## 1 Identification

- **Product identifier**: Glass enamel powder
- **Trade name**: Glass enamel powder
- **Product ID#**: 94K1004
- **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 MSF 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).

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**: Not applicable.

- **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 - Lungs

- **Classification system**

- **NFPA ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 0
  - Reactivity = 0

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Product ID#: **UNLEADED ONGLAZE CHROME GREEN** 94K1004

- **HMIS ratings (scale 0 - 4)**
  - **HEALTH** 0
  - **FIRE** 0
  - **REACTIVITY** 0

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

### 3 Composition/information on ingredients

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

- **Hazardous components**:
  - CAS: 65997-18-4  EINECS: 266-047-6
    - frits, chemicals
    - chromium (III) compounds, n.o.s. (calculated as Cr2O3)
  - CAS: 65997-18-4  EINECS: 266-047-6
    - frits, chemicals
    - chromium (III) compounds, n.o.s. (calculated as Cr2O3)

- **Main components**:
  - CAS: 65997-18-4  EINECS: 266-047-6
    - frits, chemicals
    - chromium (III) compounds, n.o.s. (calculated as Cr2O3)
  - CAS: 65997-18-4  EINECS: 266-047-6
    - frits, chemicals
    - chromium (III) compounds, n.o.s. (calculated as Cr2O3)

- **SVHC**
- **Additional information**:
  For the wording of the listed risk phrases refer to section 16. This product is partly or entirely the result of a melting, calcining or sintering process at high temperatures. It therefore does not necessarily exhibit the properties of the abovementioned metallic constituents. The mentioned metals are present in a complex matrix and are expressed as their oxides; it is however highly unlikely that these oxides are actually present in the product, unless explicitly specified.

### 4 First-aid measures

- **Description of first aid measures**
  - **General information**:
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  - **After inhalation**:
    If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen.
    In case of unconsciousness place patient stably in side position for transportation.
  - **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.

* (Contd. on page 3)
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.
  · Advice for firefighters
  · Protective equipment: Wear full firefighting gear and SCBA

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
· 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: No special measures required.
· 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
    Thorough dedusting.
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of dust.
  · 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: Keep receptacle tightly sealed.
  · 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>
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</thead>
<tbody>
<tr>
<td>PEL</td>
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<tr>
<td>TLV</td>
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</tr>
</tbody>
</table>
**Product ID#:** **UNLEADED ONGLAZE CHROME GREEN** 94K1004

<table>
<thead>
<tr>
<th>chromium (III) compounds, n.o.s. (calculated as Cr₂O₃)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEL</strong> Long-term value: 0.5 mg/m³ as Cr</td>
</tr>
<tr>
<td><strong>REL</strong> Long-term value: 0.5 mg/m³ as Cr; See Pocket Guide App. C</td>
</tr>
<tr>
<td><strong>TLV</strong> Long-term value: 0.5 mg/m³ as Cr</td>
</tr>
</tbody>
</table>

- **Exposure controls**
- **Personal protective equipment:**
  - **General protective and hygienic measures:**
    The usual precautionary measures for handling chemicals should be followed.
  - **Breathing equipment:** Not required.
  - **Protection of hands:**
  - **Material of gloves**
    Nitrile rubber, NBR
    Chemical resistant gloves
  - **Eye protection:** Not required.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - **Form:** Powder
    - **Color:** Green
  - **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.

- **Vapor pressure at 20 °C (68 °F):** 0 hPa

- **Density:** Not determined.

- **Solubility in / Miscibility with**
  - **Water:** Insoluble.

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

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

(Contd. on page 5)
**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.
  - Conditions to avoid: No further relevant information available.
  - Incompatible materials: No further relevant information available.
  - Hazardous decomposition products: No dangerous decomposition products known.

**11 Toxicological information**

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - chromium (III) compounds, n.o.s. (calculated as Cr2O3)
      - Oral LD50 > 10000 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.
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

- UN-Number
  - DOT, ADR, ADN, IMDG, IATA: Not regulated

- UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA: Not regulated

- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA: Not regulated
  - Class: Not regulated

- Packing group
  - DOT, ADR, IMDG, IATA: Not regulated

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Not applicable.

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

- Transport/Additional information:
  - Not dangerous according to the above specifications.
  - DOT
  - Remarks: Not regulated

- ADR
  - Remarks: Not regulated

- ADN
  - Remarks: Not regulated

- IMDG
  - Remarks: Not regulated
### 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):**
    - chromium (III) compounds, n.o.s. (calculated as Cr₂O₃)
      *  
  - **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 / 7

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.