

SAFETY DATA SHEET
1. IDENTIFICATION

Product Name: Ceramic Disc Pads
Product Edgecode: EdgeCode
Manufacturer/Supplier: Brake Parts Inc
Address: 4400 Prime Parkway
 McHenry, IL 60050
Telephone: 1-815-363-9000
Date of MSDS Revision: 10/24/2015

Product Use Overview: These products are intended for use as automotive or truck friction components and are not considered to be hazardous as sold. The ingredients listed below are bound in a non-friable resin matrix, therefore, personal exposure during the normal handling and use is considered minimal. The warnings expressed on this SDS have been provided to communicate the hazardous nature associated with exposure to the individual components. We have provided this information regardless of the risk of exposure and have considered this during both normal use and foreseeable misuse. Using good work practices will minimize the risk of adverse health effects from overexposure to the hazardous components. As supplied, this friction material does not require sanding, drilling or other machining operations.

2. Hazards Identification

Classification: Carcinogen Category 1, Specific Target Organ Toxicity – Repeat Exposure Category 1 (lungs and respiratory system), Skin Sensitizer Category 1, Eye Irritant Category 2

Label Elements:


Danger!

Hazard Phrases	Precautionary Phrases
May cause an allergic skin reaction. Causes serious eye irritation. May cause cancer by inhalation. Causes damage to lungs and respiratory system through prolonged or repeated exposure by inhalation.	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, clothing and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical attention. Store locked up.

	Dispose of contents and container in accordance with local, regional and national regulations.
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3. Composition / Information on Ingredients

Chemical Name	CAS#	%
Non-hazardous ingredients	Mixture	Balance
Barium Sulfate	7727-43-7	0-50
Copper	7440-50-8	0-24
Natural and Synthetic Graphite	7782-42-5	0-28
Limestone	1317-65-3	0-10
Magnesium Oxide	1309-48-4	0-10
Iron oxide	1309-37-1	0-12
Antimony trisulfide	1345-04-6	0-8
Phlogopite Mica	12001-26-2	0-10
Silicic acid, calcium salt	1344-95-2	0-3
Zinc	7440-66-6	0-4
Crystalline Silica, Quartz	14808-60-7	0-2
Cellulose	9004-34-6	0-2
Carbon Black*	1333-86-4	0-1
Calcium Hydroxide	1305-62-0	0-1
Crystalline Silica, Cristobalite	14464-46-1	0-1
Tetramethylthiuram disulfide (thiram)	137-26-8	<0.2

*Carbon Black is inextricably bound within the polymer matrix of this product.

The exact concentration and compositions are being withheld as a trade secret.

Refer to Section 8 for occupational exposure limits.

4. First Aid Measures

Eye: Do not rub eyes. Flush with large amounts of water for several minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. If irritation persists or if there is a foreign body in the eye, get medical attention.

Skin: Wash area of contact gently with soap and water. Launder contaminated clothing before reuse. Get medical attention if irritation or rash develops or persists.

Inhalation: If symptoms develop, remove person from source of exposure to fresh air. Get medical attention if irritation persists.

Ingestion: Not an anticipated route of exposure. If swallowed, drink 1 or 2 glasses of water to dilute. Never give anything by mouth to an unconscious or convulsing person. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed: May cause serious eye irritation. Dust may cause mechanical skin irritation and respiratory irritation. May cause skin sensitization. Prolonged inhalation of dusts or fumes may cause lung damage. Prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis). This product contains crystalline silica quartz and crystalline silica cristobalite which may cause cancer based on animal studies. Risk of cancer depends on duration and level of exposure.

Indication of immediate medical attention and special treatment: No immediate medical treatment is required.

5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use any media suitable for the surrounding fire.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires involving chemicals.

Specific hazards arising from the chemical: Combustion products include toxic fumes of sulfur oxides, antimony, silicon oxides, calcium oxides, zinc metal oxide fume, carbon disulfide and oxides of carbon.

6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and equipment to avoid eye and skin contact.

Environmental hazards: Avoid release to the environment. Report spill as required by local and federal regulations.

Methods and materials for containment and cleaning up: Pick up large pieces. Use HEPA vacuum to clean up any dust. Wet dust with water where sweeping is necessary. Personal safety and exposure recommendations described elsewhere in this data sheet apply to exposure during clean-up of spilled material. Refer to Section 13 for disposal considerations.

7. Handling and Storage

Precautions for safe handling: Avoid generating dust. Do not breathe dust. Do not grind, sand, drill or machine these parts. Follow good housekeeping to prevent accumulation of dust on floors, machinery and equipment. Do not dry-sweep dust. Wet dust with water before sweeping or use a HEPA vacuum to collect dust and clean equipment. Do not use compressed air for cleaning. Wash thoroughly after work using soap and water.

These products do not contain asbestos, however, the OSHA Asbestos Standard (29CFR 1910.1001) Appendix F, "Work Practices and Engineering Controls for Automotive Brake and Clutch Inspection, Disassembly, Repair and Assembly", contains guidance on minimizing employee exposure during brake operations. Brake Parts Inc recommends that these work practices and engineering controls be implemented even when working with non-asbestos brakes.

