.GF-134 = FRIT 3110
.GF-113 = FRIT 3124
.GF-111 = FRIT 3134
.GF-136 = FRIT 3819

5140

GENERAL COLOR & CHEMICAL CO., INC.

(216) 868-4161

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION

Chemical Name: ___Frit, Lead X Frit, Leadless

Chemical Family: ___Lead Borosilicate Glass X Borosilicate Glass

Formula: X See Product Catalog for non-confidential frits ___Confidential Frit

Trade Name/Product Code: GF-103, GF-104, GF-105, GF-106, GF-109, GF-110, GF-111, GF-11
GF-115, GF-122, GF-130, GF-134, GF-140, GF-141, GF-143, GF-14
GF-136, GF-14

SECTION II - INGREDIENTS AND TLV's

If box is checked, there is > 1% of material listed

	Material		TLV* (mg/M3)
	PbO	(as Pb)	0.15 *
X	SiO2		*
	Sb2O3	(as Sb)	0.5
	As2O3	(as As)	0.2
	BaO	(as soluble Ba)	0.5
	CdO	(as Cd)	0.05
	ZrO2	(as Zr)	5
	F2	(as F)	2.5
X	Al2O3, B2O3, CaO, MgO, TiO2, ZnO		10 (Nuisance Dust)
	SrO2	(as Sr)	5
X	Na2O, K2O, Li2O		Not established *

* See section VII

SECTION III - PHYSICAL DATA

Density: Greater than water
Appearance and Odor: Odorless white powder
Solubility: Some solubility in water

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

No fire or explosion hazards

SECTION V - REACTIVITY DATA

Stable material, slightly soluble in acids
May draw moisture from atmosphere
Hazardous polymerization will not occur

SECTION VI - SPILL OR LEAK PROCEDURE

If material is not contaminated, scoop up for reuse. Wear proper respiratory protection. Vacuum sweeping is best to minimize dust in atmosphere. Dispose of in accordance with all local, state and federal regulations.

SECTION VII - HEALTH HAZARD INFORMATION

Threshold Limit Value: Individual TLV's may not be applicable as individual materials may be bound into the glassy frit matrix with different bond strengths, causing individual components to become airborne and/or soluble at unequal rates. TLV should be evaluated for each component according to its chemical and/or physical availability, but in no case should total dust exceed 10 mg/M3 (TLV for nuisance dust).

TLV's for Na2O, K2O, Li2O have not been established. Their contribution to the total dust for this material should not be excluded, however, when determining if TLV of 10 mg/M3 for total dust is exceeded.

TLV for silica: For respirable dust (in mg/M3), TLV = 10 (% respirable quartz + 2)
For total dust (in mg/M3), TLV = 30 (% quartz + 3)

If this frit is a lead product see section X, additional information.

First Aid & Emergency Procedures:

Eyes: Flush with copious amounts of water. Get immediate medical attention.
Ingestion: Induce vomiting in a conscious individual. Get immediate medical help.
Skin: Wash with soap and water.
Inhalation: Remove from exposure. Get medical attention if difficult breathing occurs.
If material contacts with eyes or skin or is inhaled or ingested, some individuals will experience irritation.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory protection - As specified by OSHA 29CFR1910.1025 (f)
Protective gloves and eye protection - recommended but not required
Clothing - Full body clothing should be worn during product use and handling, then left at worksite for laundering (Dispose of washwater in accordance with all local, state and federal regulations)
Personal clothing, including shoes, should be protected from exposure.
Other safety equipment - should be worn as appropriate to industrial environment
Ventilation - As specified by OSHA 29CFR1910.94

SECTION IX - SPECIAL PRECAUTIONS

Lead Frits: There are two major means of lead absorption - inhalation and ingestion. Good hygiene practices can prevent unintentional ingestion of lead compounds. Most inhalation problems can be prevented through the use of proper ventilation and respirators. Do not inhale or swallow dust. Wash thoroughly after handling. Avoid spilling on hands, face or body to prevent secondary contamination by inhalation or ingestion. Do not smoke, eat or apply cosmetics in work area. Wash thoroughly before entering into eating areas. Do not wear any part of work clothing home (including shoes). Keep lead materials away from feed, food products and children. Do not reuse containers. This product intended for industrial use only.