



32919-XXXX
 32920-XXXX
 32921-XXXX

Material Safety Data Sheet
 May be used to comply with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200. Standard must be
 consulted for specific requirements.

U.S. Department of Labor
 Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)
 Orton Pyrometric Cones/Bars

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name The Edward Orton Jr. Ceramic Foundation	Emergency Telephone Number (614) 895-2663
Address (Number, Street, City, State, and ZIP Code) 6991 Old 3C Highway, P.O. Box 460	Telephone Number for Information (614) 895-2663
Westerville OH 43081-0460	Date Prepared 6-27-89
	Signature of Preparer (optional) <i>Dale A. Fronk</i> Dale A. Fronk

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (option)
Numbers 022, 021, 020 contain a low soluble lead frit and titanium dioxide				
lead as a dust		.05mg/m ³		50% as
titanium dioxide		10mg/m ³		
Numbers 017, 016, 015, 014, 013, 012, 011, 010, 09, 08				
07, 06, 05½, 05, 04, 03, 02, 01, 1, 2, 3, 4, 5, 6, 7				
8, 9, 10, 11, 12, 12½, 13, 13½, 14, 14½, 15, 15½				
16, 17, 18, 19, 20, 21, 23, 26, 27, 28, 29, 30, 31				
31½, 32, 32½, 33, 34 contain silica				
silica as dust		10.0mg/m ³		10-65%
		(Time weighted)		

Section III — Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H₂O = 1)	1.8
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water NIL			
Appearance and Odor Solid - Shape of pyramid or rectangular bar - No. odor.			

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	N/A	Flammable Limits	LEL N/A	UEL N/A
Extinguishing Media N/A				
Special Fire Fighting Procedures All numbers except those labeled PCE contain 4-6% organic material that will burn above 300°F.				

Unusual Fire and Explosion Hazards

Item Numbers: 32921-0100, 32921-0200, 32921-1004, 32921-1005, 32921-1006, 32921-1010, 32921-1040, 32921-1050, 32921-1060, 32921-1150
 N/A

V.3290

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	
Incompatibility (Materials to Avoid) N/A			
Hazardous Decomposition or Byproducts N/A			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	N/A	None anticipated	None anticipated
Health Hazards (Acute and Chronic) Product is non-hazardous when used as intended. Product should not be ground into dust or ingested. Product may contain crystalline silica which may cause cancer based on animal data.			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
Signs and Symptoms of Exposure N/A			
Medical Conditions Generally Aggravated by Exposure N/A			

Emergency and First Aid Procedures: If swallowed, get professional medical help.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled: No specific precautions

Waste Disposal Method: Disposal must meet existing federal, state and local environmental control regulations for low soluble lead frit - titanium dioxide - silica

Precautions to Be Taken in Handling and Storing: Keep out of reach of children. Wash hands after handling.

Other Precautions: Organic components may produce harmful gases during firing, if not fully oxidized. Also, other gases may be produced during firing, therefore, provide adequate ventilation to kiln or kiln area.

Section VIII — Control Measures

Respiratory Protection (Specify Type) N/A			
Ventilation	Local Exhaust	N/A	Special N/A
	Mechanical (General)	N/A	Other N/A
Protective Gloves	N/A	Eye Protection	N/A
Other Protective Clothing or Equipment: No special requirements			

Work Hygienic Practices: Wash hands after handling