

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

Section I			
Manufacturer	Carlisle Brake & Friction 920 Lake Road Medina, Ohio 44256		
Emergency Phone	330-725-4941	Effective Date	5-Jun-86
Chemical Name	Friction Material	Revision Date	9-Jun-15
Tradename	Sintered Friction Material		
Category	Inorganic- A4C11		

Section II-Hazardous Ingredients/Identity				
Component	OSHA-PEL (mg/m3)	ACGIH-TLV (mg/m3)	%	CAS No.
Copper	1.0	1.0	Proprietary	7440-50-8
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
Silicon Dioxide	0.1*(Respirable fraction)	0.1*	Proprietary	7782-42-5
Calcium Fluoride	2.5	2.5	Proprietary	7789-75-5

Section III Physical Characteristics			
Boiling Point	Fe-5432	Sp.Gr. (H <sub>2</sub> O = 1)	Fe-7.86
Vapor Press (mm Hg)	N/A	Solubility in Water	N/A
Reactivity in Water	N/A	Vapor Density	N/A
Melting Point	N/A	Color	Gray color.
Appearance/Odor	Odorless		

Section IV-Fire and Explosion Data			
Flashpoint	N/A	Method Used	N/A
Flammable Limits (LEL/UEL)	N/A	Special Fire Fighting Proc.	N/A
Auto Ignition Temperature	N/A	Extinguishing Media	Graphite, dolomite, NaCl
Unusual Fire and Explosion Hazards	Iron is not considered flammable under most conditions, but finely divided powder in the form of a dust cloud can ignite if contacted by an ignition source.		

Section V-Reactivity Data	
Stability	Stable
Incompatibility(Materials to Avoid)	N/A
Hazardous Decomposition Products	N/A
Hazardous Polymerization	Will not occur.
Conditions to Avoid	Strong oxidizing agents.

## Section VI -Health Hazards

### Effects of Overexposure:

- a) Iron can cause coughing, slight upper respiratory irritation, and a metallic taste in the mouth.
  - b) Chronic exposure to carbon as graphite dust can cause fibrosis, emphysema and corpulmale.
  - c) Inhalation of high concentrations of copper dust may cause intense sneezing, nausea, weakness, and fever, hemolysis of red blood cells, depostion of hemofuscin in the liver and possible injury to lung cells.
  - d) CaF<sub>2</sub> dust may irritate eyes. Ingestion may cause gastrointenstinal pain. May be harmful or fatal if ingested.
  - e) 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.
- Skin: Repeated exposure to copper (as salts) may casue dermatitis.

### Emergency Procedures

- Eye Contact: Copper may cause conjunctivitis or ulceration and turbidity of the cornea. In case of contact, immediately flush with water for 15 min. including under the eyelids. Seek medical help 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: Seek medical advice immediately.

## Section VII- Spill/Leak Procedures

Handling, Storage	N/A
DOT Shipping Rules	N/A
Spill/Leak	Preferably wet method or vacuum to clean up.
Waste Disposal Methods	Check with local counsel for applicable laws/regulations.

## Section VIII-Special Protection/Control Methods

Respiratory Protection/Ventilation	Use a NIOSH approved respirator with appropriate filters when exposed to brake wear products. Use exhaust venhilation to keep exposure below exposure limits.
Protective Gloves	Recommended, particularly if sensitive skin.
Eye Protection	Recommended.
Other Protective Equipment	Long sleeve shirts recommended.

## Section IX- Special Precautions

Store inside in dry area. Temperature 0-100F.

### Disclaimer

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