BIRCHWOOD

SAFETY DATA SHEET

Page 1 of 5 **BTI-016**

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

SDS Revision: 3.0

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1.1	Product Name:	ZINC BL					• • • •							
1.0														
1.2	Chemical Name:	Sodium Molybdate/Sodium Chlorate Solution												
1.3	Synonyms:	770251, 77025												
1.4	Trade Names:	Zinc Black [™] Zl												
1.5	Product Use:			die casting and	zinc plati	ng								
1.6	Distributor's Name:	Birchwood Lab												
1.7	Distributor's Address:		,	rie, MN 55344										
1.8	Emergency Phone:	ChemTrec +	1 (800) 424-	9300 / +1 (70	3) 527-3	887 or	Pois	ion Co	ontro	l Cent	er +1:	(855) 281-1	742
1.9	Business Phone / Fax:	+1 (952) 937-	7900 / +1 (952	2) 937-7979										
			2. H/	AZARDS I	DENT	IFIC/		ON						
2.1	Hazard Identification:	Prenared in a		h UN Globally					nded i	to com	nlv wit	th OSI	HA 29 (CFR 1910
		Canadian WH WARNING! H	MIS and Austr ARMFUL IF S	alian Work Hea WALLOWED.	alth and S CAUSES	afety. SKIN /					piy in			
2.2	Label Elements:)2 – Harmful if s			+H320) – Cai	ISES S	kin and	l eve i	rritatio	n	
				P): P264 – Was										
				270 – Do not ea										
				clothing/eye pr										
				2302+P352 – IF										
				on 4 (First Aid)										
				th water for se										\'/
				J. P337+P313 - t modical bala										
				t medical help.										
		facility (TSDF)			o, contaille	u io a i	10013			, stora	90 01	aispus		
2.3	Other Warnings:	2 . /		or medical ind	uirv involv	vina thi	s prod	luct pl	lease	contac	t a phy	vsiciar	orloor	al noison c
in the event of an exposure of medica														
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			ay seek advice	e from the U.S.								Joiolai		
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SDS Revision: 3.0

