N CENTER/doc											
			r container label											
			move contact ler							405 -	Stor	re locke	ed	
2.3	Other Wernings		ispose of conten						•					
2.3	Other Warnings:		of an exposure nay seek advice											cal poison contro
		Ceriter, who i	nay seek advice	nom the 0.5.	manulac	iurer, arr	iu silo	w uicii	1 11113 0	DO. 1	Кеер	out or i	Cacii o	i cilialen.
		3 (COMPOSIT	ION & IN	GRFF	IENT	INF	OR	ΜΔΤ	ION	I			
			<u> </u>		<u> </u>			<u> </u>				IN AIR (n	ng/m³)	
						ACG	ilH	I	NOHSC			OSHA		
						ppn	n		ppm			ppm		_
CHEMIC	CAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	TLV	STEL	ES- TWA		ES- PEAK	PEL	STEL	IDLH	OTHER
WATER		7332-18-5	ZC0110000	231-791-2	50-80	NE	NE	NF		NF	NE	NE	NE	
VAIL	IX.		1	_	_								1	Ţ
SODIU	JM HYDROXIDE	1310-73-2	WB4900000	215-185-5	10-30	(2)	NA	(2)	NF	NF	(2)	NA	(10)	(2) NIOSH
		Skin Corrosion 7631-99-4	1A; H314, WC5600000	231-554-3	2-8	10	NA	10	NF	NF	15	NA	NA	
SODIU	JM NITRATE		3; Eye Irritant 2; H		2-0	10	INA	10	INF	INF	13	INA	INA	
				231-598-3	2-10	NA	NA	NF	NF	NF	NA	NA	NA	
30DIU	JM CHLORIDE	Eye Irritation 2;							INF I					
		Lyc iiiiaaaoii 2,	11010			<u> </u>			INF					
SODILI	IM NITRITE	7632-00-0	RA1225000	231-555-9	1-5	NA	NA	NF		NF	NA	NA	NA	
30DIU	JM NITRITE	7632-00-0			1-5								NA	
SODIU	JM NITRITE	7632-00-0	RA1225000 3; Eye Irritant 2; H	272, H319	•	NA	NA	NF					NA	
		7632-00-0 Oxidizing Solid	RA1225000 3; Eye Irritant 2; H	272, H319 FIRST A	ID ME	NA ASUI	NA RES	NF	NF	NF	NA	NA		
SODIU 4.1	JM NITRITE First Aid:	7632-00-0	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU	FIRST A	ID ME	NA ASUI	NA RES	NF	NF	NF	NA or the	NA NA neare	st Pois	
		7632-00-0 Oxidizing Solid	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU or local emerg	FIRST A JCE VOMITIN ency telephon	ID ME	NA NA ASUI	RES	NF NF 1 (855	NF N	NF 1742 ons.	NA or the	NA NA neare-	st Pois	edical attention. If
		7632-00-0 Oxidizing Solid Ingestion:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU or local emerg vomiting occur	FIRST A JCE VOMITIN ency telephon rs spontaneou	ID ME G. Conta e number sly, keep	NA NA SAFETY OF THE PROPERTY O	RES yCall +	NF -1 (855) e and i	NF 5) 281-7 nstruction d (forw	NF 1742 ons. ard) t	NA or the Seek o red	NA nearer immeduce the	st Poise	edical attention. If aspiration.
		7632-00-0 Oxidizing Solid	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU or local emerg vomiting occur If product gets	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes,	ID ME G. Conta e number sly, keep flush eye	ASUI ct Safety for assi- victim's s thorou	RES yCall + istance head I	NF 1 (855) e and in owere with co	NF 5) 281-7 nstruction of (forward) opious (forward)	NF 1742 ons. ard) t	or the Seek o redi	NA neare immeduce the f water	st Poise liate me risk of	edical attention. If aspiration. If least 15 minutes,
		7632-00-0 Oxidizing Solid Ingestion:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU or local emerg vomiting occur If product gets holding eyeliduse, consult a	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en-	G. Conta e number sly, keep flush eye sure com	NA SASUI ct Safety for assistivictim's s thorouplete flusty room in	RES yCall + istance head I ughly v shing. mmed	NF 1 (855 e and in owere with could lift the iately.	NF 5) 281-7 nstructi d (forw	I742 ons. ard) t	or the Seek o redunts of	NA neare immeduce the f water ome sw	st Poise liate me risk of for at vollen o	edical attention. If aspiration. least 15 minutes, luring or following
