



Safety Data Sheet
acc. to OSHA HCS

Printing date 01/18/2013

Reviewed on 01/18/2013

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

· **Product identifier** Glass enamel powder

· **Trade name:**

· **Product ID#:** **UNLEADED ONGLAZE GREEN**

94K1002

· **Product Use:**

Glass enamel powder

Preparation of ceramic parts and coatings

· **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 Hazards 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**



Harmful

Harmful by inhalation.

· **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**

· **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product has been marked in accordance with national laws.

· **Code letter and hazard designation of product:**

Xn Harmful

· **Hazard-determining components of labelling:**

cobalt compounds, n.o.s. (calculated as CoO)

frits, chemicals

· **Risk phrases:**

Harmful by inhalation.

· **Safety phrases:**

Do not breathe dust.

(Contd. on page 2)

Product ID#: UNLEADED ONGLAZE GREEN

94K1002

(Contd. of page 1)

Wear suitable protective clothing and eye/face protection.

· **Hazard description:**

· **American Hazard Description** Based upon the components the following hazards may exist:

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	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 frits and/or raw materials of natural origin and inorganic pigments in powder form

· **Hazardous components:**

CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	25-100%
	chromium (III) compounds, n.o.s. (calculated as Cr ₂ O ₃)	≤10%
	cobalt compounds, n.o.s. (calculated as CoO)	1-5%
	aluminium compounds n.o.s. (calculated as Al ₂ O ₃)	1-5%

· **Main components:**

CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	25-100%
	chromium (III) compounds, n.o.s. (calculated as Cr ₂ O ₃)	≤10%
	cobalt compounds, n.o.s. (calculated as CoO)	1-5%
	aluminium compounds n.o.s. (calculated as Al ₂ O ₃)	1-5%

· **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.

USA

(Contd. on page 3)

Product ID#: UNLEADED ONGLAZE GREEN

94K1002

(Contd. of page 2)

* 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.
- **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 Firefighting 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:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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

- **Precautions for safe handling**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Provide suction extractors if dust is formed.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 4)

Product ID#: UNLEADED ONGLAZE GREEN

94K1002

(Contd. of page 3)

- **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.

65997-18-4 frits, chemicals

PEL	15 mg/m ³ Recommend PEL for nuisance dust
TLV	15 mg/m ³ Recommend PEL for Nuisance dust

chromium (III) compounds, n.o.s. (calculated as Cr2O3)

PEL	0.5 mg/m ³ as Cr, inorganic compound
REL	0.5 mg/m ³ as Cr, inorganic compound
TLV	0.5 mg/m ³ as Cr (III), inorganic compound

cobalt compounds, n.o.s. (calculated as CoO)

PEL	0.1 * mg/m ³ as Co, * metal,dust and fumes
REL	* 0.05 mg/m ³ as Co, * for metal dust & fume
TLV	0.02 mg/m ³ as Co, BEI

aluminium compounds n.o.s. (calculated as Al2O3)

PEL	* 15, ** 5 mg/m ³ * Total dust, ** Respirable dust
REL	Short-term value: 1.5R mg/m ³
TLV	TLV withdrawn

- **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.

(Contd. on page 5)

Product ID#: UNLEADED ONGLAZE GREEN

94K1002

(Contd. of page 4)

- **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.

· **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 %

· **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.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/18/2013

Reviewed on 01/18/2013

Product ID#: **UNLEADED ONGLAZE GREEN****94K1002**

(Contd. of page 5)

- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **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 shows the following dangers according to internally approved calculation methods for preparations:
Harmful
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

cobalt compounds, n.o.s. (calculated as CoO)

2B

- **NTP (National Toxicology Program)**

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.
- **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.

USA

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/18/2013

Reviewed on 01/18/2013

Product ID#: **UNLEADED ONGLAZE GREEN****94K1002**

(Contd. of page 6)

14 Transport information

· 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
· Packing group · DOT, ADR, IMDG, IATA	Void
· 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
· IATA · Remarks:	Not regulated
· UN "Model Regulation":	-

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):

chromium (III) compounds, n.o.s. (calculated as Cr2O3) *

cobalt compounds, n.o.s. (calculated as CoO) *

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 8)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2013

Reviewed on 01/18/2013

Product ID#: UNLEADED ONGLAZE GREEN
94K1002

(Contd. of page 7)

· Proposition 65
· Warning: This product contains a chemical known to the State of California to cause cancer

cobalt compounds, n.o.s. (calculated as CoO) *

· 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)
aluminium compounds n.o.s. (calculated as Al₂O₃) A4
· 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.

· OSHA-Ca (Occupational Safety & Health Administration)

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

· 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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

(Contd. on page 9)

USA

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/18/2013

Reviewed on 01/18/2013

Product ID#: UNLEADED ONGLAZE GREEN**94K1002**

(Contd. of page 8)

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

· *** Data compared to the previous version altered.**

USA