

MATERIAL SAFETY DATA SHEET

| SECTION 1 - PRODUCT IDENTIFICATION AND USE | | | | |
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| PRODUCT IDENTIFIER: SPECTRUM LEADFREE RAISED ACCENT COLOR 15 BERMUDA | | | PRODUCT IDENTIFICATION NUMBER RAC15 | |
| PRODUCT USE : CERAMIC UNDERGLAZE | | | | |
| MANUFACTURER'S NAME SPECTRUM GLAZES INC. | | SUPPLIER'S NAME SPECTRUM GLAZES INC. | | |
| STREET ADDRESS 40 HANLAN RD UNIT 33 | | STREET ADDRESS 40 HANLAN RD UNIT 33 | | |
| CITY WOODBRIDGE PROVINCE ONTARIO | | CITY WOODBRIDGE PROVINCE ONTARIO | | |
| POSTAL CODE L4L 3P6 EMERGENCY TEL.NO. (905)851-8310 | | POSTAL CODE L4L 3P6 EMERGENCY TEL.NO. (905)851-8310 | | |
| SECTION 2 - HAZARDOUS INGREDIENTS | | | | |
| HAZARDOUS INGREDIENTS | % | CAS NUMBER | LD50 OF INGREDIENTS (SPECIFY SPECIES AND ROUTE) | LC50 OF INGREDIENT (SPECIFY SPECIES) |
| SiO2 | 30-40 | | | |
| CaO | 1-2 | 1305-78-8 | | |
| Na2O | 8-12 | | | |
| Al2O3 | 8-10 | 1344-28-1 | | |
| B2O3 | 1-2 | | | |
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| 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 RAC15 BERMUDA

SECTION 6 - TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY
SKIN CONTACT SKIN ABSORPTION X EYE CONTACT X INHALATION
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 INFLAMMATION AND DAMAGE TO KIDNEY AND NERVOUS SYSTEM.

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| EXPOSURE LIMITS | IRRITANCY OF PRODUCT | SENSITIZATION TO PRODUCT | CARCINOGENICITY |
| TERATOGENICITY | REPRODUCTIVE TOXICITY | MUTAGENICITY | SYNERGISTIC PRODUCTS |

SECTION 7 - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

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|---------------------------------|--|---------------------------------|
| 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

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| PREPARED BY (GROUP, DEPARTMENT, ETC.) TECHNICAL DEPT. | PHONE NUMBER: (905) 851-8310 | DATE August 11, 2005 |
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