		7632-00-0 Oxidizing Solid Ingestion:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDU or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en physician or e	G. Contare number sly, keep flush eye sure commergencing and w	NA ASUI Ct Safety for assivictim's s thorouplete flus y room in ash affe	RES yCall + istance head I ughly v shing. mmed ected a	NF 1 (855) e and in owere with color lf the iately.	NF S) 281- nstruction of (forwopious are eyes of continuous)	NF 1742 ons. ard) tamour face	or the Seek o redunts or	NA neare- immeduce the f water ome sweer. If d	st Poise liate me risk of for at vollen c	edical attention. If aspiration. least 15 minutes, luring or following ort persists and/or
		7632-00-0 Oxidizing Solid Ingestion: Eyes:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en- physician or e aminated cloth on worsens, c	G. Contare number sly, keep flush eye sure commergencing and w	NA ASUI Ct Safety for assivictim's s thorouplete flus y room in ash affe	RES yCall + istance head I ughly v shing. mmed ected a	NF 1 (855) e and in owere with color lf the iately.	NF S) 281- nstruction of (forwopious are eyes of continuous)	NF 1742 ons. ard) tamour face	or the Seek o redunts or	NA neare- immeduce the f water ome sweer. If d	st Poise liate me risk of for at vollen c	edical attention. If aspiration. least 15 minutes, luring or following ort persists and/or
		7632-00-0 Oxidizing Solid Ingestion: Eyes: Skin:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti has been prop	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en- physician or e aminated cloth on worsens, c perly cleaned.	G. Contare number sly, keep flush eye sure commergencing and wontact a property of the contact a property of the contact a property of the contact approximate the contact app	NA SASULT Safety for assivictim's sthorouplete flus y room in ash affe bhysiciar	RES yCall + istance head I ughly v shing. mmed ected an imme	NF 1 (855) 2 and income owere with control of the intelly. It is a reasy we diately.	NF S) 281-7 nstruction of forward of forward of forward of the second	NF 1742 ons. ard) t amou or face of we	or the Seek o redunts or e become become	neared immediace the f water ome sweet. If distance in the immediace in th	st Poise liate me risk of for at vollen c iscomfo ated cle	edical attention. If aspiration. least 15 minutes, during or following ort persists and/or othing until after it
		7632-00-0 Oxidizing Solid Ingestion: Eyes:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti has been prop Remove perso	FIRST A JCE VOMITIN ency telephon s in the eyes, (s) open to en- physician or en- aminated cloth on worsens, co- perly cleaned. on to fresh air a	G. Contare number sly, keep flush eye sure commergencing and wontact a pund keep o	NA SASUI et Safety for assi- victim's s thorou- plete flus y room in ash affe physician	RES yCall + istance head I ughly v shing. mmed ected an imme	NF 1 (855 e and i owere with confidered in the iately. Irreas wediately breattern in the iately of t	NF 5) 281-7 nstructi d (forw opious a eyes o vith soa y. Do n ning. U	NF 1742 ons. ard) t amou or face of we	or the Seek o redunts or e become become	neared immediace the f water ome sweet. If distance in the immediace in th	st Poise liate me risk of for at vollen c iscomfo ated cle	edical attention. If aspiration. least 15 minutes, during or following ort persists and/or othing until after it