Conditions for safe storage, including any incompatibilities: Keep product dry.

8. Exposure Controls / Personal Protection

Exposure guidelines:

Hazardous Components	Exposure Limits
Non-hazardous ingredients	None Established
Barium Sulfate	5 mg/m ³ TWA ACGIH TLV (inhalable) 15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction)
Copper	As dust and mist: 1 mg/m ³ TWA ACGIH TLV 1 mg/m ³ TWA OSHA PEL As fume: 0.2 mg/m ³ TWA ACGIH TLV 0.1 mg/m ³ TWA OSHA PEL
Natural and Synthetic Graphite	Synthetic: 2 mg/m ³ ACGIH TLC (respirable) 15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction) Natural: 2 mg/m ³ ACGIH TLC (respirable) 15 mppcf TWA OSHA PEL

Limestone	15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction)
Magnesium Oxide	10 mg/m ³ TWA ACGIH TLV (inhalable) 15 mg/m ³ TWA OSHA PEL (total particulate)
Iron oxide	5 mg/m ³ ACGIH TLC (respirable) 10 mg/m ³ TWA OSHA PEL (fume)
Antimony trisulfide (as Antimony compounds, as Sb)	0.5 mg/m ³ TWA ACGIH TLV 0.5 mg/m ³ TWA OSHA PEL
Phlogopite Mica	3 mg/m ³ TWA ACGIH TLV (respirable) 20 mppcf OSHA PEL (<1% Quartz)
Silicic acid, calcium salt	15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction)
Zinc	None Established
Crystalline Silica, Quartz	<u>10 mg/m³</u> TWA OSHA PEL (Respirable fraction) % SiO ₂ + 2 <u>30 mg/m³</u> TWA OSHA PEL (Total dust) % SiO ₂ + 2 0.025 mg/m ³ TWA ACGIH TLV (Respirable)
Cellulose	10 mg/m ³ TWA ACGIH TLV 15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction)
Carbon Black	3 mg/m ³ TWA ACGIH TLV (inhalable) 3.5 mg/m ³ TWA OSHA PEL
Calcium Hydroxide	5 mg/m ³ TWA ACGIH TLV 15 mg/m ³ TWA OSHA PEL (total dust), 5 mg/m ³ TWA (respirable fraction)
Crystalline Silica, Cristobalite	<u>5 mg/m³</u> TWA OSHA PEL (Respirable fraction) % SiO ₂ + 2 <u>15 mg/m³</u> TWA OSHA PEL (Total dust) % SiO ₂ + 2 0.025 mg/m ³ TWA ACGIH TLV (Respirable)
Tetramethylthiuram disulfide (thiram)	0.05 TWA ACGIH TLV (inhalable fraction and vapor) 5 mg/m ³ TWA OSHA PEL

Appropriate engineering controls: Use with adequate local exhaust ventilation and dust collection as necessary to maintain the concentration of airborne dust below the exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Respiratory Protection: If the concentrations exceed the Threshold Limit Values (TLV), a NIOSH approved particulate respirator appropriate for the exposure levels should be worn. Select based on consideration of the airborne workplace concentrations and duration of exposure. Select and use respirators in accordance with 29 CFR 1910.134, ANSI Z88.2, the NIOSH Respirator Decision Logic and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Skin Protection: Gloves recommended for handling brake parts.

Eye Protection: Safety glasses recommended.

Other: Wear protective clothing as needed to avoid skin contact.

9. Physical and Chemical Properties

Appearance (physical state, color, etc.): Metallic parts with gray friction material.

Odor: No odor

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: Not applicable	Boiling point: Not applicable
Flash point: Not applicable	Evaporation rate: Not applicable
Flammability (solid, gas): Not flammable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not applicable	Vapor density:
Relative density: 2.35 – 2.65 g/cc	Solubility(ies): Insoluble
Partition coefficient: n-octanol/water: Not applicable	Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable	Viscosity: Not applicable

10. Stability and Reactivity

Reactivity: Not expected to be reactive under normal conditions of use.

Chemical stability: Stable.

Possibility of hazardous reactions: None known.

Conditions to avoid: None known.

Incompatible materials: None known.

Hazardous decomposition products: Combustion products include toxic fumes of sulfur oxides, antimony, silicon oxides, calcium oxides, zinc metal oxide fume, carbon disulfide and oxides of carbon.

11. Toxicological Information

Eye Contact: May cause serious eye irritation, redness and tearing. Dust from product may cause abrasive irritation and conjunctivitis.

Skin Contact: Prolonged contact with dust from product may cause irritation, dermatitis and sensitization.

Inhalation: Inhalation of dust may cause irritation to the nose, throat and upper respiratory tract with coughing and shortness of breath.

Ingestion: Not a normal route of exposure. Swallowing large amounts of dust may cause overexposure to antimony with symptoms including gastrointestinal irritation, sores in the mouth and nose, headache, dizziness, weight loss and acute congestion of the heart, liver and kidneys.

