MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE PRODUCT IDENTIFIER: LEAD FREE RAKU GLAZE 870 STARRY NIGHT PRODUCT IDENTIFICATION NUMBER 870 PRODUCT USE : CERAMIC GLAZE MANUFACTURER'S NAME SPECTRUM GLAZES INC. SUPPLIER'S NAME SPECTRUM GLAZES INC. STREET ADDRESS: 273 BOWES RD, UNIT A1 STREET ADDRESS: 273 BOWES RD, UNIT A1 CITY: CONCORD PROVINCE: ONTARIO CITY: CONCORD PROVINCE: ONTARIO POSTAL CODE: L4K1H8 EMERGENCY TEL(905)695-8355 POSTAL CODE: L4K1H8 EMERGENCY TEL(905)695-8355 SECTION 2 - HAZARDOUS INGREDIENTS HAZARDOUS INGREDIENTS 용 CAS NUMBER LD50 OF INGREDIENTS LC50 OF INGREDIENT (SPECIFY SPECIES AND ROUTE) (SPECIFY SPECIES) 20-30 Si02 14808-60-7 ILV 15mg/m3 TLV/TWA K20 2 - 412136-45-7 Na20 3 - 51313-59-3 0.5 - 41305-78-8 CaO B203 5-7 1303-86-2 AL203 3 - 51344-28-1 Li20 4-6 12057-24-8 CuO 1 - 41317-38-0 SECTION 3 - PHYSICAL DATA PHYSICAL STATE ODOUR AND APPEARANCE ODOUR THRESHOLD (PPM) LIQUID ODOURLESS LIQUID N.A. VAPOUR PRESSURE VAPOUR DENSITY EVAPORATION RATE BOILING POINT (C) FREEZING POINT (C) N.A. (mm Hg) N.A. (AIR=1)N.A. N.A. pH 6.5-7 SPECIFIC GRAVITY COEFF. WATER/OIL DIST. 1.6-2.0 N.A. SECTION 4 - FIRE AND EXPLOSION DATA NO X FLAMMABILITY YES FLAMES UNDER WHICH CONDITIONS : THIS PRODUCT DOES NOT SUPPORT COMBUSTION MEANS OF EXTINCTION NO SPECIAL MEANS REQUIRED FLASHPOINT AND METHOD UPPER FLAMMABLE LIMIT LOWER FLAMMABLE LIMIT NONE (% BY VOLUME) N.A. (% 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 ONESREACTIVITY 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 RAKU GLAZE 870 STARRY NIGHT SECTION 6 - TOXICOLOGICAL PROPERTIES ROUTE OF ENTRY 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 INFLAMATION AND DAMAGE TO KIDNEY AND NERVOUS SYSTEM. EXPOSURE LIMITS IRRITANCY OF PRODUCT SENSITIZATION TO CARCINOGENICITY PRODUCT TERATOGENCITY REPRODUCTIVE TOXICITY MUTAGENICITY SYNERGISTIC PRODUCTS SECTION 7 - PREVENTIVE MEASURES PERSONAL PROTECTIVE EQUIPMENT: GLOVES (SPECIFY) RESPIRATOR (SPECIFY) EYE (SPECIFY) WORK GLOVES APPROVED DUST MASK 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 PHONE NUMBER: PREPARED BY DATE (GROUP, DEPARTMENT, ETC.) (905) 695-8355 15 OCTOBER 2015

TECHNICAL DEPT.