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## SAFETY DATA SHEET

Product : 1220 flexible graphite and Inconel jacket

Date Prepared : May 3<sup>rd</sup>, 2017

### Section 1 - Product and Company Identification

Product Name/Identifier : 1220 flexible graphite and Inconel jacket

Other name / Synonym :

Company Information : Robco Inc.

Address : 7200 St.Patrick, LaSalle QC Canada H8N 2W7

Telephone : 514-367-2252

Email : info@robco.com

Website : www.robco.com

### Section 2 - Hazards identification

#### WHMIS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS). Not Rated.

#### HMIS Classification

Health hazard: 0

Flammability: 0

Physical hazards: 0

#### Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

### Section 3 - Composition/information on ingredients

| Ingredient                         | Percent | C.A.S. No.   |
|------------------------------------|---------|--|
| Expanded purified natural graphite | 95-100  | 7782-42-5  |
| Silica Sand (ash)                  | 0-3     | 14808-60-7 (Quartz)<br>14464-46-1 (Cristobalite)<br>15468-32-3 (Tridymite) |
| Phosphoric Acid                    | 0.0 – 1 | 7664-38-2  |

### Section 4 - First aid measures

#### Skin Contact:

Wash with lukewarm water and soap. If irritation persists, seek medical attention.

#### Eye Contact:

Flush eyes with plenty of water. If irritation develops, seek medical attention.

#### Inhalation:

If inhaled, remove to fresh air. Get medical attention, if symptoms persist



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### Section 5 - Firefighting measures

**Extinguishing Media:** Water, dry chemical, foam

**Unusual Fire and Explosion Hazards:** Accumulations of graphite dust may cause shorting of electrical circuits. Material does not support or fuel fire and is inorganic

### Section 6 - Accidental release measures

**Spill or Leak Procedures:** Graphite dusts must be vacuumed with a HEPA filter equipped vacuum to prevent accumulation.

**Waste Disposal Method:** Personnel performing clean-up of accumulated dusts should follow precautions listed in Section V. Natural graphite is not regulated by the Resource Conservation and Recovery Act (RCRA). State and local regulations should be verified prior to disposal of both the bulk material and graphite dust.

### Section 7 - Handling and storage

Laminated products may contain less than 1% adhesive. Adhesive, if uncured, may contain trace elements of solvents, such as phenol, acetone, or ethanol.

### Section 8 - Exposure controls/personal protection

**Respiratory Protection:**

NIOSH approved respirator when the occupational exposure limits are exceeded.

**Eye Protection:**

Safety glasses with side shields and/or goggles recommended when cutting or transforming material

**Protective Gloves:**

Sensitive individuals should wear protective gloves.

**Other Protective Equipment:**

Protective coveralls recommended in atmospheres with high dust concentrations.

**Ventilation:**

HEPA approved filters and local exhaust ventilation recommended to maintain dust concentrations below the occupational exposure limits.

### Section 9 - Physical and chemical properties

|  |                        |
|--|------------------------|
| <b>Appearance:</b>                                 | Braided, grey coloured |
| <b>Odor:</b>                                       | No significant smell   |
| <b>Solubility in Water:</b>                        | Insoluble              |
| <b>Boiling Point:</b>                              | N/A                    |
| <b>Vapor Density (Air = 1):</b>                    | N/A                    |
| <b>Vapor Pressure (mm Hg):</b>                     | N/A                    |
| <b>Evaporation Rate (<math>\Delta</math> = 1):</b> | N/A                    |
| <b>Percent Volatile by Volume:</b>                 | 0.5                    |
| <b>Spec. Gravity (H<sub>2</sub>O = 1):</b>         | 2.0                    |



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### Section 10 - Stability and reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

**Conditions and Materials to Avoid:**

Strong oxidants; will oxidize slowly in air temperatures of 400°C or greater.

**Hazardous Decomposition Products:**

Graphite combustion produces carbon monoxide and carbon dioxide gases.

### Section 11 - Toxicological Information

#### EFFECTS OF EXPOSURE

##### Primary Route of Exposure

Inhalation of dusts generated during processing and handling, also skin and ocular contact possible.