Chronic Health Effects: Inhalation of excessive concentrations of any dust, including dust from this material, may cause lung injury. Prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis) and increase the risk of lung cancer. Overexposure to antimony may cause degenerative changes of the liver and kidneys. Prolonged inhalation of nickel dust or fumes may cause perforation of the nasal septum and lung damage.

Carcinogenicity: Crystalline silica quartz and cristobalite are listed as "Carcinogenic to Humans" (Group 1) by IARC and "Known to be a Human Carcinogen" by NTP. Carbon Black is listed by IARC as a group 2B carcinogen (possible human carcinogen). However, carbon black is inextricably bound to the product matrix. None of the other components of this product are listed as a carcinogen or suspected carcinogen by IARC, NTP, or OSHA.

Acute Toxicity Values: No acute toxicity data for the product.

Non-hazardous ingredients: No data available.

Barium Sulfate: Oral rat LD50: 307000 mg/kg

Copper: Oral rat LD50 > 2500 mg/kg, inhalation rat LC50 > 5.11 mg/L, dermal rat LD50 > 2000 mg/kg
 Natural and Synthetic Graphite: Oral rat LD50 > 2000 mg/kg, inhalation rat LC50 > 2 mg/L
 Limestone: No data available.
 Magnesium Oxide: No data available.
 Iron oxide: Oral: Rat; LD50 >10000 mg/kg
 Antimony trisulfide: Oral rat LD50 > 2000 mg/kg, inhalation rat LC50 > 5.04 mg/L, dermal rat LD50 > 2000 mg/kg
 Phlogopite Mica: No data available.
 Silicic acid, calcium salt: Oral rat LD50 > 5000 mg/kg, inhalation rat LC50 > 2.08 mg/L, dermal rabbit LD50 > 5000 mg/kg
 Zinc: Oral rat LD50 > 2000 mg/kg, inhalation rat LC50 > 5.14 mg/L
 Crystalline Silica, Quartz: No data available.
 Cellulose: No data available.
 Carbon Black: Oral rat LD50 > 8000 mg/kg
 Calcium Hydroxide: Oral rat LD50 > 2000 mg/kg, dermal rabbit LD50 > 2500 mg/kg
 Crystalline Silica, Cristobalite: No data available.
 Tetramethylthiuram disulfide (thiram): Oral rat LD50: 3700 mg/kg, inhalation rat LC50 > 5.04 mg/L, dermal rabbit LD50 > 2000 mg/kg

12. Ecological Information

Ecotoxicity: No toxicity data for the product.

Barium Sulfate: Danio rerio LC50 >3.5 mg/L/96hr
 Copper: Oral: Salmo gairdneri LC50: 190 ug/L/96hr
 Natural and Synthetic Graphite: Danio rerio: LC50>100 mg/L/96hr
 Iron oxide: Danio Rerio: LC90 100000 mg/L, Daphnia magna: >100 mg/L
 Antimony trisulfide: Pargus major LC50: 6.9 mg/L/96hr
 Silicic acid, calcium salt: Oncorhynchus mykiss LL50 > 1000 mg/L/96 hr
 Zinc: Cottus bairdii LC50L 0.439 mg/L/96 hr
 Carbon Black: Brachydanio rerio LC0: 1000 mg/L/96 hr
 Calcium Hydroxide: Gasterosteus aculeatus LC50: 457 mg/L/96 hr
 Tetramethylthiuram disulfide (thiram): Oncorhynchus mykiss LC50: 0.046 mg/L

In the form sold, this product is not anticipated to have an adverse effect on the environment.

Persistence and degradability: Biodegradation is not applicable to inorganic substances.

Bioaccumulative potential: Bioaccumulation is not expected.

Mobility in soil: No data available.

Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Landfill in compliance with all applicable Federal, state and local regulations.

14. Transport Information

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	Not applicable
TDG	None	Not Regulated	None	None	Not applicable
IMDG	UN3077	Environmentally hazardous substance, solid, n.o.s.	9	III	Marine Pollutant
IATA	UN3077	Environmentally hazardous substance, solid, n.o.s.	9	III	Environmentally Hazardous

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known

15. Regulatory Information

U.S. REGULATIONS:

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA) Reportable Quantity:

Releases above the RQ of 5,000 lbs (based on the RQ for Tetramethylthiuram disulfide (thiram) of 10 lbs present at <0.2%) must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Toxic Substances Control Act (TSCA): Manufactured articles are not subject to TSCA. These products are manufactured with chemicals listed on the TSCA inventory.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 Hazard Categories: Acute Health, Delayed Health

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313:

Name	CAS	%
Zinc	7440-66-6	0-4

INTERNATIONAL REGULATIONS:

Canadian Environmental Protection Act: Manufactured articles are exempt from notification requirements under CEPA.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Instability: 0

HMIS Ratings: Health: 2* Flammability: 0 Physical Hazard: 0

*Chronic Health Hazard

SDS Revision History: Updated all sections to comply with GHS

Date of preparation: 10/24/15

Date of last revision: 6/09/14

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