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| 1133416 | | 3278-2 Glaze Frit | BAG50LB |
| Product specification | RS_FP_307428 | Revision Date | 04/06/2016 |
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SECTION 1. IDENTIFICATION

Product name : 3278-2 Glaze Frit BAG50LB
000000000001133416

Product code : RS_FP_307428

Manufacturer or supplier's details

Company name of supplier : Ferro Corporation

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

Telephone : (216) 875-5600

Disposal considerations : Dispose of wastes in an approved waste disposal facility.

Emergency telephone number

CHEMTREC In-Country : (800)424-9300

Number

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

Recommended use of the chemical and restrictions on use

Recommended use : Industrial use

Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical nature : glass/frit

Hazardous components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice : Consult a physician.

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- If inhaled : Remove to fresh air.
If unconscious place in recovery position and seek medical advice.
Never give anything by mouth to an unconscious person.
- In case of skin contact : Wash off immediately with soap and plenty of water.
If a person feels unwell or symptoms of skin irritation appear, consult a physician.
- In case of eye contact : Rinse immediately with plenty of water and seek medical advice.
- If swallowed : Do NOT induce vomiting.
Rinse immediately with plenty of water and seek medical advice.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : Exposure to decomposition products may be a hazard to health.
Do not allow run-off from fire fighting to enter drains or water courses.
- 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 : Ensure adequate ventilation.
Follow safe handling advice and personal protective equipment recommendations.
Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent product from entering drains.
- Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal.
Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not get in eyes or mouth or on skin.

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For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Do not use in areas without adequate ventilation.
Keep away from heat and sources of ignition.

Conditions for safe storage : Keep in a dry, cool and well-ventilated place.

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
Material : Protective gloves

Eye protection : Safety glasses with side-shields
Ensure that eyewash stations and safety showers are close to the workstation location.

Protective measures : Wear suitable protective equipment.
When using do not eat, drink or smoke.

Hygiene measures : Remove contaminated clothing and protective equipment before entering eating areas.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : white

Odour : odourless

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

SAFETY DATA SHEET

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| Evaporation rate | : Not applicable |
| Burning rate | : No data available |
| Upper explosion limit | : No data available |
| Lower explosion limit | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density | : No data available |
| Relative density | : No data available |
| Bulk density | : No data available |
| Solubility(ies) | |
| Water solubility | : No data available |
| Solubility in other solvents | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Auto-ignition temperature | : not determined |
| Thermal decomposition | : No data available |
| Viscosity | |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Refractive index | : Not applicable |

SECTION 10. STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity | : No data available |
| Chemical stability | : No data available |
| Possibility of hazardous reactions | : No data available |
| Conditions to avoid | : Incompatible materials |
| Incompatible materials | : Incompatible with oxidizing agents. Incompatible with strong acids and bases. |
| | No data available |

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No data available

Hazardous decomposition products : Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

inhalation (dust/mist/fume)

inhalation (vapour)

Skin

Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

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.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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.

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Reproductive toxicity

Not classified based on available information.

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.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Persistence and degradability**Product:**

Biodegradability : Remarks: No data available

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Mobility in soil**Product:**Distribution among
environmental compartments : Remarks: No data available**Other adverse effects**

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of wastes in an approved waste disposal facility.

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SECTION 14. TRANSPORT INFORMATION

International Regulation

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

Pollution category : N/A

Ship type : N/A

National Regulations

49 CFR DOT

Not regulated as a hazardous material

SECTION 15. REGULATORY INFORMATION

TSCA list : TSCA 5a - Not relevant
 TSCA_12b - Not relevant

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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.

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.

New Jersey Right To Know

This product contains components that are reportable under the regulation.

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

| | |
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| CH INV | : On the inventory, or in compliance with the inventory |
| TSCA | : On TSCA Inventory |
| DSL | : All components of this product are on the Canadian DSL. |
| AICS | : On the inventory, or in compliance with the inventory |
| NZIoC | : Not in compliance with the inventory |
| ENCS | : On the inventory, or in compliance with the inventory |
| ISHL | : Not in compliance with the inventory |
| KECI | : On the inventory, or in compliance with the inventory |
| PICCS | : On the inventory, or in compliance with the inventory |
| IECSC | : On the inventory, or in compliance with the inventory |

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA), CH INV (Switzerland), MY INV (Malaysia), TR INV (Turkey), TW INV (Taiwan)

SECTION 16. OTHER INFORMATION

| | |
|---|--|
| Sources of key data used to compile the Safety Data Sheet | : [1] Estudio de Evaluación de Riesgos de la Fritas Cerámicas, Universitat Jaume I, 2005 [2] Modelling Study of Ceramic Frits Formulation for their Classification in REACH, Universtat Jaume I, 2009 [3] 2009 Validity Assessment of the Exemption Dossier Cera |
| Revision Date | : 04/06/2016 |

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