



Johnson Matthey  
Advanced Glass Technologies

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

Printing date 04/10/2015

Version 7

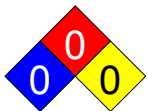
Reviewed on 04/10/2015

**1 Identification**

- **Product identifier** Flux
- **Trade name:**
- **Product ID#:** **ONGLAZE FLUX** **94C1001**
- **CAS Number:**  
65997-18-4
- **EC number:**  
266-047-6
- **Product Use:** Flux
- **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 substance 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:** Not applicable.
- **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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- **HMIS ratings (scale 0 - 4)**

HEALTH	0	Health = 0
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: Substances**
- **CAS No. Description**  
65997-18-4 frits, chemicals
- **Identification number(s)**
- **EC number:** 266-047-6

- **Hazardous components:**

zinc compounds, n.o.s. (calculated as ZnO)	0.5-<1%
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- **Main components:**

CAS: 65997-18-4 EINECS: 266-047-6	frits, chemicals	75-100%
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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. 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.

### 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.

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- **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:** 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:**

### 65997-18-4 frits, chemicals

PEL	Long-term value: 15 mg/m <sup>3</sup> recommended PEL for nuisance dust
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TLV	Long-term value: 15 mg/m <sup>3</sup> recommended TLV for nuisance dust
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### zinc compounds, n.o.s. (calculated as ZnO)

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> *total dust **respirable fraction and fume
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REL	Short-term value: 10** mg/m <sup>3</sup> Long-term value: 5* 5** mg/m <sup>3</sup> Ceiling limit value: 15* mg/m <sup>3</sup> *dust only **fume
TLV	Short-term value: 10* mg/m <sup>3</sup> Long-term value: 2* mg/m <sup>3</sup> *as respirable fraction

· **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:**



Suitable respiratory protective device recommended.

· **Protection of hands:**

· **Material of gloves**

Nitrile rubber, NBR

Chemical resistant gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Eye protection:** Not required.

· **Body protection:**



Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Solid in various forms

**Color:** Not determined.

· **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):** Product is not flammable.

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· **Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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· <b>Auto igniting:</b>	Not determined.
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· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
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· **Explosion limits:**

<b>Lower:</b>	Not determined.
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<b>Upper:</b>	Not determined.
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· <b>Vapor pressure at 20 °C (68 °F):</b>	0 hPa
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· <b>Density:</b>	Not determined.
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· <b>Relative density</b>	Not determined.
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· <b>Vapour density</b>	Not applicable.
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· <b>Evaporation rate</b>	Not applicable.
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· **Solubility in / Miscibility with**

<b>Water:</b>	Insoluble.
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· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
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· **Viscosity:**

<b>Dynamic:</b>	Not applicable.
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<b>Kinematic:</b>	Not applicable.
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<b>Organic solvents:</b>	0.0 %
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<b>Water:</b>	0.0 %
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<b>Solvent (USA):</b>	0.0 %
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<b>Solids content:</b>	100.0 %
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· <b>Other information</b>	No further relevant information available.
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## 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:** No sensitizing effects known.

· **Additional toxicological information:**

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.

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The substance is not subject to classification.

- **Carcinogenic categories**

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

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not 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:** Smaller quantities can be disposed of with household waste.

- **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

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· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>DOT</b>	
· <b>Remarks:</b>	Not regulated
· <b>ADR</b>	
· <b>Remarks:</b>	Not regulated
· <b>ADN</b>	
· <b>Remarks:</b>	Not regulated
· <b>IMDG</b>	
· <b>Remarks:</b>	Not regulated
· <b>IATA</b>	
· <b>Remarks:</b>	Not regulated
· <b>UN "Model Regulation":</b>	-

**15 Regulatory information**

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

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

Substance is not listed.

· **Warning: This product contains a chemical known to the State of California to cause female reproductive hazards.**

Substance is not listed.

· **Warning: This product contains a chemical known to the State of California to cause male reproductive hazards**

Substance is not listed.

· **Warning: This product contains a chemical known to the State of California to cause development toxicity**

Substance is not listed.

· **Canadian Ingredient disclosure list**

· **Limit 0,1%**

Substance is not listed.

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· <b>Limit 1%</b>
Substance is not listed.
· <b>Carcinogenicity categories</b>
· <b>EPA (Environmental Protection Agency)</b>
Substance is not listed.
· <b>TLV (Threshold Limit Value established by ACGIH)</b>
Substance is not listed.
· <b>MAK (German Maximum Workplace Concentration)</b>
Substance is not listed.
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
Substance is not 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 / 6

· **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)

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

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