Safety Data Sheet
Fuse Master FM Transparent Enamels

SDS conform REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II - EU

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Date issued	11.15.2018

1.1. Product identifier

Product name	Fuse Master FM Transparent Enamels
Chemical name	Glass Frit
Synonyms	Vitreous Enamels
CAS no.	Not Applicable
Product Type	Powdered frit

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation	Applied and fused at 1175F / 636C to glass substrates.

1.3. Details of the supplier of the safety data sheet

Company name	Fusion Headquarters
Address	15500 NE Kincaid Rd.
Postcode	97132
City	Newberg
State	OR.
Country	USA
Tel	503-538-5281
Fax	503-538.6527
E-mail	office@fusionheadquarters.com
Website	http://www.fusionheadquarters.com/

1.4. Emergency telephone number

Emergency telephone	Poison Control 1-800-222-1222
Recommended use:	Industrial use.
Restrictions on use:	Reserved for industrial and professional use.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

GHS08 Health hazard	Carc. 2 H351 Suspected of causing cancer.

2.2 Label elements

GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

Aquatic Acute

Very Toxic to aquatic life

GHS09

Signal word	Warning
Hazard-determining components of labeling:	Acute Toxic 4 H302 Harmful if swallowed, H332 Harmful if inhaled
Hazard statements	Suspected of causing cancer.
Precautionary statements	Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. IF exposed or concerned: Get medical advice/attention.

GHS07

Hazard-determining component Labeling Frit, Glass Pb-Si-SAl -B, CAS-Nr 65997-18-4 Class 8.2,

Hazard statements H302-H332 - Harmful if swallowed or inhaled, H351 Suspected of causing cancer, H372 Causes damage to organs through prolonged or repeated exposure, H400 Very toxic to aquatic life.

Precaution statement P260 Do not breath dust/fumes/gas/ mist/ vapor/ spray, P280 Wear protective gloves, clothing eye and face protection. P301+P312 IF SWALLOWED: Call Poison Control Center/ Doctor if you do not feel well.
P304+P340 IF INHALED: Remove person to fresh air. P405 Store locked up. Dispose of contents/container in accordance with local/ regional/national/international regulations.

Additional Information Contains Lead. Should not be used on surfaces liable to be chewed or sucked by children.
Carc. 2, H351;Repr. 1A, H360Df, STOT RE 1, H372: Aquatic Acute 1 H400, Acute Tox. 4 H302, Acute Tox. 4 H332

2.3 Classification system:

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Health =0
Fire = 0
Reactivity = 0

SECTION 3: Composition/information on ingredients

Chemical characterization: Mixtures
Description: Mixture of the substances listed below with nonhazardous additions

3.1 Dangerous components:

Frit, Glass Systems Pb-Si-SAl -B, CAS-Nr 65997-18-4 Class 8.2
Carc. 2, H351;Repr. 1A, H360Df, STOT RE 1, H372: Aquatic Acute 1 H400, Acute Tox. 4 H302, Acute Tox. 4 H332

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First-aid measures

4.1 Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Rinse with warm water.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If symptoms persist consult doctor.
Information for doctor:
Most important symptoms and effects, both acute and delayed: No further relevant information available.
Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO_2, extinguishing powder or water spray. Fight larger fires with water spray.
For safety reasons unsuitable Extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.
Advice for firefighters Formation of poisonous or toxic gases during heating or fire.
Protective equipment: Put on breathing apparatus
Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use only in well ventilated areas.
Put on breathing apparatus

6.2 Environmental precautions:
Do not empty into sewage or water bodies
Do not empty into drains

6.3 Methods and material for containment and cleaning up: Pick up mechanically.

Reference to other sections
Do not handle until all safety precautions have been read and understood.
Wear suitable protective clothing and gloves.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Protective Action Criteria for Chemicals

SECTION 7: Handling and storage

7.1 Handling:
Precautions for safe handling	Take note of emission threshold. Prevent formation of dust. Use only in well-ventilated areas. Handle and open container with care.
Information about protection against explosions and fires:	The product is not flammable.
Conditions for safe storage, including any incompatibilities	
Storage:	
Requirements to be met by storerooms and receptacles:	No special requirements.
Information about storage in one common storage facility:	Store away from foodstuffs.
Further information about storage conditions:	None.
Specific end use(s)	No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