4.1	First Aid:	7632-00-0 Oxidizing Solid Ingestion: Eyes: Skin: Inhalation:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti has been prop Remove perso perform artifici	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en- physician or e aminated cloth on worsens, c erly cleaned. on to fresh air a ial respiration.	G. Contare number sly, keep flush eye sure commergencing and wontact a pand keep contact a pand keep contact a grand keep contact a gra	NA SUICT Safety for assivictim's s thorouplete flus y room in ash affe ohysician comforta mediate	RES yCall + istance head I ughly v shing, mmedi ected a n imme	NF 1 (855) and it owere with confidently. If the itately. It reas we diately are at the ital atternal	NF 5) 281-7 nstruction of (forward) opious are eyes of the composition	NF 1742 ons. ard) tamous r face of we	or the Seek o redi nts or e beco	neared immediace the f water ome sweet. If distance in the immediace in th	st Poise liate me risk of for at vollen c iscomfo ated cle	edical attention. If aspiration. least 15 minutes, during or following ort persists and/or othing until after it
		7632-00-0 Oxidizing Solid Ingestion: Eyes: Skin: Inhalation: Ingestion:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti has been prop Remove perso perform artifici May be harmfi	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en- physician or e aminated cloth on worsens, c erly cleaned. on to fresh air a ial respiration. ul if swallowed	G. Contare number sly, keep flush eye sure commergencying and wontact a pand keep contact a pand keep cont	NA SUICT Safety for assivictim's s thorouplete flus y room in ash affe ohysician comforta mediate	RES yCall + istance head I ughly v shing, mmedi ected a n imme	NF 1 (855) and it owere with confidently. If the itately. It reas we diately are at the ital atternal	NF 5) 281-7 nstruction of (forward) opious are eyes of the composition	NF 1742 ons. ard) tamous r face of we	or the Seek o redi nts or e beco	neared immediace the f water ome sweet. If distance in the immediace in th	st Poise liate me risk of for at vollen c iscomfo ated cle	on Control Centeredical attention. If aspiration. least 15 minutes, during or following ort persists and/or othing until after it if breathing stops
4.1	First Aid:	7632-00-0 Oxidizing Solid Ingestion: Eyes: Skin: Inhalation:	RA1225000 3; Eye Irritant 2; H 4. DO NOT INDL or local emerg vomiting occur If product gets holding eyelid use, consult a Remove conta the skin reacti has been prop Remove perso perform artifici	FIRST A JCE VOMITIN ency telephon rs spontaneou s in the eyes, (s) open to en physician or e aminated cloth on worsens, c perly cleaned. on to fresh air a al respiration. ul if swallowed manent eye da	G. Contare number sly, keep flush eyes sure commergencing and wontact a pand keep contact a pand keep contact a grand keep contact a gr	NA SUICT Safety for assivictim's s thorouplete flus y room in ash affe ohysician comforta mediate	RES yCall + istance head I ughly v shing, mmedi ected a n imme	NF 1 (855) and it owere with confidently. If the itately. It reas we diately are at the ital atternal	NF 5) 281-7 nstruction of (forward) opious are eyes of the composition	NF 1742 ons. ard) tamous r face of we	or the Seek o redi nts or e beco	neared immediace the f water ome sweet. If distance in the immediate in th	st Poise liate me risk of for at vollen c iscomfo ated cle	edical attention. If aspiration. least 15 minutes, during or following ort persists and/or othing until after it



