

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	28-Apr-98
Chemical Name	Friction Material	Revision Date	5-Jan-15
Tradename	Sintered Friction Material		
Category	Inorganic-	9012	

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
Sulfur	N/A	N/A	Proprietary	7704-34-9
Zinc Oxide	5.0	5.0	Proprietary	01314-13-2
Silicon Dioxide	0.1*(Respirable fraction)	0.1*	Proprietary	7782-42-5
Silicon Carbide	10.0	10.0	Proprietary	409-21-2

Section III Physical Characteristics			
Boiling Point	Fe- 2800 F	Sp.Gr. (H ₂ O = 1)	7.8
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 powder-odorless
Appearance/Odor	Odorless		

Section IV-Fire and Explosion Data			
Flashpoint	315 C Min	Method Used	Spark energy 80 millijoules
Flammable Limits (LEL/UEL)	N/A	Special Fire Fighting Proc.	N/A
Auto Ignition Temperature	N/A	Extinguishing Media	Water, CO ₂ , fog nozzels & fine spray to avoid dusting.
Unusual Fire and Explosion Hazards	Fine dry iron dust exceeding minimum explosive concentration(120oz per 1000 cu ft. of air) can explode in the presence of 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	None

Section VI -Health Hazards
Effects of Overexposure:
a) Iron can cause coughing, slight upper respiratory irritation, and a metallic taste in the mouth.

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- 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, deposition of hemofuscin in the liver and possible injury to lung cells.
 - d) Zinc Oxide may cause irritation of respiratory system. Inhalation of vapors may cause irritation to mucous membranes, dryness of mouth and throat, headaches, nausea, or dizziness.
 - 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.
 - f) Silicon Carbide may cause coughing, or shortness of breath.
- 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: Under normal conditions of industrial use, ingestion is not expected to occur.

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

No special precautions necessary.

Disclaimer

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