8.1 Control parameters
Components with limit values that require monitoring at the workplace:
13463-67-7 titanium dioxide

PEL Long-term value: 15* mg/m³ *total dust
REL See Pocket Guide App. A
TLV Long-term value: 10 mg/m³ withdrawn from NIC

Additional information:	The lists that were valid during the creation were used as basis.
Exposure controls	
Personal protective equipment:	
General protective and hygienic measures:	Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Do not inhale dust / smoke / mist. Do not eat, drink, smoke or sniff while working.
Breathing equipment:	Not required.
Protection of hands:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

(Contd. on page 4)

Protection of hands:	Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Material of gloves:	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection:	Goggles recommended during refilling.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Powder
Color:	Different according to coloring
Odor:	Odorless
Odor threshold:	Not determined.

pH-value at 20 °C (68 °F): 7

9.2 Change in condition

Melting point/Melting range:	> 986F / 520C
Boiling point/Boiling range:	
Undetermined.	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not determined.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.

9.3 Explosion limits

Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F):	3.5 g/cm³ (29.208 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with Water:	Insoluble.

Partition coefficient (n-octanol/water): Not determined.

9.4 Viscosity

Dynamic:	Not applicable.
Kinematic:	Not applicable.

9.5 Solvent content:

Organic solvents:	0.0 %
Solids content:	100.0 %
Other information	No further relevant information available.

SECTION 10: Stability and reactivity

Reactivity	No further relevant information available.
Chemical stability	
Thermal decomposition / conditions to be avoided:	To avoid thermal decomposition do not overheat. No decomposition if used and stored according to specifications. Stable up to melting point.
Possibility of hazardous reactions:	No dangerous reactions known.
Conditions to avoid:	No further relevant information available.
Incompatible materials:	No further relevant information available.
Hazardous decomposition products:	No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:	Harmful if swallowed or inhaled.
Sensitization:	No sensitizing effects known.
Additional toxicological information:	The product shows the following dangers according to internally approved calculation methods for preparations:

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA-Ca (Occupational Safety & Health Administration)

CONTAINS LEAD> Frit, Glass Pb-Si-SAl -B, CAS-Nr 65997-18-4 Class 8.2,

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	Very toxic to aquatic life.
Persistence and degradability:	No further relevant information available.
Behavior in environmental systems:	
Bioaccumulative potential:	No further relevant information available.
Mobility in soil:	No further relevant information available.
Ecotoxical effects:	
Behavior in sewage processing plants:	The product can be mechanically separated.

12.2 Additional ecological information

General notes:
The product contains materials that are harmful to the environment.
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

12.3 Results of PBT and vPvB assessment

PBT:	Not applicable.
vPvB:	Not applicable.

Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation: Must not be disposed of together with household garbage.
Do not allow product to reach sewage system.
After prior treatment product has to be landfilled adhering to the regulations pertaining to the disposal of particularly hazardous waste.

Waste disposal key: 55515 (Pigments)

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number

DOT, ADR, ADN, IMDG, IATA Void

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Void

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class Void

14.2 Packing group

DOT, ADR, IMDG, IATA Void

Environmental hazards: Not applicable.

Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

UN "Model Regulation": Void

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Section 355 (extremely hazardous substances):

None of the ingredients is listed.

TSCA (Toxic Substances Control Act): 13463-67-7 titanium dioxide

Proposition 65: None of the ingredients is listed.

Chemicals known to cause cancer: 13463-67-7 titanium dioxide

Chemicals known to cause reproductive toxicity for females: None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients is listed.

Chemicals known to cause developmental toxicity: None of the ingredients is listed.

EPA (Environmental Protection Agency): None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)
13463-67-7 titanium dioxide A4

NIOSH-Ca (National Institute for Occupational Safety and Health)
13463-67-7 titanium dioxide•

15.2 GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

(Cont. on page 7)

Signal word Warning

Hazard-determining components of labeling:	titanium dioxide
Hazard statements:	suspected of causing cancer.
Precautionary statements:	Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. IF exposed or concerned: Get medical advice/attention.
Store:	locked up.
Dispose of contents/container in accordance	with local/regional/national/international regulations.
Chemical safety assessment:	A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS:	FHQ environment protection department.
Contact:	Gil Reynolds
Date of preparation / last revision	11.15.2018

16.1 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit Carc. 2: Carcinogenicity – Category 2