SAFETY DATA SHEET

Reichenbach Glass Color

SECTION 1 – IDENTIFICATION

Product:
Overlay glass in form of frit, rods and cups

Producer:
Farbglashütte Reichenbach GmbH
Sohländer Str. 3
D – 02894 Reichenbach

Contact:
Tel.: +49 35828 72241
Fax: +49 35828 72336
e-mail: info@farbglas.de
Internet: http://www.farbglas.de

Distributor:
Olympic Color Rods
818 John Street
Seattle, WA 98109
206 343 7336
Glasscolor.com

Emergency Contact:
Phil O'Reilly
206 794 4442

Recommended Use/Restrictions:
Used for Glassblowing
Use industrial safety glasses
Processing the powders and granulates should happen under a suction system
Molten products should be handled under a strong ventilation system
Wash face and hands before eating, drinking or smoking
Use gloves for protection from sharp edges

DATE:
September 14, 2017

SECTION 2 - HAZARD IDENTIFICATION

Chemical Family:
Inorganic Glass

The chemicals, which were used for the production of this product, are in a glass matrix and therefore they will not transferred to the environment (air), if they are not heated up over 1200°C.

This product is not a dangerous material in sense of the dangerous material regulation.

During the processing of the product, at temperatures starting from 1200°C, it can come to evaporations of individual chemical components. Avoid inhalation of dust or fumes from molten products.

SECTION 3 – INFORMATION ON INGREDIENTS

Chemical		%	Risk Codes	CAS #
SiO_2	Silicon dioxide	40 - 70		14808-60-7
Na_2O	Sodium oxide	0 – 15		1313-59-3
PbO	Lead oxide	0 - 60	61-20,22-33, 50-53,62/T,N	1317-36-8
K_2O	Potassium oxide	0 – 15		12136-45-7
As_2O_3	Arsenic oxide	0 - 4	45,28,340-53/T+,N	1327-53-3
CdO	Cadmium oxide	0 - 1	45,26,48/23/25,62,63,68,50/53/T+,N	1306-19-0
Al_2O_3	Aluminum oxide	0 - 3		1344-28-1
Ag	Silver	0 < 1		7440-22-4
SnO_2	Tin oxide	0 < 1		18282-10-5
CuO	Copper oxide	0 - 1		1317-38-0
Sb_2O_3	Diantimony trioxide	0 - 2	$40/X_n$	1309-64-4
Se	Selenium	0 - 1	23/25,33,53/T	7782-49-2
Li_2O	Lithium oxide	0 - 2		12057-24-8
CoO	Cobalt oxide	0 – 1,5	$22-43,50-53/X_{n,N}$	1307-96-6
CaO	Calcium oxide	0 – 3		1305-78-8
MnO_2	Mangandioxid	0 - 5	$20,22/X_n$	1313-13-9
MgO	Manganese dioxide	0 – 5		1309-48-4
Cr_2O_3	Chromium oxide	0 – 3		1308-38-9
B_2O_3	Boron oxide	0 - 4		1303-86-2
ZnO	Zinc oxid	0 – 2	50-53/N	1314-13-2
Au	Gold	<1		7440-57-5

SECTION 4 – FIRST AID MEASURES

Eyes:

Immediately flush eyes for 15 minutes. Get medical attention if irritation persists

Skin:

Wash thoroughly after working with powders and molten glass

Inhalation:

Remove to fresh air if exposed to large amount of dust or fumes. Call for prompt medical attention

Ingestion: Not applicable for glass product

SECTION 5 – Fire Fighting Measures

Not applicable to glass product

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Sweep up spills then vacuum area with machine with HEPA filter, wet wash and wipe area

SECTION 7 – HANDLING AND STORAGE

When removing frits and powders from packaging, use local exhaust ventilation
Use respiratory protection in the absence of effective ventilation
Use protective gloves when handling glass rods to avoid sharp edges
No special precaution for storage, unlimited shelf life

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical/Common Name	Max %	OSHA PEL	ACGIH TLV
Silica (SiO2) - as cristobolite	60	0.05 mg/mg/m3	o.05 mg/m3
sodium carbonate (Na2CO3)	20		
Potash (K2CO3)	20		
Lead Oxide (Pb02)	40	0.05 mg/m3	0.05 mg/m3
Barium Oxide (Ba02)	10	0.5 mg/m3	0.5 mg/m3
Zinc oxide (ZnO)	5	5 mg/m3	5 mg/m3
Aluminum oxide {Al2O3)	5	10 mg/m3	10 mg/m3
Fluoride {F)	5	2.5 mg/m3	2.5 mg/m3
Arsenous oxide (As2O3) - as arsenic	3	0.01 mg/m3	0.01 mg/m3 - Al
Nickel Oxide (NiO)	3	1.0 mg/m3	1.0 mg/m3
Iron oxide (Fe2O3).	5	5.0 mg/m3	5.0 mg/m3
Cobalt Oxide (CoO) - inorganic Co	1	0.05 mg/m3	0.02 mg/m3 - A3
Calcium oxide (CaO2)	l	2.0 mg/m3	2.o mg/m3
Cadmium oxide (CdO)	1	0.005 mg/m3	0.002 mg/m3 - A2
Selenium (Se)	1	0.2 mg/m3	0.2 mg/m3

All metal oxides are bound as silicates in the glass and will not be released unless ground to fine powder or fumes from molten glass

*A1 A confirmed human carcinogen
*A2 A suspected human carcinogen
*A3 A confirmed animal carcinogen with unknown relevance to humans

Personal Protection:

Respiratory Protection:	When grinding or removing powders or frits from Packaging, workers should use NIOSH approved respirators with P-100 filters
Ventilation:	Local exhaust when grinding or working with molten product General ventilation recommended for temperature control with molten product
Protective gloves:	As needed for cuts or burns as conditions warrant
Eye Protection:	Recommended when grinding or working with molten product

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/A	**Melting Point:** 570 – 610°C	**Specific Gravity (Bulk):** 1,5 – 2,5 g/cm³
Vapour Pressure: N/A	**Vapour Density:** N/A	**Evaporation Rate:** N/A
Solubility in Water: N/A	**Solubility in Alcohol:** N/A	**Solubility in other Solvents:** hydrofluoric acid
COE: 9,4(+/-0,2)*10^-6/K (25-400°C)	**Transformation Point:** 490 - 520 °C	

SECTION 10 – STABILITY AND REACTIVITY

This is a stable material. No decomposition, unlimited shelf life. No hazardous reactions reported.

