

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 1 of 12

## SECTION 1. IDENTIFICATION

Product name : **1016024**  
PE FRIT MS Bonding G 3249-2 50LB BAG

Product code : **1016024**

### Manufacturer or supplier's details

Company name of supplier : Vibrantz Corporation

Address : 6060 Parkland Blvd. Suite 250  
Mayfield Heights OH 44124-4185

Telephone : (216) 875-5600

E-mail address of person responsible for the SDS : PS.Request.americas@vibrantz.com

### Emergency telephone number

In-Country Number : (800)424-9300

CHEMTREC Global Number : +(1)-703-527-3887 (Call Collect)

### Recommended use of the chemical and restrictions on use

Recommended use : Manufacture of ceramic coatings and decorating preparations suited for firing, for glass and ceramics.  
Frit for industrial use

Restrictions on use : Food contact

## SECTION 2. HAZARDS IDENTIFICATION

### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity : Category 1B

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H360FD May damage fertility. May damage the unborn child.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

**1016024** **PE FRIT MS Bonding G 3249-2 50LB BAG**

Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 2 of 12

P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
<b>Response:</b> P308 + P313	IF exposed or concerned: Get medical advice/ attention.
<b>Disposal:</b> P501	Dispose of contents/ container to an approved waste disposal plant.

## Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical nature : glass/frit

### Components

Chemical name	CAS-No.	Concentration (% w/w)
boron containing frit (0,25%≤Zn<2,5%)	65997-18-4	>= 90 - <= 100

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled	: If unconscious, place in recovery position and seek medical advice.
In case of skin contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
In case of eye contact	: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 3 of 12

Most important symptoms and effects, both acute and delayed : May damage fertility. May damage the unborn child.

Notes to physician : Treat symptomatically.

---

## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.

Methods and materials for containment and cleaning up : Clean contaminated floors and objects thoroughly while observing environmental regulations.  
Keep in suitable, closed containers for disposal.

---

## SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Avoid inhalation, ingestion and contact with skin and eyes.

Avoid release to the environment.  
Avoid formation of respirable particles.  
Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the ap-

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 4 of 12

plication area.

Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : The product is chemically stable.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Apply technical measures to comply with the occupational exposure limits.  
Provide adequate ventilation.

### Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection : Wear protective gloves, for example: polyvinyl alcohol or nitrile-butyl-rubber gloves, or similar; Glove thickness: > 0.4 mm and Break Through time: > 480 minutes. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Before removing gloves clean them with soap and water.

Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.  
Tightly fitting safety goggles.

Skin and body protection : Protective clothing impervious to the chemical substance.

Protective measures : Wear suitable protective equipment.

Hygiene measures : Wash hands before breaks and at the end of workday.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Handle in accordance with good industrial hygiene and safety practice.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200  
(HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 5 of 12

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	off-white
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/range	:	2,192 °F / 1,200 °C
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	The product is not flammable.
Burning rate	:	No data available
Self-ignition	:	does not ignite
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Bulk density	:	No data available
Solubility(ies) Water solubility	:	insoluble

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200  
(HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 6 of 12

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : not determined

Decomposition temperature : Not applicable

Viscosity  
Viscosity, kinematic : Not applicable

Explosive properties : Not applicable

Oxidizing properties : Not applicable

Refractive index : Not applicable

Volatile organic compounds (VOC) content : 0 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.  
Dust may form explosive mixture in air.

Conditions to avoid : None, if used and stored as recommended.

Incompatible materials : Not applicable

Hazardous decomposition products : Stable under normal conditions.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200  
(HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 7 of 12

---

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

inhalation (dust/mist/fume)

Skin

Eye contact

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

### Serious eye damage/eye irritation

Not classified based on available information.

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

### Carcinogenicity

Not classified based on available information.

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

May damage fertility. May damage the unborn child.

#### STOT - single exposure

Not classified based on available information.

#### STOT - repeated exposure

Not classified based on available information.

### Aspiration toxicity

Not classified based on available information.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 8 of 12

---

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

**boron containing frit (0,25%≤Zn<2,5%):**

#### Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

#### Persistence and degradability

No data available

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : None known.

---

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Send to a licensed waste management company.  
Dispose of wastes in an approved waste disposal facility.  
The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 9 of 12

---

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

Not regulated as a dangerous good

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### 49 CFR

Not regulated as a dangerous good

#### Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

---

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Reproductive toxicity

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200  
(HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 10 of 12

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

## US State Regulations

### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

This product contains components that are reportable under the regulation.

### Maine Chemicals of High Concern

Product does not contain any listed chemicals

### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

### Washington Chemicals of High Concern

Product does not contain any listed chemicals

### New Jersey Right To Know

This product contains components that are reportable under the regulation.

### The components of this product are reported in the following inventories:

TCSI (Taiwan)	:	On the inventory, or in compliance with the inventory
EINECS (European Union)	:	On the inventory, or in compliance with the inventory
TSCA (United States)	:	All substances listed as active on the TSCA inventory
AIC (Australia)	:	On the inventory, or in compliance with the inventory
DSL/NDSL (Canada)	:	All components of this product are on the Canadian DSL
ENCS (Japan)	:	On the inventory, or in compliance with the inventory
ISHL (Japan)	:	Not in compliance with the inventory
KECI (Korea)	:	On the inventory, or in compliance with the inventory
NZioC (New Zealand)	:	On the inventory, or in compliance with the inventory
PICCS (Philippines)	:	On the inventory, or in compliance with the inventory
IECSC (China)	:	On the inventory, or in compliance with the inventory
SWISS (Switzerland)	:	On the inventory, or in compliance with the inventory
CICR (Turkey)	:	On the inventory, or in compliance with the inventory

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 11 of 12

TECI (Thailand) : On the inventory, or in compliance with the inventory

## TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 09/05/2023

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not

# SAFETY DATA SHEET

According to OSHA Hazard Communication Standard 29CFR 1910.1200  
(HCS 2012)

<b>1016024</b>		<b>PE FRIT MS Bonding G 3249-2 50LB BAG</b>	
Product specification	<b>RS_FP_600085</b>	Revision Date	<b>09/05/2023</b>
Version	<b>5.1</b>	Print Date	<b>09/06/2023</b>
Material number	<b>1016024</b>	Page	Page 12 of 12

---

to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN