

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	5-Jan-15
Tradename	Sintered Friction Material		
Category	Inorganic-	820M	

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
Lead	0.05	0.15	Proprietary	7439-92-1
Tin	2.0	2.0	Proprietary	7440-31-5

Section III Physical Characteristics			
Boiling Point	Pb - 3137 F	Sp.Gr. (H ₂ O = 1)	Pb 11.8
Vapor Press (mm Hg)	N/A	Solubility in Water	Not soluble
Reactivity in Water	N/A	Vapor Density	N/A
Melting Point	N/A	Color	Reddish colored
Appearance/Odor	Odorless-Solid		

Section IV-Fire and Explosion Data			
Flashpoint	N/A	Method Used	N/A
Flammable Limits (LEL/UEL)	N/A	Special Fire Fighting Proc.	None
Auto Ignition Temperature	N/A	Extinguishing Media	Graphite, dolomite, NaCl, dry chemical
Unusual Fire and Explosion Hazards	U.S. Bureau of Mines R1-6516 lists lead powders as weakly explosive materials not readily ignited by sparks. Ignition temps.for dust clouds are from 1310-1472F.		

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	Generation of airborne dust and contact with 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) Lead can cause sperm malformation, central nervous system disorders, peripheral neuropathy, gastro intestinal disturbances, kidney damage, and anemia. Lead exposure has been reported to reduce mental ability and has been linked to birth defects. Lead is listed by IARC as Group 2B, possibly carcinogenic to humans and is also listed as a carcinogen by the EPA.
- e) Tin can cause neurologic disturbances including tremors and flaccid paralysis. Exposure to dust and fumes of tin oxide causes mild pneumoconiosis.

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 vacuum to clean up. Avoid dusting. Wear respirator.
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 dry area. Temperature 0-100F.

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