Page 2 of 6 **BTI-015**

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 2.1

SDS Revision Date: 6/3/2021

		4. FIRS	ST AID M	EASL	RES -	cont'	d				
4.3	Symptoms of Overexposure:	Eyes: Redness, burni Skin: Redness, burni Ingestion: Nausea, vomitii	ng, itching, ra	sh, bliste	ring of skir						
		Inhalation: Coughing, whee	-			in mucou	us membra	nes, diffi	culty brea	athing.	
1.4	Acute Health Effects:	May be harmful if inhaled. Mate tract. Severe burns of mouth, the	erial is extren	nely dest	uctive to t	he tissue	of the mu	icous me	embranes		er respirato
1.5	Chronic Health Effects:	May damage the lungs. May ca	ause severe c	r permar	ent eye da	amage.					
.6	Target Organs:	Eyes, Skin, Lungs (Corrosive).									
.7	Medical Conditions Aggravated by Exposure:	Pre-existing dermatitis, other sk					HEALT				3
		organs (eyes, skin, and respiratory system) or impaired kidney function may be more susceptible to the effects of this substance.			FLAMM	ABILIT'	Y		0		
		,					PHYSIC	AL HAZ	ZARDS		1
							PROTE	CTIVE E	EQUIPM	IENT	В
							EYES	SKIN	l L	UNGS	
			REFIGHT	TINIC I	AE A CL	IDEC					
.1	Fire & Explosion Hazards:	Non-flammable. May react with					can form 6	evnlosive	mixtures	2	
	·	with air.						эхріооічо	THIALUTO		
.2	Extinguishing Methods:	Use fire-extinguishing media ap									
3	Firefighting Procedures:	As with any fire, firefighters she approved or equivalent self-cor as for surrounding materials.	itained breath	ing appa	ratus (SCE	BA) and p	rotective o	Jothing. F	Fight fires	s 🚄	3 1
		degradation may produce oxid	es of carbon	and/or	nitrogen, h	ydrocarb	ons and/c	r derivat	ives. Fire	9	Y
		should be fought from a safe di									\checkmark
		spray to cool fire-exposed surfa control or dilution from entering									
		6. ACCID	FNTAL F	RFI FA	SF ME	-ASU	RFS				
.1	Spills:	Before cleaning any spill or leal						oropriate	Persona	l Protecti	ve Fauipme
		Small Spills: Wear appropriate material such as vermiculite or Large Spills: Keep incompatible or release. Isolate immediate done with minimal risk. Wea Recover as much free liquid a discharging liquid directly into a	sand to soak le materials (e hazard area a r appropriate as possible ar	up the pre- e.g., acid- and keep protective ad collect	oduct and s, powdere unauthorii re equipm in acid-re	place int d metals zed pers ent inclu	o a contain) away fro onnel out ding respi	ner for lat m spill. S of area. ratory pr	ter dispos Stay upw Stop spil otection	sal. ind and a Il or relea as condi	way from s se if it can tions warra
		7. HANDLII	NG & ST	ORAG	F INF	ORMA	TION				
.1	Work & Hygiene Practices:	Avoid breathing mists or spray. the reach of children. Do not ea to heat and flame. Use only in vany spills or residues.	Avoid eye ar t, drink or smo	d skin co oke when	ntact. Wea	ar protec his produ	tive equipr uct. Wash	thorough	ıly after h	andling.	Do not expo
.2	Storage & Handling:	Use and store in a cool, dry, we Store in acid-resistant containe Keep away from incompatible s	rs. Keep cor	ntainers o	covered wh	nen not i	n use. Av	oid temp	eratures	above 4	U
.3	Special Precautions:	Empty containers may retain ha	,			toot com	amers non	ii piiysica	ii damage	J.	
	o	EXPOSURE CONTR		DEDE	TAIAL D	DDOT	ECTIO	N or	antid		
	Exposure Limits:	EXPOSURE CONTR		GIH	JNAL I	NOHSC	ECTIO	N - CC	OSHA		OTHER
1	ppm (mg/m³)					ES-	ES-				
1	FF (3)	CHEMICAL NAME(S)	TLV	STEL	ES-TWA	STEL	PEAK NF	PEL 15	STEL NA	IDLH NA	
1	FF (iiig.iii)			NΔ	10	I N⊢					
1	FF(g)	SODIUM NITRATE SODIUM HYDROXIDE	10 (2)	NA NA	(2)	NF NF	NF	(2)	NA	(10)	(2) NIOSH
3.2	Ventilation & Engineering Controls:	SODIUM NITRATE	10 (2) st ventilation	NA to effective	(2) rely remov	NF e and pr	NF event build	(2) lup of va	NA pors or n	nist gene	rated from t



Page 3 of 6 **BTI-015**

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards SDS Revision: 2.1 SDS Revision Date: 6/3/2021

