

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER : SPECTRUM LEAD FREE RAISED ACCENT COLOR 4 BROWN	PRODUCT IDENTIFICATION NUMBER RAC4
PRODUCT USE : CERAMIC UNDERGLAZE	
MANUFACTURER'S NAME SPECTRUM GLAZES INC.	SUPPLIER'S NAME SPECTRUM GLAZES INC.
STREET ADDRESS 94 FENMAR DRIVE	STREET ADDRESS 94 FENMAR DRIVE
CITY TORONTO PROVINCE ONTARIO	CITY TORONTO PROVINCE ONTARIO
POSTAL CODE M9L1M5 EMERGENCY TEL.(416)747-8310	POSTAL CODE M9L1M5 EMERGENCY TEL.(416)747-8310

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD50 OF INGREDIENTS (SPECIFY SPECIES AND ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
SiO2	30-40	14808-60-7	ILV 15mg/m3 TLV/TWA	
CaO	1-2	1305-78-8		
Na2O	8-12	1313-59-3		
Al2O3	8-10	1344-28-1		
B2O3	1-2	1303-86-2		

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE LIQUID	ODOUR AND APPEARANCE ODOURLESS LIQUID			ODOUR THRESHOLD (PPM) N.A.
VAPOUR PRESSURE (mm Hg) N.A.	VAPOUR DENSITY (AIR=1)	EVAPORATION RATE N.A.	BOILING POINT (C) N.A.	FREEZING POINT (C) N.A.
pH 6.5-7	SPECIFIC GRAVITY 1.8-2.2	COEFF. WATER/OIL DIST. N.A.		

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY YES__ NO X FLAMES UNDER WHICH CONDITIONS : THIS PRODUCT DOES NOT SUPPORT COMBUSTION		
MEANS OF EXTINCTION NO SPECIAL MEANS REQUIRED		
FLASHPOINT AND METHOD NONE	UPPER FLAMMABLE LIMIT (% BY VOLUME) N.A.	LOWER FLAMMABLE LIMIT (% BY VOLUME) N.A.
AUTOIGNITION TEMP.(C) N.A.	HAZARDOUS COMBUSTION PRODUCTS NONE	
EXPLOSION DATA N.A.	SENSITIVITY IMPACT N.A.	ACTIVITY TO STATIC DISCHARGE N.A.

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY YES X NO__ IF NO, UNDER WHICH CONDITIONS
INCOMPATIBILITY WITH OTHER SUBSTANCES YES__ NO X IF SO WHICH ONES REACTIVITY
REACTIVITY AND UNDER WHAT CONDITIONS: NO REACTIVITY
HAZARDOUS DECOMPOSITION PRODUCT: MATERIAL IS STABLE, NO POLYMERIZATION BUT TOXIC FUMES MAY BE RELEASED WHEN MATERIAL IS MELTED.

PRODUCT IDENTIFIER SPECTRUM LEAD FREE UNDERGLAZE RAC4 BROWN			
SECTION 6 - TOXICOLOGICAL PROPERTIES			
ROUTE OF ENTRY X SKIN CONTACT SKIN ABSORPTION X EYE CONTACT X INHALATION INGESTION			
EFFECTS OF ACUTE EXPOSURE TO PRODUCT: SKIN IRRITATION DUE TO ABRASIVENESS. EYE EXPOSURE COULD CAUSE IRRITATION BUT NO TOXIC EFFECTS.			
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: METAL FUMES IN THE VAPOURS FROM FIRING CERAMIC GLAZES MAY CAUSE LUNG INFLAMMATION AND DAMAGE TO KIDNEY AND NERVOUS SYSTEM.			
EXPOSURE LIMITS	IRRITANCY OF PRODUCT	SENSITIZATION TO PRODUCT	CARCINOGENICITY
TERATOGENCITY	REPRODUCTIVE TOXICITY	MUTAGENICITY	SYNERGISTIC PRODUCTS
SECTION 7 - PREVENTIVE MEASURES			
PERSONAL PROTECTIVE EQUIPMENT:			
GLOVES (SPECIFY) WORK GLOVES	RESPIRATOR (SPECIFY) APPROVED DUST MASK	EYE (SPECIFY) SAFETY GLASSES	
FOOTWEAR (SPECIFY)	CLOTHING (SPECIFY)	OTHER (SPECIFY)	
ENGINEERING CONTROLS (SPECIFY, EG. VENTILATION, ENCLOSED PROCESS) VENTILATION SHOULD BE USED WHEN SPRAYING GLAZES.			
LEAK AND SPILL PROCEDURE: SCOOP INTO SUITABLE RECEPTACLE. DO NOT WASH DOWN DRAIN.			
WASTE DISPOSAL: SEND TO APPROVED SITE IN ACCORDANCE WITH REGULATIONS.			
HANDLING PROCEDURES AND EQUIPMENT: NO SPECIAL EQUIPEMENT NEEDED. FOLLOW STANDARD PLANT HYGIENE PROCEDURE.			
STORAGE REQUIREMENTS: STORE IN DRY AREAS.			
SPECIAL SHIPPING INFORMATION: PROTECT AGAINST PHYSICAL DAMAGE. DOT LABEL NON-REGULATED			
SECTION 8 - FIRST AID MEASURES			
SPECIFIC MEASURES: GLAZE CONTAINS THE OXIDES LISTED IN THE CHEMICAL FORMULA IN FORM OF CERAMIC FRIT. SOME OF THESE OXIDES ARE ON THE INGREDIENT DISCLOSURE LIST, ONCE THESE OXIDES ARE FUSED AND CONVERTED INTO FRIT THEY ARE NO LONGER AVAILABLE IN TOXIC FORM EVEN THOUGH TESTING WOULD DETECT THE PRESENCE OF THESE OXIDES. (FRIT IS ESSENTIALLY AN INSOLUBLE SUBSTANCE). THE OXIDES ARE PRESENT IN THE FORM OF A SINTERED CERAMIC STAIN OF LOW SOLUBILITY. THESE INGREDIENTS ARE PRESENT IN A STABLE AQUEOUS SUSPENSION.			
SECTION 9 - PREPARATION DATE OF MSDS			
PREPARED BY (GROUP, DEPARTMENT, ETC.) TECHNICAL DEPT.	PHONE NUMBER: (416)747-8310	DATE 30 JULY 2009	