

# SAFETY DATA SHEET

**SiliaFlash® & IMPAQ®**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product name</b>                  | : SiliaFlash® F40, G40, B40, C60, I60, A60, S60, E60, D60, R60, F60, O60, P60, G60, GE60, M60, L60, B60, N60, WE60, S90, F90, G90, B90, G150, M150, L150, B150<br>IMPAQ®                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>EC number</b>                     | : 231-545-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>CAS number</b>                    | : 7631-86-9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Product code</b>                  | : R10137L, R10130A, R10150A, R10140A, R10160A, R10170A, R10180A, R10110B, R10019B, R10017B, R10023B, R10030B, R12030B, R10530B, R10150B, R10040B, R10140B, R10137B, R10157B, R10160B, R10164B, R10165B, R10170B, R10180B, R10130D, R10140D, R10157D, R10170D, R10180D, R10181D, R10130H, R10150H, R10140H, R10157H, R10160H, R10170H, R10072H, R10180H, R10181H, R10130M, R10140M, R10170M, R10025E, R10010B, R10013B, R10014B, R10015B, R12022B, R10015D, R12130B, R14030B, R10096H, R19940H, R10014B, R10240B, R10013D, R10022D, R10170P, R10170T, R10180P, R10180T |
| <b>Product description</b>           | : Silica dioxide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Other means of identification</b> | : Silica gel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Chemical formula</b>              | : SiO <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

|                        |                  |
|------------------------|------------------|
| <b>Identified uses</b> | : Chromatography |
|------------------------|------------------|

### 1.3 Details of the supplier of the safety data sheet

|                 |                                                                                         |                                                                                   |
|-----------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Supplier</b> | : SiliCycle Inc.<br>2500, Parc-Technologique Blvd<br>Quebec City, QC<br>Canada, G1P 4S6 | Tel: 418-874-0054<br>Fax: 418-874-0355<br>Info@SiliCycle.com<br>www.SiliCycle.com |
|-----------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|

|                                                          |                      |
|----------------------------------------------------------|----------------------|
| <b>e-mail address of person responsible for this SDS</b> | : Info@SiliCycle.com |
|----------------------------------------------------------|----------------------|

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

|                           |                                               |
|---------------------------|-----------------------------------------------|
| <b>Telephone number</b>   | : CANUTEC: +1-613-996-6666 or *666 (cellular) |
| <b>Hours of operation</b> | : 24 hours/day, 7 days/week                   |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

|                           |                              |
|---------------------------|------------------------------|
| <b>Product definition</b> | : Mono-constituent substance |
|---------------------------|------------------------------|

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

### 2.2 Label elements

|                                 |                                                     |
|---------------------------------|-----------------------------------------------------|
| <b>Signal word</b>              | : No signal word.                                   |
| <b>Hazard statements</b>        | : No known significant effects or critical hazards. |
| <b>Precautionary statements</b> |                                                     |
| <b>General</b>                  | : Not applicable.                                   |
| <b>Prevention</b>               | : Not applicable.                                   |
| <b>Response</b>                 | : Not applicable.                                   |
| <b>Storage</b>                  | : Not applicable.                                   |
| <b>Disposal</b>                 | : Not applicable.                                   |

#### Special packaging requirements

|                                                                |                   |
|----------------------------------------------------------------|-------------------|
| <b>Containers to be fitted with child-resistant fastenings</b> | : Not applicable. |
|----------------------------------------------------------------|-------------------|

## SECTION 2: Hazards identification

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

## SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mono-constituent substance

| Product/ingredient name | Identifiers                     | %        | <u>Classification</u> |                                     | Type |
|-------------------------|---------------------------------|----------|-----------------------|-------------------------------------|------|
|                         |                                 |          | 67/548/EEC            | Regulation (EC) No. 1272/2008 [CLP] |      |
| Silicon dioxide         | EC: 231-545-4<br>CAS: 7631-86-9 | 60 - 100 | Not classified.       | Not classified.                     | [A]  |

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

### Type

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes.
- Inhalation** : Move exposed person to fresh air.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

### 4.2 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : No specific fire or explosion hazard.
- Hazardous combustion products** : No specific data.

### 5.3 Advice for firefighters

## SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing dust. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

- 7.3 Specific end use(s) Recommendations** : Not available.

## SECTION 7: Handling and storage

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

| Product/ingredient name | Exposure limit values                                                                                                                                                           |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Silicon dioxide         | <b>EH40/2005 WELs (United Kingdom (UK), 8/2007).</b><br>TWA: 6 mg/m <sup>3</sup> 8 hour(s). Form: inhalable dust<br>TWA: 2.4 mg/m <sup>3</sup> 8 hour(s). Form: respirable dust |

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

**Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

**Eye/face protection** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: If operating conditions cause high dust concentrations to be produced, use dust goggles.