9.1 AF 9.2 OF 9.3 OF 9.4 PF 9.5 M 9.6 In Re 9.7 FI 9.8 UF Li 9.10 Ve 9.11 Re 9.12 So 9.11 Re 9.12 So 9.11 Re 9.12 So 9.11 Re 9.11 So 9.11 Re 9.12 So 9.11 Re 9	Eye Protection: Hand Protection: Body Protection: Appearance: Ddor: Ddor: Ddor Threshold: DH: Melting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Jpper/Lower Flammability imits: //apor Density: Relative Density: Relative Density: Partition Coefficient (log Pow): Autoignition Temperature:	Safety glasses with side shields must be used when handling or using this product. A protective face shield is also recommended. Wear protective, chemical-resistant gloves (e.g., neoprene) when using or handling this product. A chemical resistant apron and/or protective clothing are recommended when handling or using this product. 9. PHYSICAL & CHEMICAL PROPERTIES Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA NA NA NA N
9.1 Ap 9.2 Oc 9.3 Oc 9.3 Oc 9.5 M 9.5 M 9.6 R R R 9.7 Fl 9.8 Up Lii 9.11 Re 9.12 Sc 9.11 Re 9.12 Sc 9.13 Pe 9.14 Au 9.15 De 9.16 Vi 9.17 Oc 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Cc 10.5 In	Appearance: Odor: Odor: Odor Threshold: OH: Melting Point/Freezing Point: Initial Boiling Point/Boiling Range: Flashpoint: Jpper/Lower Flammability Limits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	shield is also recommended. Wear protective, chemical-resistant gloves (e.g., neoprene) when using or handling this product. A chemical resistant apron and/or protective clothing are recommended when handling or using this product. 9. PHYSICAL & CHEMICAL PROPERTIES Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA NA NA NA N
9.1 Ap 9.2 Oc 9.3 Oc 9.3 Oc 9.4 pt 9.5 Mr 9.6 Re 9.7 File 9.8 Up Liu 1.1 Re 9.11 Re 9.11 Re 9.11 Re 9.11 Re 9.11 Sc 9.11 Re 9.11 Re 9.11 Re 9.11 Sc 9.11 Re 9.	Appearance: Odor: Odor: Odor Threshold: OH: Melting Point/Freezing Point: Initial Boiling Point/Boiling Range: Flashpoint: Jpper/Lower Flammability Limits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	A chemical resistant apron and/or protective clothing are recommended when handling or using this product. 9. PHYSICAL & CHEMICAL PROPERTIES Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA NA NA NA N
0.1 Ap 0.2 Oc 0.3 Oc 0.3 Oc 0.4 ph 0.5 Mm 0.6 Ini Re 0.7 Fi 0.8 Up Lii 0.11 Re 0.12 Sc 0.11 Re 0.12 Sc 0.13 Pε 0.11 St 0.14 At 0.15 De 0.16 Vi 0.17 Oc 0.11 St 0.2 Ha Pr 0.3 Ha 0.4 Cc 0.5 Ini	Appearance: Odor: Odor: Odor Threshold: OH: Melting Point/Freezing Point: Initial Boiling Point/Boiling Range: Flashpoint: Jpper/Lower Flammability Limits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	Product. 9. PHYSICAL & CHEMICAL PROPERTIES Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA 1.295
9.2 O. 9.3 O. 9.4 ph 9.5 M 9.6 R. R. P.	Odor: Odor: Odor Threshold: Odor Threshold: OH: Welting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA 1.295
