

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
Chemical Name	Friction Material	Revision Date
Tradename	Sintered Friction Material	
Category	Inorganic-	755A-2

Section II-Hazardous Ingredients/Identity			
Component	OSHA-PEL (mg/m3)	ACGIH-TLV (mg/m3)	%
Copper	1.0	1.0	Proprietary
Iron	Total=15.0 Resp.= 5.0	10.0	Proprietary
Carbon	Total=15.0 Resp.= 5.0	10.0	Proprietary
Silicon Dioxide	0.1*(Respirable fraction)	0.1*	Proprietary
Molybdenum disulfide	15.0	15.0	Proprietary
Lead	0.05	0.15	Proprietary
Calcium Fluoride		2.5	Proprietary

Section III Physical Characteristics			
Boiling Point	Pb-3137 F	Sp.Gr. (H ₂ O = 1)	Pb-11.3
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 solid.
Appearance/Odor	Odorless		

Section IV-Fire and Explosion Data		
Flashpoint	N/A	Method Used
Flammable Limits (LEL/UEL)	N/A	Special Fire Fighting Proc.
Auto Ignition Temperature	N/A	Extinguishing Media
Unusual Fire and Explosion Hazards	U.S. Bureau of mines report R1-6516 lists lead powders as weakly flammable. Not readily ignited by sparks. Ignition temps. Range from 710-800 F.	

Section V-Reactivity Data	
Stability	Stable
Incompatibility(Materials to Avoid)	N/A
Hazardous Decomposition Products	Exposure to temperature above melting point yields lead and sulfur dioxide.
Hazardous Polymerization	Will not occur.
Conditions to Avoid	Heating to Pb melting point in the presence of strong oxidizers.

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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 corpulmonia.
- 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 damage to lung cells.
- d) 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.
- e) Molybdenum exposure can cause pneumoconiosis and "hard-metal lung disease".
- f) 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.

Skin: Repeated exposure to copper (as salts) may cause 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. When ingested, molybdenum is considered a poison causing severe GI irritation, diarrhea, coma and death. Lead can cause heart failure. **Do not induce vomiting.** Get medical attention. If patient is conscious, give small quantities of water or milk.

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 ventilation 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

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

Disclaimer

The information contained herein is based on data available at this time and is believed to be accurate. No warranty, expressed or implied and in no event will Carlisle Brake & Friction be liable for incidental or consequential damages regarding the accuracy of this data or the results to be obtained from the use thereof. Since information contained here applied under conditions beyond our control and with which we may be unfamiliar, no responsibility is assumed for the use. The person receiving this information should make his own determination of the suitability of the material for his purpose.

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10-May-05
5-Jan-15

CAS No.
7440-50-8
7439-89-6
7782-42-5
7782-42-5
1317-33-5
7439-92-1
7789-75-5

N/A
None
Graphite, dolomite, NaCl, dry chemical
dry explosive materials.
100C for dust clouds.

ields toxic lead fumes.
g oxidizing agents.

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