#### EFFECTS OF OVEREXPOSURE

##### Acute:

High concentrations of graphite dust may be irritating to eyes, skin, mucous membranes, and respiratory tract.

##### Chronic:

Prolonged or repeated overexposure to quartz dust, crystalline silica may lead to pulmonary fibrosis, decreased pulmonary function and even lung cancer, considering that quartz is found in extremely minute quantities in this product.

To inhale high concentration of graphite dust over long periods of time can cause graphite pneumoconiosis. Symptoms may include coughing, shortness of breath and decrease in pulmonary capacity.

Already existing pulmonary disorders such as emphysema can be aggravated by prolonged exposure to graphite dust in high concentrations.

##### Chronic Toxicity

Respirable quartz dust particles can be inhaled and deposited in the lung.

Silicosis, lung cancer and pulmonary tuberculosis are associated with occupational exposure to quartz dust.

Short term experimental studies of rats have found that intratracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters. Long term inhalation studies of rats and mice have shown that quartz particles produce cellular proliferation, nodule formation, suppressed immune functions and alveolar proteinosis.

Experimental studies of rats reported the occurrence of adenocarcinomas and squamous cell carcinomas after the inhalation or intratracheal instillation of quartz. Quartz is found in extremely minute quantities in this product.

#### OSHA PEL:

**Graphite (natural):** 15mppfc

**Silica:** (30 mg/m<sup>3</sup>)/SiO<sub>2</sub>+2), TWA, total dust

(10 mg/m<sup>3</sup>)/SiO<sub>2</sub>+2), TWA, respirable fraction where %SiO<sub>2</sub> is the percentage of crystalline silica determined by airborne samples, as defined by 29CFR 1910.1000 Z-3

0.025 mg/m<sup>3</sup> (TWA as quartz)  
0.025 mg/m<sup>3</sup> (TWA as cristobalite)  
0.05 mg/m<sup>3</sup> (TWA)

**Phosphoric Acid:** 1 mg/m<sup>3</sup>  
1mg/m<sup>3</sup> (TW)  
3mg/m<sup>3</sup> (STEL)  
1mg/m<sup>3</sup> (TWA)

**ACGIH TLV:**

10mg/m<sup>3</sup> as total nuisance particulate; 2 mg/m<sup>3</sup> as respirable fraction

**NIOSH:**

2.5 mg/m<sup>3</sup> as respirable fraction

**Section 12 - Ecological information**

**Ecotoxicity :**

No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

**Mobility :**

The product itself has not been tested.

**Persistence :**

The product itself has not been tested.

**Bioaccumulation Potential :**

The product itself has not been tested.

**Other Adverse Environmental Effects :**

None known

**Section 13 - Disposal considerations**

**Waste Disposal Method:**

Personnel performing clean-up of accumulated dusts should follow precautions listed in Section V. Natural graphite is not regulated by the Resource Conservation and Recovery Act (RCRA). State and local regulations should be verified prior to disposal of both the bulk material and graphite dust.

**Section 14 - Transport information**

**DOT Transportation Classification:** Not Regulated  
**IATA Transportation Classification:** Not Regulated  
**IMDG Transportation Classification:** Not Regulated



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### Section 15 - Regulatory information

Regulations for dangerous material not applicable.

### Section 16 - Other information

|         |  |
|---------|--|
| DOT:    | US Department of Transportation  |
| IATA:   | International Air Transport Association                                |
| EINECS: | European Inventory of Existing Commercial Chemical Substances          |
| CAS:    | Chemical Abstracts Service (division of the American Chemical Society) |
| HMIS:   | Hazardous Materials Identification System (USA)                        |
| WHMIS:  | Workplace Hazardous Materials Information System (Canada)              |
| ACGIH:  | American Conference of Governmental Industrial Hygienists (USA)        |
| OSHA:   | Occupational Safety and Health Administration (USA)                    |
| NTP:    | National Toxicology Program (USA)                                      |
| IARC:   | International Agency for Research on Cancer                            |
| EPA:    | Environmental Protection Agency (USA)                                  |

#### Disclaimer :

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, storage, transportation and release and is not considered a warranty or quality specification. The responsibility for the compliance with existing law and regulations lies with the receiver of the product.