9.2 O. 9.3 O. 9.4 ph 9.5 M. 9.6 R. R. 9.7 Fl. 9.8 U. Liu 1.2 Sc. 9.10 Va 9.11 Re 9.11 Sc. 9.1	Odor: Odor: Odor Threshold: Odor Threshold: OH: Welting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	Clear liquid Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA 1.295
9.2 O. 9.3 O. 9.4 ph 9.5 M 9.6 R. R. P.	Odor: Odor: Odor Threshold: Odor Threshold: OH: Welting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	Odorless NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA NA 1.295
9.3 Ou 9.4 ph 9.5 MM 9.5 MM 9.6 Inin Rivers 9.7 Fl. 9.8 Up Lii 9.9.9 Va 9.10 Va 9.11 Re 9.11 Re 9.11 De 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Co 10.5 Inin Post 9.11 Re 9.11 St 10.2 Ha 10.4 Co 10.5 Inin Post 9.11 Re 9.11 Re 9.11 De 10.1 St 10.2 Ha 10.3 Ha 10.4 Co 10.5 Inin Post 9.11 Re 9.11 R	Odor Threshold: OH: Melting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Partition Coefficient (log Pow): Autoignition Temperature:	NA 14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA 1.295
9.4 ph 9.5 MM 9.6 Inin 8.6 9.7 Fl. 9.8 Up Lii 9.9.9 Va 9.9.10 Va 9.9.11 Re 9.9.13 Pa 9.15 De 9.15 De 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Co 10.5 In	oH: Melting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	14.0 NA > 100 °C (> 212 °F) NA NA NA NA NA 1.295
9.5 Min 9.6 Inin 9.7 Fl. 9.8 Up 1.6 Inin 9.9 Va 9.9 Va 9.10 Va 9.11 Re 9.12 Sc 9.13 Pa 9.14 Au 9.15 De 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Cc 10.5 Inin 10.6 Inin 10.6 Inin 10.7 Inin 10.8 Inin 10.8 Inin 10.8 Inin 10.8 Inin 10.9 Inin	Melting Point/Freezing Point: nitial Boiling Point/Boiling Range: Flashpoint: Upper/Lower Flammability Limits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA > 100 °C (> 212 °F) NA NA NA NA 1.295
9.6 In Re 9.7 Fl. 9.8 Up. 1.1 P. 9.9 Ve. 9.9 Ve. 9.9 Ve. 9.1 P. 9.11 Re 9.12 Sc. 9.13 Pe. 9.14 Au 9.15 De. 9.16 Vi 10.1 St. 10.2 Ha Pr 10.3 Ha 10.4 Cc. 10.5 In	nitial Boiling Point/Boiling Range: Flashpoint: Jpper/Lower Flammability Limits: Japor Pressure: Japor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	> 100 °C (> 212 °F) NA NA NA NA 1.295
Ra R	Range: Flashpoint: Jpper/Lower Flammability Limits: Japor Pressure: Japor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA N
9.8 Up Liu P.9.9 Va P.9.9 Va P.9.10 Va P.9.11 Ree P.9.12 Sc P.9.13 Pe P.9.14 Au P.9.15 De P.9.16 Vi P.9.17 Ot P.9.17 Ot P.9.17 Ot P.9.18 P.9.1	Upper/Lower Flammability imits: Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA NA NA 1.295
Li	imits: //apor Pressure: //apor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA NA 1.295
9.9 Ve 9.10 Ve 9.11 Re 9.12 Sc 9.13 Pe 9.14 Au 9.15 De 9.16 Vi 9.17 Ol 10.1 St 10.2 Happen 10.3 Ha 10.4 Ce 10.5 In 10.	Vapor Pressure: Vapor Density: Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA 1.295
9.11 Re 9.12 Sc 9.13 Pe 9.14 At 9.15 De 9.16 Vi 0.17 Ol 0.17 O	Relative Density: Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	NA 1.295
9.12 Sc 9.13 Pe 9.14 Au 9.15 De 9.16 Vi 9.17 On 10.1 St 10.2 Harris 10.3 Harris 10.4 Co 10.5 In	Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	1.295
