PAGE I

ATERIAL SAFETY	DATA	SHEET	1	5	7	7	8	
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	SECTION I -	IDENTIFICATION OF PRODUCT			
supplier's name	· emergency	emergency telephone no. 216-385-4400			
Mason C	216-385-44				
iddress	~ ~				
250 E. 2nd St	reet, P.O. Box 76.	East Liverpool, Ohio 43920) 		
late this	Chemcial	Inorganic			
form prepared April 1991	his Responsible for repared April 1991 preparation Ronald K. Mason				
Crade Name		CAS			
Synonyms Royal Blue 63	39 (39)	Number 68187-40-6*			
Chemical Name	cate Blue - Olivine	Basic Chemical Formula Co ₂ Si O ₄			
	SECTION I	- HAZARDOUS INGREDIENTS		,	
NGREDIENT	% Wt.	ACGIH-TWA	OSHA-PEL		
ALUMINA OXIDE CAS # 1344-28-1	55%-60%	$10 \text{ mg/m}^3 \text{ as Al}$	15 mg/1	m ³ as Al	
ZINC OXIDE CAS # 1314-13-2	20%-25%	$10 \text{ mg/m}_3^3 \text{ as dust}$ $5 \text{ mg/m}^3 \text{ as fumes}$	10 mg/r 5 mg/r	3 as dust as fumes	
COBALT OXIDE CAS # 1308-06-1	20%-25%	0.05 mg/m^3	0.05 mg	g/m ³	

^{*} Contains modifiers

SECTION III - SYMPTOMS OF OVEREXPOSURE

Cobalt Oxide - Prolonged inhalation of cobalt dust or metal dust, fumes or mist containing cobalt may cause serious respiratory illness. Inhalation may cause an irritation of respiratory organs of sensitive persons resulting in obstruction of airways with shortness of breath. May cause serious eye irritation. Prolonged exposure to skin may produce irritation. Chronic pulmonary disease has been reported in workers in the cemented carbide industry where cobalt is used. This effect has not been reported in workers using cobalt oxide.

Alumina - Acute inhalation overexposure may cause coughing and shortness of breath. Chronic inhalation overexposure may adversely effect breathing capacity. Direct eye contact may cause eye irritation. Skin contact may cause abrasions.

Zinc - Inhalation of high levels of zinc oxide may result in tightness of chest, metallic taste, cough, dizziness, fever, chills, headache, nausea and dry throat.

• .			WYIEKIVL	SAFETY DATA SHEET			page III
		···	SECTION IV	- HEALTH HAZARD D	ΛΤΛ		
occupationa	1 exposur	2 limi	ts			<u></u>	
effect of c	verexposu	ce	See Section	1 11		-	
	· May caus		tation.	•			
SKIN -	- Skin cor	tact m	ay cause allergic d	ermatitis.			
INHALATION-	1	on of	concentration above respiratory passage	the Occupational	Exposure	Limit ma	y cause
INCESTION -	Toxicity	by th	is route is low.				
EMERGENCY A	ND FIRST	AID PRO	OCEDURES .				
EYE -	- Flush th	orough.	ly with potable wat	er for 15 minutes	. Consul	t physici	an.
SKIN -	Remove c	ontami	nated clothing, was	h thoroughly with	soap &	water. Co	nsult physician.
INHALATION-	- Remove t	o fres	h air. May give oxy	gen. Consult phys	ician.		
INCESTION -	- Induce v	omiting	g if conscious. Con	sult physician.	<i>,</i> .		•
			SECTION V - SPECIA	L PROTECTION INFO	RMATION	<u> </u>	
respiratory level excee	protecti ds approp	on (speriate (ecific type)- Use N Occupational Exposu	IIOSII approved res		protecti	on where airborne
	local exhaust special						
ventilation		ical (X general)		other	N/A adequate	to maintain below
			Х		,	exposure	limit
personar pr	COLECTIVE	equipm	ent - Wear appropri Safety shower	ate gloves & gogg s and eye station			
				- SPECIAL PRECAUTI			
precautions	s to be ta	ken in	handling & storing	 Keep container Avoid contact 			
other preca	utions -	Avoid handli	breathing and use one of the or bevo	only with adequate erage should be co	ventila nsumed i	tion. Was n work ar	h thoroughly afte
			SECTION V	'II - PHYSICAL DAT	Λ .		
boiling poi	int (F°)	appea	arance & odor	specific gravity	(water=l) % vo	latile by volume
N/A		lue pow	der - odorless	N/A			None
solubility	in water	vapo	r pressure (mm Hg)		r=1)	evaporat	ion rate
Trace			N/A	N/A			None
			CECCTON UT	FT DISAGRATICATION OF	em. 1		
	unstable		conditions to	II - REACTIVITY DA	may occ		conditions to
STABILITY	stable		avoid	polymerization	ļ. <u>.</u>		avoid
	х		N/A		will no	t occur	
incompatib	ility (mat	crials	to avoid)			•	1 47/15
	•		N/A	• • •			· · · · · · · · · · · · · · · · · · ·
hazard dece	omposition	produ					7 i i i i i i i i i i i i i i i i i i i

N/A

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	SECTION IX - FIRE A	ND EXPLOSIVE DAT	<u>`````</u>
flash point (method used)	flammable limits	LEL	UEL
Non-Flammable	N/	٨	
extinguishing media			
Carbon	dioxide, dry chemical o	r water spray	
special fire fighting proced	ures Not a fire hazard when large quanti		ained breathing apparatus
unusual fire & explosion haz	ard None expected.		
	SECTION X - SPILL O		:S
steps to be taken in case ma	terial is released or s	pilled	
Contain spill. Pick up	the spill in an appropr	late container f	or disposal
waste disposal method			
Dispose in accordance w	ith Federal, State and l	Local Laws.	

MATERIAL OR COMPONENT

This product is a mixture of various metal oxides, salts and some compounds, considered to be a nuisance dust, are interfused to form the final product which does not represent individual components.

This product contains the compounds Alumina, Cobalt and Zinc. These toxic chemicals are subject to the reporting requirements of Superfund Amendment and Reauthorization Act (SARA) of 1986, Section 313 of the Emergency Planning and Community Right to Know Act and of 40 CFR, Part 372.

This Material Safety Data Sheet should be made available by the buyer to each of buyer's plant workers.

The buyer assumes all risk in connection with the use and handling of the material. The seller assumes no responsibility or liability in connection with the information supplied in this sheet or for any damage or injury caused by the material; reasonable safety procedures should be followed. The seller assumes no responsibility for injury or damage caused by use of the material even if reasonable safety procedures are followed. The information contained in this sheet is developed from what is believed to be accurate and reliable sources but the seller makes no warranties, either expressed or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.