MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE PRODUCT IDENTIFICATION NUMBER 1161 PRODUCT IDENTIFIER: SPECTRUM LEAD FREE GLAZE 1161 TEXTURE TOPAZ 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 양 CAS NUMBER TD50 OF INGREDIENTS TC50 OF INGREDIENT HAZARDOUS INGREDIENTS (SPECIFY SPECIES AND ROUTE) (SPECIFY SPECIES) SiO2 30 - 4014808-60-7 ILV 15mg/m3 OSHA/TWA 12136-45-7 K20 1-3 5-6 1305-78-8 CaO 1 - 31313-59-3 Na20 A1203 5-7 1344-28-1 B203 3-4 1303-86-2 SrO2 3-4 1314-18-7 TiO2 1 - 313463-67-7 MnO2 1 - 21313-13-9 V205 1-3 1314-62-1 . 5 SECTION 3 - PHYSICAL DATA ODOUR THRESHOLD (PPM) PHYSICAL STATE ODOUR AND APPEARANCE ODOURLESS LIQUID LIOUID N.A. VAPOUR PRESSURE VAPOUR DENSITY EVAPORATION RATE BOILING POINT (C) FREEZING POINT(C) (mm Hg) N.A. (ATR=1)N.A. 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 FLAMMABILITY YES NO X 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 (% 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 IF NO, UNDER WHICH CONDITIONS YES X NO 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 1161 TEXTURE TOPAZ | | | | | |
|--|------------|--|--------------------------|---------------------------------|----------------------|
| SECTION 6 - TOXICOLOGICAL PROPERTIES | | | | | |
| ROUTE OF ENTRY SKIN CONTACT | SK | IN ABSORPTION X | EYE CONTACT X I | NHALATION | INGESTION X |
| 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 | | Y OF PRODUCT | SENSITIZATION TO PRODUCT | | CARCINOGENICITY |
| TERATOGENCITY | REPRODUC | TIVE 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, DEPARTMETECHNICAL DEPT. | ENT, ETC.) | PHONE NUMBER: (905)695-8355 | | DATE 15 OCTO | BER 2013 |
| | | | | | |