

MATERIAL SAFETY DATA SHEET

1521.

SECTION 1 - PRODUCT IDENTIFICATION AND USE				
PRODUCT IDENTIFIER : SPECTRUM LEAD FREE RAISED ACCENT COLOR 1 WHITE			PRODUCT IDENTIFICATION NUMBER RAC1	
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			
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 RAC1 WHITE			
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 INFLAMATION 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: (905) 851-8310	DATE May 7, 2007	

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE				
PRODUCT IDENTIFIER : SPECTRUM LEAD FREE RAISED ACCENT COLOR 3 BLACK			PRODUCT IDENTIFICATION NUMBER RAC3	
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			
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 RAC3 BLACK			
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 INFLAMATION 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: (905) 851-8310	DATE May 7, 2007	

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 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			
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 INGESTION X SKIN CONTACT SKIN ABSORPTION X EYE CONTACT X INHALATION			
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 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: (905) 851-8310	DATE May 7, 2007	

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE				
PRODUCT IDENTIFIER: SPECTRUM LEAD FREE RAISED ACCENT COLOR 8 ORANGE			PRODUCT IDENTIFICATION NUMBER RAC8	
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 TEL.NO. (905) 851-8310		POSTAL CODE L4L 3P6 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			
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 RAC8 ORANGE			
SECTION 6 - TOXICOLOGICAL PROPERTIES			
ROUTE OF ENTRY INGESTION X SKIN CONTACT SKIN ABSORPTION X EYE CONTACT X INHALATION			
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 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: (905) 851-8310	DATE May 7, 2007	

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: SPECTRUM LEADFREE RAISED ACCENT COLOR 13 ROYAL BLUE

PRODUCT IDENTIFICATION NUMBER
RAC13

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			

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 RAC13 ROYAL BLUE			
SECTION 6 - TOXICOLOGICAL PROPERTIES			
ROUTE OF ENTRY INGESTION X SKIN CONTACT SKIN ABSORPTION X EYE CONTACT X INHALATION			
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 SYSTEM. INFLAMATION AND DAMAGE TO KIDNEY AND NERVOUS			
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: (905) 851-8310	DATE May 7, 2007	

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: SPECTRUM LEADFREE RAISED ACCENT COLOR16
HUNTER GREEN

PRODUCT IDENTIFICATION NUMBER
RAC16

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

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POSTAL CODE L4L 3P6 EMERGENCY
TEL.NO. (905) 851-8310

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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			

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 RAC16 HUNTER GREEN

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.

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:
(905) 851-8310

DATE
May 7, 2007