

**Material Safety Data Sheet**  
(Complies with 29 CFR 1910.1200)

<b>Section I</b>			
Manufacturer	Carlisle Brake & Friction 920 Lake Rd. Medina, Ohio 44256		
Emergency Phone .	330-725-4941	Effective Date	November 30, 2005
Chemical Name	Friction Material	Revision Date	1-5-2015
Tradename	Semi - Metallic Friction Material		
Category	Organic/Inorganic 95-19N		

<b>Section II - Hazardous Ingredients / Identity</b>				
Component	OSHA-PEL (mg/m <sup>3</sup> )	ACGIH-TLV (mg/m <sup>3</sup> )	%	CAS No.
Cured Phenolic Resin	Resp.=5.0	0	Proprietary	9003-35-4
Boron nitride	N / A	5.0	Proprietary	
Iron	Total=15.0 Resp.= 5.0	10.0	Proprietary	7439-89-6
Silicon Carbide	Total=15.0 Resp.= 5.0	10.0	Proprietary	409-21-2
Carbon	Total=15.0 Resp.= 5.0	10.0	Proprietary	7782-42-5
Calcium Fluoride		2.5	Proprietary	7789-75-5

<b>Section III - Physical Data</b>			
Boiling Point	N/A	Sp.Gr. (H <sub>2</sub> O=1)	8.96
Vapor Press (mm Hg)	N/A	Solubility in Water	Insoluble
Reactivity in Water	N/A	Vapor Density (Air=1)	N/A
Melting Point	N/A	Color	gray color
Appearance/Odor	No Odor		

<b>Section IV - Fire and Explosion Data</b>			
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	Water (Class A B or C)
Unusual Fire and Explosion Hazards	None.		

<b>Section V - Reactivity Data</b>	
Stability	Stable
Incompatibility ( Materials to Avoid)	None
Hazardous Decomposition Products	
Hazardous Polymerization	Will Not Occur
Conditions to Avoid	Strong oxidizing agents.

## Section VI - Health Hazards

### Effects of Overexposure:

#### Inhalation:

- a) Chronic exposure to carbon as graphite dust can cause fibrosis, emphysema and corpulmonale.
- b) Iron can cause coughing, slight upper respiratory irritation, and a metallic taste in the mouth.
- c) Cured Phenolic Resin: Ingestion: No data available slight acute toxic hazard.
- d) Barium Sulfate: Heavy extended industrial overexposure may produce benign pneumoconiosis termed "baritosis". Mild bronchial irritation may occur.
- e) Fused Magnesia is considered a nuisance dust by the Occupational Safety and Health Administration . Excessive inhalation (above PEL) of nuisance dusts over long periods of time (10 years or more) may reduce breathing capacity and increased susceptibility to lung disease.

Skin: Cured Phenolic Resin: May irritate Skin. May cause dermatitis in sensitive individuals.

Eye: Cured Phenolic Resin: Eyes: Dust or vapors may be irritating to eyes.

### 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.

## Section VII - Spill/Leak Procedures

Handling, Storage	None applicable
DOT Shipping Rules	Non-hazardous as "article", no special precautions
Spill/Leak	N/A
Waste Disposal Methods	Check with local counsel for applicable laws/regulations.

## 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	N/A

## Section IX - Special Precautions

Store inside in dry area. Ambient temperature.

### Disclaimer

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