#### Skin protection

**Hand protection** : Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Lab coat.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Not required under normal conditions of uses. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure an MSHA/NIOSH-approved respirator or equivalent is used.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** : Solid. [Powder.]  
**Colour** : White.  
**Odour** : Odourless.  
**pH** : 6.5 to 7.5 [Conc. (% w/w): 5%]

## SECTION 9: Physical and chemical properties

|                                                |                                                                   |
|------------------------------------------------|-------------------------------------------------------------------|
| <b>Melting point/freezing point</b>            | : 1710°C                                                          |
| <b>Initial boiling point and boiling range</b> | : 2230°C                                                          |
| <b>Flash point</b>                             | : [Product does not sustain combustion.]                          |
| <b>Evaporation rate</b>                        | : Not available.                                                  |
| <b>Flammability</b>                            | : Not available.                                                  |
| <b>Vapour pressure</b>                         | : Not available.                                                  |
| <b>Vapour density</b>                          | : Not available.                                                  |
| <b>Relative density</b>                        | : 2.2                                                             |
| <b>Solubility(ies)</b>                         | : Insoluble in the following materials: cold water and hot water. |

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

|                                                |                                                                                              |
|------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>10.1 Reactivity</b>                         | : No specific test data related to reactivity available for this product or its ingredients. |
| <b>10.2 Chemical stability</b>                 | : The product is stable.                                                                     |
| <b>10.3 Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.            |
| <b>10.4 Conditions to avoid</b>                | : No specific data.                                                                          |
| <b>10.5 Incompatible materials</b>             | : No specific data.                                                                          |
| <b>10.6 Hazardous decomposition products</b>   | : No specific data.                                                                          |

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Irritation/Corrosion

| Product/ingredient name | Result               | Species | Score | Exposure               | Observation |
|-------------------------|----------------------|---------|-------|------------------------|-------------|
| Silicon dioxide         | Eyes - Mild irritant | Rabbit  | -     | 24 hours 25 milligrams | -           |

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

#### Potential acute health effects

|                     |                                                                                                                                          |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| <b>Ingestion</b>    | : No known significant effects or critical hazards.                                                                                      |
| <b>Skin contact</b> | : No known significant effects or critical hazards.                                                                                      |
| <b>Eye contact</b>  | : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.                   |

#### Symptoms related to the physical, chemical and toxicological characteristics

|                     |                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | : Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing |
| <b>Ingestion</b>    | : No specific data.                                                                       |
| <b>Skin contact</b> | : No specific data.                                                                       |

## SECTION 11: Toxicological information

**Eye contact** : Adverse symptoms may include the following:  
irritation  
redness

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Remarks** : Not available.

### 12.2 Persistence and degradability

**Remarks** : Not available.

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient ( $K_{oc}$ )** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.  
P: Not available. B: Not available. T: Not available.

**vPvB** : Not applicable.  
vP: Not available. vB: Not available.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

## SECTION 13: Disposal considerations

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
- Packaging**
- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

|                                          | ADR/RID        | ADN/ADNR       | IMDG           | IATA           |
|------------------------------------------|----------------|----------------|----------------|----------------|
| <b>14.1 UN number</b>                    | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| <b>14.2 UN proper shipping name</b>      | -              | -              | -              | -              |
| <b>14.3 Transport hazard class(es)</b>   | -              | -              | -              | -              |
| <b>14.4 Packing group</b>                | -              | -              | -              | -              |
| <b>14.5 Environmental hazards</b>        | No.            | No.            | No.            | No.            |
| <b>14.6 Special precautions for user</b> | Not available. | Not available  | Not available  | Not available. |
| <b>Additional information</b>            | -              | -              | -              | -              |

PG\* : Packing group

Exemption to the above classification may apply.

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

##### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

#### Other EU regulations

- Europe inventory** : This material is listed or exempted.
- Black List Chemicals** : Not listed
- Priority List Chemicals** : Not listed

## SECTION 15: Regulatory information

**Integrated pollution prevention and control list (IPPC) - Air** : Not listed.

**Integrated pollution prevention and control list (IPPC) - Water** : Not listed.

**15.2 Chemical Safety Assessment** : Not available.

## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification  | Justification |
|-----------------|---------------|
| Not classified. |               |

**Full text of abbreviated H statements** : Not applicable.

**Full text of classifications [CLP/GHS]** : Not applicable.

#### History

**Date of issue (dd/mm/yyyy)** : 06/01/2017

**Version** : 10.5

#### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.