		4. FIRST A		EASU	RES –	cont'	d					
4.4	Acute Health Effects:	If sprayed, breathing mists can cal		and throa	at irritation							
4.5	Chronic Health Effects:	None reported by the manufacture	er.									
4.6 4.7	Target Organs: Medical Conditions	Eyes, Skin, Lungs (Mild Irritant).				6.41						
4.7	Aggravated by Exposure:	Pre-existing dermatitis, other skin conditions, and disorders of the HEALTH target organs (eyes, skin, and respiratory system) or impaired kidney						1				
		function may be more susceptible					FLAMM					0
							PHYSIC					0
							PROTE	CTIVE E				В
							EYES	SKIN	1 1	UNGS		
		5. FIREF	IGHT		IEASU	RES						
5.1	Fire & Explosion Hazards:	Non-flammable. May react with me with air.	etals to re	elease hy	drogen ga	is, which	can form	explosive	mixture	6		
5.2	Extinguishing Methods:	Use fire-extinguishing media appro	opriate fo	r surroun	ding mate	rials.						
5.3	Firefighting Procedures:	As with any fire, firefighters MSHA/NIOSH approved or equiv clothing. Fight fires as for surrou released. Thermal degradation r and/or derivatives. Fire should be the fire is out. Use water spray t upwind. Prevent runoff from fire supply, or any natural waterway.	alent sel unding m nay proc fought fro to cool fil	f-containe naterials. luce oxic om a safe re-expose	ed breathin Hazardo les of car e distance. ed surface	ng appar ous deco bon, and Keep c s and to	atus (SCE mposition d/or nitrog ontainers o protect pe	3A) and products products pen, hydr cool until ersonal.	protective may be rocarbons well afte Fight fire	e s r e		0
		6. ACCIDEN	Γ <mark>AL</mark> R	ELEA	SE ME	ASU	RES					
6.1	Spills:	Before cleaning any spill or lea Equipment (PPE). Use safety gla apron, boots, etc.) to prevent skin <u>Small Spills</u> : Wear appropriate pr inert material such as vermiculite <u>Large Spills</u> : Keep incompatible release. Isolate immediate hazar done with minimal risk. Wear ap Recover as much free liquid as po discharging liquid directly into a se	asses or s contact. otective of or sand to materials d area an opropriate ossible a	safety go equipmer o soak up s (e.g., ac nd keep t protectiv nd collec	ggles and t including the producids, orgar unauthoriz ve equipm t in acid-re	face shi g gloves lict and p nics) awa ed perso lient inclu	eld; use gl and protec lace into a ay from sp onnel out o iding respi	oves and ctive eye containe ill. Stay of area. S ratory pr	wear. U wear. U or for late upwind a Stop spill otection	otective se a no r dispos and awa or relea as cond	e clothin n-comb al. ay from ase if it litions v	ng (e.g., pustible, spill or can be warrant.
							_					
	1	7. HANDLING										
7.1	Work & Hygiene Practices:	Avoid breathing mists or spray. Av of the reach of children. Do not ea expose to heat and flame. Use o decontaminate any spills or residu	at, drink c nly in ve es.	or smoke ntilated a	when han reas. Kee	dling this p out of	product. the reach	Wash th of childr	oroughly en. Imm	after ha nediately	andling. / clean-	Do not up and
7.2	Storage & Handling:	Use and store in a cool, dry, we sunlight. Store in acid-resistant c substances (see Section 10). Prote	containers	s. Keep	containers	s covere	d when no					
7.3	Special Precautions:	Empty containers may retain haza	rdous pro	oduct resi	dues.							
				9 DF	DOON							
8.1	Exposure Limits:	8. EXPOSURE CONT	RUL3		NUCK	NOHSC	VUIEU		OSHA		OTHER	
0.1	ppm (mg/m ³)					ES-	ES-				STIER	
		CHEMICAL NAME(S) SODIUM MOLYBDATE	TLV (5)	STEL NA	ES-TWA (5)	STEL NF	PEAK NF	PEL (5)	STEL NA	IDLH NA		
8.2	Ventilation & Engineering Controls:	SODIUM MOLYBDATE (5) NA (5) NF (5) NA NA Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eyewash station).										
8.3	Respiratory Protection:	In instances where vapors or spra use only protection authorized by CAS Standard Z94.4-93 and ap Australia.	29 CFR §	§1910.13	4, applicat	ole U.S. S	State regul	ations, o	r the Can	adian		
8.4	Eye Protection:	Safety glasses with side shields r shield is also recommended.	nust be ı	used whe	en handling	g or usin	g this proc	duct. A	protective	e face		E
8.5	Hand Protection:	Wear protective, chemical-resistar	nt gloves	(e.g., neo	oprene) wł	nen using	g or handlir	ng this pr	oduct.			
8.6	Body Protection:	A chemical resistant apron and/o product.	or protect	ive cloth	ing are re	commen	ded when	handling	g or usin	g this		

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		9. PHYSICAL & CHEMICAL PROPERTIES
9.1	Appearance:	
9.2	Odor:	Colorless to pale yellow liquid
9.3	Odor Threshold:	Odorless NA
9.4	pH:	7.5 - 8.3
9.5	Melting Point/Freezing Point:	7.5 - 6.5 NA
9.6	Initial Boiling Point/Boiling	
	Range:	> 100 °C (> 212 °F)
9.7	Flashpoint:	NA
9.8	Upper/Lower Flammability Limits:	NA
9.9	Vapor Pressure:	NA
9.10	Vapor Density:	NA
9.11	Relative Density:	1.053
9.12	Solubility:	ND
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: ND
		10. STABILITY & REACTIVITY
10.1	Stability:	Stable
10.2	Hazardous Decomposition Products:	Thermal decomposition may produce noxious chlorine-containing gases.
10.3	Hazardous Polymerization:	Will not occur.
10.4	Conditions to Avoid:	Incompatible substances.
10.5	Incompatible Substances:	Water-reactive substances, reducing agents and acids.
		11. TOXICOLOGICAL INFORMATION
11.1	Routes of Entry:	Inhalation: YES Absorption: YES Ingestion: YES
11.2	Toxicity Data:	Sodium Chlorate: LD ₅₀ (oral, rat) = 1,200 mg/kg; LD ₅₀ (ip, mouse) = 596 mg/kg
11.3	Acute Toxicity:	See Section 4.4
11.4	Chronic Toxicity:	See Section 4.5
11.5	Suspected Carcinogen:	NA
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 is not reported to cause teratogenic effects in humans.
	Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.
11.7	Irritancy of Product:	See Section 4.2
11.8	Biological Exposure Indices:	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.
12.3	Effects on Aquatic Life:	Sodium Chlorate: EC ₅₀ (Phaeodactylum tricornutum, 72h) = 298 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 of hazardous waste must be provided by a licensed facility or waste hauler.
13.2	Special Considerations:	NA



