# Safety Data Sheet
## acc. to OSHA HCS

*Printing date 04/10/2015* *Version 13* *Reviewed on 04/10/2015*

* 
## 1 Identification

· **Product identifier** Glass enamel powder
· **Trade name:**
· **Product ID#:** ***SILICA BLUE ONGLAZE*** ***94L1003***
· **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**


GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carc. 2 H351 Suspected of causing cancer.


GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Sensitizing
May cause sensitization by inhalation and skin contact.
· **Information concerning particular hazards for human and environment:** Not applicable.
· **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** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS08
· **Signal word** Danger

· **Hazard-determining components of labeling:**
cobalt compounds

(Contd. on page 2)

**Safety Data Sheet**
**acc. to OSHA HCS**

*Printing date 04/10/2015* *Version 13* *Reviewed on 04/10/2015*

**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 1)

· **Hazard statements**
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
· **Precautionary statements**
P284 Wear respiratory protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves.
P272 Contaminated work clothing must not be allowed out of the workplace.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P321 Specific treatment (see on this label).
P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor
P363 Wash contaminated clothing before reuse.
P304+P341 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P302+P352 If on skin: Wash with plenty of water and soap
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Hazard description:**
· **Canadian Hazard Symbols**
D2A - Very toxic material causing other toxic effects

· **American Hazard Description**
Based upon the components the following hazards may exist:
Target Organs - Lungs

Cobalt is a cancer hazard
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**


Health = 1
Fire = 0
Reactivity = 0

· **HMIS ratings (scale 0 - 4)**


Health = 1
Fire = 0
Reactivity = 0

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



(Contd. on page 3)

**Safety Data Sheet**
**acc. to OSHA HCS**



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 2)

* 
## 3 Composition/information on ingredients

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

| · **Hazardous components:** | | |
|---|---|---|
| CAS: 65997-18-4<br>EINECS: 266-047-6 | frits, chemicals | 50-75% |
| | zinc compounds, n.o.s. (calculated as ZnO) | ≤10% |
| | cobalt compounds<br>Xn R42/43<br>R53<br>Resp. Sens. 1, H334; Carc. 2, H351; Skin Sens. 1, H317; Aquatic Chronic 4, H413 | 5-<10% |
| | silicon compounds, n.o.s. (calculated as SiO2) | 5-<10% |

| · **Main components:** | | |
|---|---|---|
| CAS: 65997-18-4<br>EINECS: 266-047-6 | frits, chemicals | 50-75% |
| | zinc compounds, n.o.s. (calculated as ZnO) | ≤10% |
| | cobalt compounds<br>Xn R42/43<br>R53<br>Resp. Sens. 1, H334; Carc. 2, H351; Skin Sens. 1, H317; Aquatic Chronic 4, H413 | 5-<10% |
| | silicon compounds, n.o.s. (calculated as SiO2) | 5-<10% |

· **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.
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:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 4)

**Safety Data Sheet**
**acc. to OSHA HCS**



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 3)

· **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**
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.
· **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.

(Contd. on page 5)

**Safety Data Sheet**
**acc. to OSHA HCS**

*Printing date 04/10/2015* *Version 13* *Reviewed on 04/10/2015*

**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 4)

| **65997-18-4 frits, chemicals** | |
|---|---|
| PEL | Long-term value: 15 mg/m³<br>recommended PEL for nuisance dust |
| TLV | Long-term value: 15 mg/m³<br>recommended TLV for nuisance dust |
| **zinc compounds, n.o.s. (calculated as ZnO)** | |
| PEL | Long-term value: 15* 5** mg/m³<br>*total dust **respirable fraction and fume |
| REL | Short-term value: 10** mg/m³<br>Long-term value: 5* 5** mg/m³<br>Ceiling limit value: 15* mg/m³<br>*dust only **fume |
| TLV | Short-term value: 10* mg/m³<br>Long-term value: 2* mg/m³<br>*as respirable fraction |
| **cobalt compounds** | |
| PEL | Long-term value: 0.1* mg/m³<br>as Co; *for metal dust and fume |
| REL | Long-term value: 0.05 mg/m³<br>as Co; metal dust & fume |
| TLV | Long-term value: 0.02; NIC - 0.02* mg/m³<br>BEI; *hard metals:thoracic ;NIC-A2,RSEN;as W |
| **silicon compounds, n.o.s. (calculated as SiO2)** | |
| PEL | Long-term value: * 15, ** 5 mg/m³<br>* total dust,** respirable |

· **Ingredients with biological limit values:**

| **cobalt compounds** | |
|---|---|
| BEI | 15 µg/L<br>Medium: urine<br>Time: end of shift at end of workweek<br>Parameter: Cobalt (background)<br><br>1 µg/L<br>Medium: blood<br>Time: end of shift at end of workweek<br>Parameter: Cobalt (background, semi-quantitative) |

· **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.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not required.

(Contd. on page 6)

**Safety Data Sheet**
**acc. to OSHA HCS**



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 5)

· **Protection of hands:**

Protective gloves

· **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:** | Blue |
| · **Odor:** | Odorless |
| · **Odour threshold:** | Not determined. |
| · **pH-value:** | Not applicable. |
| · **Change in condition** | |
| **Melting point/Melting range:** | Undetermined. |
| **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:** | Not applicable. |
| · **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. |

(Contd. on page 7)

**Safety Data Sheet**
**acc. to OSHA HCS**



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 6)

| | |
|---|---|
| · **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.
· **on the eye:** No irritating effect.
· **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

· **Carcinogenic categories**

| · **IARC (International Agency for Research on Cancer)** | |
|---|---|
| cobalt compounds | 2B |

| · **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.

(Contd. on page 8)

**Safety Data Sheet**
**acc. to OSHA HCS**



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 7)

· **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 |
| · **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 |

(Contd. on page 9)

**Safety Data Sheet**
**acc. to OSHA HCS**

*Printing date 04/10/2015* *Version 13* *Reviewed on 04/10/2015*

**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 8)

| | |
|---|---|
| · **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):**

| | |
|---|---|
| zinc compounds, n.o.s. (calculated as ZnO) | * |
| cobalt 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**

| | |
|---|---|
| cobalt compounds | * |

· **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%**
cobalt compounds

· **Limit 1%**
zinc compounds, n.o.s. (calculated as ZnO)

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

| | |
|---|---|
| zinc compounds, n.o.s. (calculated as ZnO) | D, I, II |

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

| | |
|---|---|
| cobalt compounds | A3 |

· **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.

(Contd. on page 10)

# Safety Data Sheet
## acc. to OSHA HCS



**Product ID#: SILICA BLUE ONGLAZE** **94L1003**

(Contd. of page 9)

· **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.

· **Relevant phrases**
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H413 May cause long lasting harmful effects to aquatic life.
R42/43 May cause sensitization by inhalation and skin contact.
R53 May cause long-term adverse effects in the aquatic environment.

· **Contact:**
J. Rose
EHS Specialist

· **Date of preparation / last revision** 04/10/2015 / 12

· **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)
WHMIS: Workplace Hazardous Materials Information System (Canada)
VOC: Volatile Organic Compounds (USA, EU)
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 2: Carcinogenicity, Hazard Category 2
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4

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