9.12 Sc 9.13 Pe 9.14 Au 9.15 De 9.16 Vi 9.17 On 10.1 St 10.2 Happer 10.3 Ha 10.4 Co 10.5 In	Solubility: Partition Coefficient (log Pow): Autoignition Temperature:	
9.14 Au 9.15 De 9.16 Vi 9.17 Ol 10.1 St 10.2 Happer 10.3 Ha 10.4 Co 10.5 Ind	Autoignition Temperature:	Complete (water)
9.14 Au 9.15 De 9.16 Vi 9.17 Ol 10.1 St 10.2 Happer 10.3 Ha 10.4 Co 10.5 Ind	Autoignition Temperature:	NA NA
9.16 Vi 9.17 OI 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Ca 10.5 In	December 1	NA NA
9.16 Vi 9.17 OI 10.1 St 10.2 Ha Pr 10.3 Ha 10.4 Ca 10.5 In	Decomposition Temperature:	NA NA
9.17 OI 10.1 St 10.2 Ha 10.3 Ha 10.4 Ca 10.5 Inc	/iscosity:	NA NA
10.1 St 10.2 Happer 10.3 Happer 10.4 Cc 10.5 Inc	Other Information:	Evaporation Rate: < 1.0 (ethyl ether = 1.0)
10.2 Ha Pr 10.3 Ha 10.4 Co 10.5 Inc		- L-vaporation - value
10.2 Ha Pr 10.3 Ha 10.4 Co 10.5 Inc		10. STABILITY & REACTIVITY
Pr 10.3 Ha 10.4 Co 10.5 In	Stability:	Stable
10.3 Ha 10.4 Co 10.5 In	Hazardous Decomposition	Contact with metals such as aluminum and zinc may produce hydrogen gas.
10.4 Co	Products: Hazardous Polymerization:	Will not occur.
10.5 In	Conditions to Avoid:	Incompatible substances.
	ncompatible Substances:	Water-reactive substances, metals (e.g. aluminum, zinc) strong acids, oxidizers.
11 1 R		water-reactive substances, metals (e.g. aluminum, zinc) strong acids, oxidizers.
11 1 R		11. TOXICOLOGICAL INFORMATION
	Routes of Entry:	Inhalation: YES Absorption: YES Ingestion: YES
	Foxicity Data:	Sodium Hydroxide: LD ₅₀ (oral, mouse) = 6,600 mg/kg; Sodium Hydroxide: LD ₅₀ (oral, rabbit) = 500 mg/kg; Sodium Nitra
	·,	LD ₅₀ (oral, rat) = 1,267 mg/kg; LD ₅₀ (oral, rabbit) = 2,680 mg/kg.
11.3 Ad	Acute Toxicity:	See Section 4.4
11.4 CI	Chronic Toxicity:	See Section 4.5
	Suspected Carcinogen:	NA
	Reproductive Toxicity:	This product is not reported to cause reproductive toxicity in humans.
	Mutagenicity:	This product is not reported to cause reproductive toxicity in numans. This product is not reported to produce mutagenic effects in humans.
	Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.
	Feratogenicity:	This product is not reported to produce emoryotoxic enects in rumans. This product is not reported to cause teratogenic effects in humans.
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans. This product is not reported to cause reproductive effects in humans.
	rritancy of Product:	See Section 4.2
	Biological Exposure Indices:	NE
	Physician Recommendations:	
[1		Treat symptomatically.
		12. ECOLOGICAL INFORMATION
12.1 Er	Environmental Stability:	No data available.
12.2 Ef		No data available.
12.3 Ef	Effects on Plants & Animals:	Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the mosensitive species tested). May increase pH of aquatic systems to >pH 10 which may be toxic to aquatic organisms. Sodium Hydroxide: LC50 (Oncorhynchus mykiss, 96h) – 45.5 mg/L; LC50 (Daphnia magna) – 40-240 mg/L.



