***Material Safety Data Sheet***

(Complies with 29 CFR 1910.1200)

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| **Section I** |
| Manufacturer | Carlisle Brake and Friction 920 Lake Rd. Medina, Ohio 44256 |
| Emergency Phone . | 330-725-4941 | Effective Date | June 10, 2020 |
| Chemical Name | Friction Material | Revision Date | June 10, 2020 |
| Tradename | Semi-metalic |
| Category | Organic—1478 |  |

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| **Section II - Hazardous Ingredients / Identity** |
| Component | OSHA-PEL (mg/m3) | ACGIH-TLV (mg/m3) | % | CAS No. |
| Silicon Carbide |  |  | Proprietary |  |
| Cured Resin  |  |  | Proprietary |  |
| Iron | Total=15.0 Resp.= 5.0 | 10.0 | Proprietary | 7439-89-6 |
| Carbon | Total = 15.0 Resp.= 5.0 | 10.0 | Proprietary | 7782-42-5 |
| Kevlar |  |  | Proprietary |  |
| Fluorspar |  |  | Proprietary |  |
| Boron  | N /A | 5.0 | Proprietary |  |
| **Section III - Physical Characteristics** |
| Boiling Point | N/A | Sp.Gr. (H2O=1) | N/A |
| Vapor Press (mm Hg) | N/A | Solubility in Water | N/A |
| Reactivity in Water | N/A | Vapor Density (Air=1) | N/A |
| Melting Point | N/A | Color | Grey |
| Appearance/Odor | No Odor |  |  |

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| **Section IV - Fire and Explosion Data** |
| Flashpoint | N/A | Method used | N/A |
| Flammable Limits (LEL/UEL) | N/A | Special Fire Fighting Procedure | None |
| Auto Ignition Temperature | N/A | Extinguishing Media | Dry chemical, graphite |
| Unusual Fire and Explosion Hazards | N/A |

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| **Section V - Reactivity Data** |
| Stability | Stable |
| Incompatibility ( Materials to Avoid) | Strong oxidizing agents |
| Hazardous Decomposition Products | N/A |
| Hazardous Polymerization | Will Not Occur |
| Conditions to Avoid | None |

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| **Section VI - Health Hazards** |

**Effects of Overexposure:**

Inhalation: A) Iron can cause coughing, slight upper respiratory irritation, and a metallic taste in the mouth.

 B) Exposure to respirable crystalline quartz may cause delayed (chronic) lung disease (silicosis); acute or rapidly developing silicosis may occur in a short period of time in heavy exposure. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death. Crystalline quartz is listed by the IARC as a Group 2A (known carcinogen); and determined by the NTP as an anticipated human carcinogen.

 C) Chronic exposure to carbon as graphite dust can cause fibrosis, emphysema and corpulmonale.

**Emergency Procedures**

Eye Contact: In case of contact, immediately flush with water for 15 minutes, including under the eyelids. Seek medical help immediately if material cannot be adequately removed from the eye.

Skin Contact: Wash thoroughly with soap and water.

Inhalation: Following exposure to a large amount of dust, remove from exposure. If breathing has stopped, perform artificial respiration. Contact a physician.

Ingestion: Under normal conditions of industrial use, ingestion is not expected to occur. If exposure Get medical attention.

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| .**Section VII - Spill/Leak Procedures** |
| Handling, Storage | None applicable |
| DOT Shipping Rules | Non-hazardous as "article", no special precautions |
| Spill/Leak | Broom, Scoop, Vacuum. Avoid dusting. Wear respirator. |
| Waste Disposal Methods | Check with local counsel for applicable laws/regulations.  |

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| **Section VIII - Special Protection /Control Measures** |
| Respiratory Protection/Ventilation | Use a NIOSH approved respirator with appropriate filters when exposed to brake wear products. Use exhaust ventilation to keep exposure below exposure limits. |
| Protective Gloves | Recommended, particularly if sensitive skin. |
| Eye Protection | Recommended |
| Other Protective Equipment | Long sleeve shirts |

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| **Section IX - Special Precautions** |
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