

MATERIAL SAFETY DATA SHEET

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| SECTION 1 - PRODUCT IDENTIFICATION AND USE | | |
| PRODUCT IDENTIFIER : SPECTRUM LEAD FREE GLAZE 1190 GOLD | | PROD |
| PRODUCT USE : CERAMIC GLAZE | | |
| MANUFACTURER'S NAME SPECTRUM GLAZES INC. | | SUPP |
| STREET ADDRESS 40 HANLAN RD UNIT 33 | | STRE |
| CITY WOODBRIDGE PROVINCE ONTARIO | | CITY |
| POSTAL CODE L4L 3P6 EMERGENCY TEL.NO.(905)851-8310 | | POST |

| SECTION 2 - HAZARDOUS INGREDIENTS | | | | |
|-----------------------------------|--------|------------|----------------------------------------------------|-----------------------------------------|
| HAZARDOUS INGREDIENTS | % | CAS NUMBER | LD50 OF INGREDIENTS (SPECIFY SPECIES AND ROUTE) | LC50 OF INGREDIENT (SPECIFY SPECIES) |
| SiO2 | 43-46 | 60676-86-0 | ILV 15mg/m3 TLV/TWA | |
| K2O | 1-3 | | | |
| CaO | 5-8 | 1305-78-8 | | |
| Na2O | 3-5 | | | |
| Al2O3 | 9-11 | 1344-28-1 | | |
| B2O3 | 1-2 | 1303-86-2 | | |
| PbO | 20-23 | 1314-41-6 | | |
| TiO2 | 2-3 | 1317-70-0 | | |
| MnO2 | 7-8 | 1313-13-9 | | |
| CuO | .5-2.5 | 1317-38-0 | | |
| NiO | 1.5-3 | 1313-99-1 | | |
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| SECTION 3 - PHYSICAL DATA | | |
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| 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. |
| pH 6.5-7 | SPECIFIC GRAVITY 1.6-2.0 | COEFF. WATER/OIL DIST. N.A. |

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| 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. |
| AUTOIGNITION TEMP.(C) N.A. | HAZARDOUS COMBUSTION PRODUCTS NONE |
| EXPLOSION DATA N.A. SENSITIVITY IMPACT N.A. | ACTIVITY TO STATIC DISCHARGE N.A. |

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| 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. | |

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| PRODUCT IDENTIFIER SPECTRUM LEAD FREE 1190 | | | |
| SECTION 6 - TOXICOLOGICAL PROPERTIES | | | |
| ROUTE OF ENTRY SKIN CONTACT SKIN | | | |
| EFFECTS OF ACUTE EXPOSURE TO PRODUCT: SKIN IRRITATION DUE TO ABRASIVENESS. EYE EXPOSURE COULD CAUSE | | | |
| EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: METAL FUMES IN THE VAPOURS FROM FIRING CERAMIC GLAZES MAY | | | |
| EXPOSURE LIMITS | IRRITANCY OF PRODUCT | SENSITIZATION TO PRODUCT | CARCINOGENICITY |
| TERATOGENICITY | REPRODUCTIVE TOXICITY | MUTAGENICITY | SYNERGISTIC PRODUCTS |

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| SECTION 7 - PREVENTIVE MEASURES | | |
| PERSONAL PROTECTIVE EQUIPMENT: | | |
| GLOVES (SPECIFY) WORK GLOVES | | RESP |
| FOOTWEAR (SPECIFY) | | CLOT |
| 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 | | |

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| SECTION 8 - FIRST AID MEASURES |
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| SECTION 9 - PREPARATION DATE OF MSDS | | |
| PREPARED BY (GROUP, DEPARTMENT, ETC.) TECHNICAL DEPT. | PHONE NUMBER: (905) 851-8310 | DATE |