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		14. TRANSPORTATIO	N INFORMATION
The	basic description (ID Num	ber, proper shipping name, hazard class & division	, packing group) is shown for each mode of transportation. Additional
desc 14.1	49 CFR (GND):	required by 49 CFR, IATA/ICAO, IMDG and the C	TDGR.
14.1	IATA (AIR):		
14.2	IMDG (OCN):		
14.4	TDGR (Canadian GND):		
14.5	ADR/RID (EU):	NOT REGULATED NOT REGULATED	
14.6	SCT (MEXICO):	NOT REGULATED	
14.7	ADGR (AUS):	NOT REGULATED	
	1	15. REGULATORY I	NFORMATION
15.1	SARA Reporting Requirements:		ubject to SARA Title III, Sections 302 or 313 reporting requirements.
15.2	SARA TPQ:	There are no specific Threshold Planning Quant	
15.3	TSCA Inventory Status:	The components of this product are listed on the	TSCA Inventory.
15.4	CERCLA Reportable Quantity:	NA	
15.5	Other Federal Requirements:	NA	
15.6	Other Canadian Regulations:		e hazard criteria of the HPR and the SDS contains he components of this product are listed on the duct are listed on the Priorities Substances List.
15.7	State Regulatory Information:	<u>Sodium Chlorate</u> is found on the following stat Jersey Right-to-Know List (NJ), and Pennsylvan No other ingredients in this product, present in state criteria lists: California Proposition 65 Substances List (FL), Massachusetts Hazard Minnesota Hazardous Substances List (MN), N List (NY), Pennsylvania Right-to-Know List (PA	te criteria lists: Massachusetts Hazardous Substances List (MA), New ia Right-to-Know List (PA). a concentration of 1.0% or greater, are listed on any of the following (CA65), Delaware Air Quality Management List (DE), Florida Toxic ous Substances List (MA), Michigan Critical Substances List (MI), lew Jersey Right-to-Know List (NJ), New York Hazardous Substances), Washington Permissible Exposures List (WA), Wisconsin Hazardous ntain any chemicals known to the State of California to cause cancer or
15.8	Other Requirements:		lists: Australia - AICS, China – IECSC, Europe – ELINCS/EINEC,
		16. OTHER INFO	
16.1	Other Information:		JSES SKIN AND EYE IRRITATION. Wash hands and exposed skin
		areas thoroughly with soap and water after har protective gloves/protective clothing/eye protect Wash with plenty of soap and water. Specific the EYES: Rinse cautiously with water for several r rinsing. If eye irritation persists: Get medical har clothing and washi it before reuse. KEEP LOCKE	andling. Do not eat, drink, or smoke when using this product. Wear ion. IF SWALLOWED: Get medical help. Rinse mouth. IF ON SKIN: eatment see section 4 (First Aid) of this SDS or container label. IF IN minutes. Remove contact lenses, if present and easy to do. Continue elp. If skin irritation occurs: Get medical help. Take off contaminated
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 contai suitability or completeness is not guaranteed an The information contained herein relates only	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. to the specific product(s). If this product(s) is combined with other sidered. Data may be changed from time to time. Be sure to consult the
16.4	Prepared for:	Birchwood Technologies	
		7900 Fuller Road Eden Prairie, MN 55344 USA Tel: +1 (952) 937-7900 Fax: +1 (952) 937-7979 http://www.birchwoodtechnologies.com	BIRCHWOOD TECHNOLOGIES
16.5	Prepared by:	ShipMate, Inc. P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com	ShipMate Dangerous Goods Training & Consulting



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SDS Revision Date: 2/13/2022

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

PERSONAL PROTECTION RATINGS:



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 FLAMMABILITY LIMITS IN AIR:

Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard	FLA
1	Slight Hazard	FLA
2	Moderate Hazard	
3	Severe Hazard	
4	Extreme Hazard	
ACD	Acidic	•
ALK	Alkaline	
COR	Corrosive	/
W	Use No Water	HEA
ох	Oxidizer	
TREFOIL	Radioactive	



TOXICOLOGICAL INFORMATION:

LD ₅₀	Lethal Dose (solids & liquids) which kills 50% of the exposed animals
LC ₅₀	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD _{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, TC _o , LC _{io} , & LC _o	
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
	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:

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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:

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