1 Identification

- Product identifier: Glass enamel powder
- Trade name:
- Product ID#: **UNLEADED ONGLAZE PURPLE** 94A1003
- Product Use: Glass enamel powder
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: Johnson Matthey Inc.
    498 Acorn Lane
    Downingtown, PA 19335
    tel. 1 610 873-3200
    fax. 1 610 873-3255
  - Information department: Product Safety Department 1 (610) 873-3200 M-F 8am-5pm
  - Emergency telephone number: 1 856 384-7050

2 Hazard(s) identification

- Classification of the substance or mixture
  The product is not classified according to the Globally Harmonized System (GHS).
- Information concerning particular hazards for human and environment:
  The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- Classification system:
  The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- Label elements
  - GHS label elements: Void
  - Hazard pictograms: Void
  - Signal word: Void
  - Hazard statements: Void
  - Hazard description:

- American Hazard Description
  Based upon the components the following hazards may exist:
  - Target Organs - Eyes, Skin Lungs
- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 0
    - Reactivity = 0

(Contd. on page 2)
4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
  - Remove contaminated clothing and wash skin with soap and water. Wash or clean clothing before reuse.
- **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.
5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture: No further relevant information available.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions:
  - Do not allow product to reach sewage system or any water course.
  - Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up: Pick up mechanically.
- Reference to other sections:
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- Handling:
- Precautions for safe handling: No special measures required.
- Information about protection against explosions and fires: No special measures required.
- 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: Not required.
- Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems:
  - The application of this product requires well exhausted firing kilns and efficient ventilation of working areas.
- Control parameters:
- Components with limit values that require monitoring at the workplace:
  - There is no PEL established for this mixture. Recommend monitoring based upon the components in the mixture.

<table>
<thead>
<tr>
<th>65997-18-4 frits, chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL</td>
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<tr>
<td>TLV</td>
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</table>

<table>
<thead>
<tr>
<th>silver compounds (calculated as Ag₂O)</th>
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</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
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</table>

- Additional information: The lists that were valid during the creation were used as basis.
9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance: Powder
    - Color: Pink
    - Odor: Odorless

- pH-value: Neutral

- Change in condition
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: Undetermined.

- Flash point: Not applicable.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- Density: Not determined.

- Solubility in / Miscibility with
  - Water: Not miscible or difficult to mix.

- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- Solvent content:
  - Organic solvents: 0.0 %
  - Water: 0.0 %
  - Solvent (USA): 0.0 %

- Solids content: 100.0 %

- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - silver compounds (calculated as Ag2O)
    - Oral LD50 2820 mg/kg (rat)
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information:
    The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - NTP (National Toxicology Program)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - 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.
  - Additional ecological information:
  - General notes:
    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.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.
### 13 Disposal considerations

- Waste treatment methods
  - Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

### 14 Transport information

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<th>Description</th>
<th>Value</th>
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<td>Environmental hazards:</td>
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<tr>
<td>Marine pollutant:</td>
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<td>Special precautions for user</td>
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<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
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<td>(Contd. on page 7)</td>
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</tbody>
</table>
### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
  - **Section 355 (extremely hazardous substances):**
    None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    None of the ingredients is listed.
  - **TSCA (Toxic Substances Control Act):**
    All ingredients are listed.
  - **Proposition 65**
    - **Warning:** This product contains a chemical known to the State of California to cause cancer
      None of the ingredients is listed.
    - **Warning:** This product contains a chemical known to the State of California to cause female reproductive hazards.
      None of the ingredients is listed.
    - **Warning:** This product contains a chemical known to the State of California to cause male reproductive hazards
      None of the ingredients is listed.
    - **Warning:** This product contains a chemical known to the State of California to cause development toxicity
      None of the ingredients is listed.
  - **Canadian Ingredient disclosure list**
    - **Limit 0,1%**
      None of the ingredients is listed.
    - **Limit 1%**
      None of the ingredients is listed.
  - **Cancerogenity categories**
    - **EPA (Environmental Protection Agency)**
      None of the ingredients is listed.
    - **TLV (Threshold Limit Value established by ACGIH)**
      None of the ingredients is listed.
    - **MAK (German Maximum Workplace Concentration)**
      None of the ingredients is listed.
    - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
      None of the ingredients is listed.
  - **National regulations:**
    The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.
· Contact:
  J. Rose
  EHS Specialist
· Date of preparation / last revision 04/10/2015 / 5
· Abbreviations and acronyms:
  RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  ICAO: International Civil Aviation Organisation
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (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)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent

· * Data compared to the previous version altered.