Page 4 of 6 **BTI-015**

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards SDS Revision: 2.1 SDS Revision Date: 6/3/2021

	<u>, </u>	13. DISPOSAL CONSIDERATIONS	
13.1	Waste Disposal:	Review current local, state and federal laws, codes, statutes and regulations to determine current stated disposal method for the ingredients listed in Section 3. Any disposal practice must be in compliance vertical laws and regulations. Contact the appropriate agency for specific information. Treatment, tradisposal of hazardous waste must be provided by a licensed facility or waste hauler.	vith local, state, and
13.2	Special Considerations:	U.S. EPA Hazardous Waste – Characteristic - Corrosive (D002)	
		14. TRANSPORTATION INFORMATION	
		er, proper shipping name, hazard class & division, packing group) is shown for each mode of transpor required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.	tation. Additional
14.1	49 CFR (GND):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	\Diamond
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	Ŷ
14.3	IMDG (OCN):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	Ŏ,
14.4	TDGR (Canadian GND):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	Ŏ
14.5	ADR/RID (EU):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	Ŏ
14.6	SCT (MEXICO):	UN3266, LIQUIDOS CORROSIVOS, BASICO, INORGANICO, N.E.P. (HIDROXIDO DE SODIO), 8, III, CANTIDAD LIMITADA (IP VOL ≤ 5.0 L)	Ŏ
14.7	ADGR (AUS):	UN3266, CORROSIVE LIQUIDS, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, III, LTD QTY (IP VOL ≤ 5.0 L)	٥
		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	
15.2	SARA TPQ:		g requirements.
15.3	TSCA Inventory Status:	There are no specific Threshold Planning Quantities for the components of this product. 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	
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 D2B (materials causing other toxic effects).	
15.7	State Regulatory Information:	Sodium Hydroxide is found on the following state criteria lists: Florida Toxic Substances List (F Hazardous Substances List (MA), Minnesota Hazardous Substances List (MN), New Jersey Right 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 ociteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Mi Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substated product does not contain any chemicals known to the State of California to cause cancer or other repmore information go to www.P65Warnings.ca.gov .	t-to-Know List (NJ) of the following state a Toxic Substances nnesota Hazardous (NY), Pennsylvania nces List (WI). This
15.8	Other Requirements:	This product is found on the following inventory lists: Australia - AICS, China – IECSC, Europe – ELI Japan – ENCS; Korea – KECI; New Zealand – NZIoC; {Philippines – PICCS; USA – TSCA	NCS/EINEC,



Page 5 of 6 **BTI-015**

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 2.1

SDS Revision Date: 6/3/2021

		16. OTHER INFO	DRMATION
16.1	Other Information:	Do not breathe dust or mist. Wash hands and exprotective clothing/eye protection/face protection (or hair): Take off immediately all contaminated obefore reuse. IF INHALED: Remove person to fr CENTER/doctor if you feel unwell. Specific treatm	DEYE DAMAGE. Use as directed. Discontinue use if irritation develops bosed skin areas with soap water after handling. Wear protective gloves/ IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN clothing. Rinse skin with water [or shower]. Wash contaminated clothing esh air and keep comfortable for breathing. Immediately call a POISON then the sees section 4 (First Aid) of this SDS or container label. IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing.
16.2	Terms & Definitions:	See last page of this Safety Data Sheet.	
16.3	Disclaimer:	government regulations must be reviewed for a Technologies' knowledge, the information containsuitability or completeness is not guaranteed an The information contained herein relates only to the	OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other applicability to this product. To the best of ShipMate's & Birchwood ned herein is reliable and accurate as of this date; however, accuracy, d no warranties of any type, either expressed or implied, are provided. 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



Page 6 of 6 BTI-015

Prepared to OSHA, ACC, ANSI, WHSR, WHMIS, GHS & EU Standards

SDS Revision: 2.1

SDS Revision Date: 6/3/2021

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

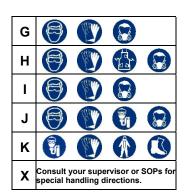
HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

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



PERSONAL PROTECTION RATINGS:

Α		
В		
С		
D		
Е		
F		





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	TY 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	/ ₹₩ ≯		
W	Use No Water	HEALTH 🔪		
ОХ	Oxidizer	SPECIAL		
TREFOIL	Radioactive	PRECAUTIONS		

TOXICOLOGICAL INFORMATION:

LD ₅₀	Lethal Dage (polide & liquide) which kills E0% of the expected enimals		
	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	Wassergefährdungsklassen (German Water Hazard Class)				

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

0	(A)	(2)	(*)	\odot	(4)		(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:

			\Diamond			\Leftrightarrow		(1)
GHS01	GHS02	GHS03	GHS04	GHS05	GHS06	GHS07	GHS08	GHS09
Explosive	Flammable	Oxidizer	Pressurized	Corrosive	Toxic	Harmful Irritating	Health Hazard	Environment