SECTION 11 – TOXICOLOGICAL INFORMATION

Silica (Si02)

Routes of Exposure: Inhalation

Chronic exposure can cause silicosis, a restrictive pulmonary fibrosis disease

Calcium oxide (Ca02)

Routes of Exposure: Inhalation

May be caustic to skin, conjunctiva, cornea and mucus membranes. May cause ulceration and inflammation of the respiratory passages. Bronchitis and pneumonia have been reported from inhalation of dust.

Lead Oxide (Pb02)

Routes of Exposure: Inhalation

Acute exposure can cause lead to seizures, coma and death

Chronic exposure may cause damage to male and female reproductive organs. Signs of exposure include loss of appetite, abdominal pain, headaches, nausea, joint pain, insomnia, fatigue. May also cause damage to central nervous system. May cause kidney damage without any symptomology. May disrupt blood forming system causing anemia.

Arsenous oxide (As2O3)

Routes of Exposure: Inhalation

This is considered to be human carcinogen by ACGIH (A 1) - but is not regulated by OSHA

Acute ingestion symptoms include constriction of throat, epigastric pain, vomiting and diarrhea. If severe exposure shock may develop due to fluid loss.

Chronic ingestion exposure symptoms include weight loss, nausea, loss of hair, diarrhea, peripheral neuritis

Acute inhalation symptoms include cough, chest pain, dyspnea, headache, giddiness and general weakness.

Chronic inhalation symptoms include weakness, loss of appetite, nausea, diarrhea, perforation of nasal septum, skin lesions, peripheral neuritis, motor paralysis.

Cadmium Oxide (CdO)

Cadmium is an OSHA/WISHA regulated cancer causing element. Causes lung cancer and kidney damage

Routes of Exposure: Inhalation

Acute inhalation symptoms include slight irritation of upper respiratory tract, followed by cough, sweating, chills. Severe exposure may involve pulmonary irritation, pain in chest, dyspnea, weakness. May develop emphysema.

Chronic exposure symptoms may cause lung damage, increased risk of lung cancer and kidney damage.

Cobalt Oxide (CoO)

This is confirmed animal carcinogen with unknown relevance to humans by ACGIH. Is

Routes of Exposure: Inhalation

Cobalt dust is irritating to eyes and skin. May cause allergic sensitivity dermatitis. Cross sensitization occurs between cobalt, nickel and chromium

Inhalation of dust may cause asthma like disease with cough and dyspnea. May progress to interstitial pneumonia with fibrosis.

Ingestion of cobalt causes vomiting, diarrhea, sensations of hotness.

Sodium Carbonate (Na2CO3)

Routes of Exposure: Inhalation

A skin and eye irritant and a poison by intraperitoneal route.

Potassium Carbonate (K2C03)

Routes of Exposure: Inhalation

A poison by ingestion, strong caustic will burn skin.

Barium oxide (Ba02)

Routes of Exposure: Inhalation

Acute exposure may cause local eye, nose throat and skin irritation.

Ingestion of barium increases muscle contractility, slowed heart rate, vascular constriction, bladder contraction, increased muscle tension. Inhalation of dust may cause a benign pneumoconiosis

Zinc Oxide (ZnO)

Routes of Exposure: Inhalation
Handling of bulk powders may produce dermatitis.
Acute exposure to fumes may produce "metal fume fever", chills, fever, chest tightness, cough dyspnea, fatigue, joint pain

Aluminum Oxide (Al203)

Routes of Exposure: Inhalation

Chronic exposure to dust may cause lung damage.

Fluoride (F)

Routes of Exposure: Inhalation

Acute exposure to fluorine dust, mists or fumes may cause irritation to the eyes, skin, mucous membranes and lungs

Chronic exposure to fume, mist, and dust may cause nosebleeds, pulmonary edema, bronchospasm.

Ingestion of fluorine may cause nausea, vomiting, abdominal cramps, and diarrhea. Large dose may cause convulsions and death.

Nickel Oxide (NiO)

Routes of Exposure: Inhalation

Skin sensitization frequently occurs with exposure to nickel and nickel compounds resulting in eczema.

Suspected human carcinogen

Acute exposure may cause irritation of the conjunctive and mucous membrane of the upper respiratory tract.

Iron Oxide (Fe203)

Routes of Exposure: Inhalation

Inhalation of iron fumes or dust may cause a benign pneumoconiosis.

Selenium (Se)

Routes of Exposure: Inhalation

Some compounds of selenium are strong irritants to upper respiratory tract and the eyes. Is capable of antagonizing toxic effects of other metals, such as As, and Cd.

Inhalation of fumes may cause irritation of the nose, eye, and upper respiratory tract, tightness in the chest. Severe exposure may cause pulmonary edema. May have garlic odor in breath, metallic taste in mouth, pallor, lassitude, giddiness, irritability.

SECTIONS 12 – 16
Not applicable