



Safety Data Sheet
acc. to OSHA HCS

Printing date 04/10/2015

Version 9

Reviewed on 04/10/2015

1 Identification

- **Product identifier** Coloured glaze
- **Trade name:**
- **Product ID#:** **GREEN ONGLAZE** **94K1003**
- **Product Use:**
Coloured glaze
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 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:
Nickel, Titanium dioxide, Cobalt and Antimony are cancer hazards

- Target Organs - Lungs, Hair

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS ratings (scale 0 - 4)**



- **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	75-100%
CAS: 8007-18-9 EINECS: 232-353-3	antimony nickel titanate yellow	10-<25%
CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	1-5%

- **Main components:**

CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	75-100%
CAS: 8007-18-9 EINECS: 232-353-3	antimony nickel titanate yellow	10-<25%
CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	1-5%
CAS: 68187-11-1 EINECS: 269-072-0	cobalt chromite blue spinel	1-5%
	chromium (III) compounds, n.o.s. (calculated as Cr ₂ O ₃)	< 0.5%
CAS: 7778-18-9 EINECS: 231-900-3	calcium sulphate, natural	< 0.5%

- **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.

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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. Supply fresh air and to be sure call for a doctor.
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:** Immediately call a 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.
- **Advice for firefighters**
- **Protective equipment:** Wear full firefighting gear and SCBA

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**
No dangerous substances are released.
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.
Provide suction extractors if dust is formed.
- **Information about protection against explosions and fires:** No special measures required.

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- **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	Long-term value: 15 mg/m ³ recommended PEL for nuisance dust
TLV	Long-term value: 15 mg/m ³ recommended TLV for nuisance dust

8007-18-9 antimony nickel titanate yellow

PEL	Long-term value: 1 mg/m ³ as Ni
REL	Long-term value: 0.015 mg/m ³ as Ni; See Pocket Guide App. A
TLV	Long-term value: 0.2 mg/m ³ as Ni; inhalable fraction

65997-18-4 frits, chemicals

PEL	Long-term value: 15 mg/m ³ recommended PEL for nuisance dust
TLV	Long-term value: 15 mg/m ³ recommended TLV for nuisance dust

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

PEL	Long-term value: 0.5 mg/m ³ as Cr
REL	Long-term value: 0.5 mg/m ³ as Cr; See Pocket Guide App. C
TLV	Long-term value: 0.5 mg/m ³ as Cr

· **CAS No. Designation of material % Type Value Unit**

· **Additional Occupational Exposure Limit Values for possible hazards during processing:**

titanium compounds, n.o.s. (calculated as TiO₂)

PEL	Long-term value: * 15 mg/m ³ * total dust
REL	LFC (LOQ 0.2 mg/m ³)

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nickel compounds, n.o.s. (calculated as NiO)

PEL Long-term value: 1 mg/m³
TWA is 1 mg/m³

REL Long-term value: 0.015 mg/m³
as Ni, TWA is 0.015 mg/m³

TLV Long-term value: 0.2 I mg/m³
as Ni

antimony compounds, n.o.s. (calculated as Sb₂O₃)

PEL Long-term value: 0.5 mg/m³
as Sb

REL Long-term value: 0.5 mg/m³
as Sb

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

PEL Long-term value: * 15 **5 mg/m³
* Total dust, **Respirable dust

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

PEL Long-term value: 0.5 mg/m³
as Cr, inorganic compound

REL Long-term value: 0.5 mg/m³
as Cr, inorganic compound

TLV Long-term value: 0.5 mg/m³
as Cr(III), inorganic compound

· **Additional information:** The lists that were valid during the creation were used as basis.

· **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

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not determined.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	0 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· 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.
- **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.

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- **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)**

8007-18-9	antimony nickel titanate yellow	1 (nickel compounds, antimony compounds)
68187-11-1	cobalt chromite blue spinel	cobalt compounds

- **NTP (National Toxicology Program)**

8007-18-9	antimony nickel titanate yellow	nickel compounds, antimony compounds
68187-11-1	cobalt chromite blue spinel	cobalt compounds

- **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

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

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· **UN proper shipping name**
 · **DOT, ADR, ADN, IMDG, IATA** Not regulated

· **Transport hazard class(es)**
 · **DOT, ADR, ADN, IMDG, IATA**
 · **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

· **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):**

8007-18-9	antimony nickel titanate yellow	nickel compounds, antimony compounds
68187-11-1	cobalt chromite blue spinel	cobalt compounds, chromium compounds

· **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**

8007-18-9	antimony nickel titanate yellow	nickel compounds, antimony compounds
68187-11-1	cobalt chromite blue spinel	cobalt compounds

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· **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.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

8007-18-9 antimony nickel titanate yellow

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.

· **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 / 8

· **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)

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VOC: Volatile Organic Compounds (USA, EU)

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

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