

SAFETY DATA SHEET
According to 29 CFR 1910.1200 (G)

1. Identification

Product Name: Non-Asbestos Ceramic Brake Pad
Product Edge code: CEN 105XXXXX 15AC5936 FF A16

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 MSDS 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.

Supplier Details:

CWD LLC
 2112 S. Figueroa St.
 Carson, CA 90745
 Phone: (310) 218-1082

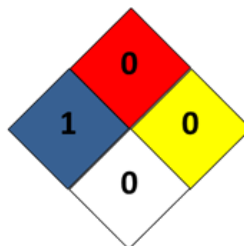
2. Hazards Identification

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

Label Elements:



Danger!



NFPA SCALE (0-4)

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X

HMIS RATINGS

Hazard Phrases	Precautionary Phrases
May cause an allergic skin reaction 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 or fume. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, clothing, eye protection and face protection. 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.

3. Composition/Information on Ingredients

Chemical Name	CAS#	%
	Mixture	Balance
Aramid	26125-61-1	1-5
Phenolic Resin	9003-35-4	5-12
Cashew Dust	68602-89-1	2-5
Coke	65996-77-2	10-25
Copper	7440-50-8	3-9
Mineral Fiber	No Classification	3-5
Iron oxide	1309-37-1	15-25
Graphite	7782-42-5	3-15
Barium Sulfate	7727-43-7	15-30
Ferric Oxide	1317-61-9	3-10

The exact concentration is 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. 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.

Most important symptoms/effects, acute and delayed: Dust may cause mechanical eye and 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, titanium dioxide, diantimony trioxide and nickel 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 from organic resins may include carbon monoxide, carbon dioxide, nitrogen oxides, sulfur dioxide, aldehydes, phenols, cyanide, ammonia and various hydrocarbons.

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.

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
Armed Pulp	TWA: Not been enacted
Phenolic Resin	TWA: Not been enacted
Cashew Dust	No information
Coke	TWA: Not been enacted

Copper	<p>TWA: 0.1mg/m³</p> <p>STEL: 2mg/m³ (dust and mist)</p> <p>0.1mg/m³ OSHA TWA (Emitting smoking)</p> <p>1 mg/m³ OSHA TWA (dust) (mist)</p> <p>0.2mg/m³ ACGIH TWA (Emitting smoking)</p> <p>1 mg/m³ ACGIH TWA (dust) (mist)</p> <p>0.1 mg/m³ NIOSH recommended TWA 10 hours (Emitting smoking)</p> <p>1 mg/m³ NIOSH recommended TWA 10 hours (dust) (mist)</p> <p>1mg/m³ DFG MAK (Peak limitation category-II, Deviation factor 2) (inhaled dust fraction)</p> <p>0.1 mg/m³ DFG MAK (Peak limitation category-II, Deviation factor 2) (Respirable dust fraction)</p>
Graphite	<p>TWA: 2.5mg/m³</p> <p>5 mg/m³ OSHA TWA (Respirable dust fraction)</p> <p>15 mg/m³ OSHA TWA (Total dust)</p> <p>10 mg/m³ OSHA TWA (Total particulate) (Invalidated by 58 FR 35338, June 30, 1993)</p> <p>2mg/m³ ACGIH TWA (Respirable particulate) (All forms except graphite fibers)</p> <p>1.5mg/m³ DFG MAK (Respirable dust fraction)</p>
Barium Sulfate	<p>5 mg/m³ OSHA TWA (Respirable fraction)</p> <p>15 mg/m³ OSHA TWA (Total dust)</p> <p>10 mg/m³ OSHA TWA (Total particulate) (Invalidated by 58 FR35338, June 30, 1993)</p> <p>10 mg/m³ ACGIH TWA</p> <p>5 mg/m³ NIOSH Recommended TWA 10 hours (Respirable fraction)</p> <p>10 mg/m³ NIOSH Recommended TWA 10 hours (Total dust)</p> <p>4 mg/m³ DFG MAK (Inhaled dust fraction)</p> <p>1.5 mg/m³ DFG MAK (Respirable dust fraction)</p>
Ferric Oxide	TWA: Not been enacted

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: 2.2 – 3.55 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 from organic resins may include carbon monoxide, carbon dioxide, nitrogen oxides, sulfur dioxide, aldehydes, phenols, cyanide, ammonia and various hydrocarbons.

11. Toxicological Information

Eye Contact: 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: This material is not listed as a carcinogenicity by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

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

Aramid Pulp

Epigram: ALD / rat 7500 mg/ kg more than

Phenolic Resin

Epigram: LD50> 5000 mg/kg Rat

Dermal: LD50> 2000 mg/kg

Barium Sulfate

Epigram: LD50> 3000 mg/kg Rat

Coke

Information on the likely routes of exposure: irritation, nausea, vomiting, diarrhea, mechanical irritation.

Skin corrosive or irritant may cause mild-irritation: people

Serious eye damage or irritant may cause mild-irritation: people

Particulate target organ toxicity (repeat exposure) High concentration of exposure when pneumonconiosis, anthracosis, the possibility of chronic lung disease: people

Copper

Particular target organ toxicity (once exposure) Fume is irritating to the upper airways

Particular target organ toxicity (repeat exposure) Liver damage in people appears

Graphite

Information on the likely routes of exposure Irritation, loss of appetite, chest pain, shortness of breath, headache, lung Disorders, heart problem, cancer stimulation. Allergic reaction to stimuli

Particular target organ toxicity (repeat exposure) May affect the long-term dust exposure in the lungs

Ferric Oxide

Epigram: LD50 10000 mg/kg Rat

12. Ecological Information

Ecotoxicity: No toxicity data for the product.

1) Aramid pulp

A. Ecotoxicity

Fish

No
information

Shellfish

No
information

Bird

No

B. Persistence and degradability

information

Persistence

No
information

Degradability

No

C. Bioconcentration

information

Condenasability

No
information

Biodegradable

No
information

D. Mobility in soil

No
information

E. Other adverse effects

No
information

2) Phenolic resin

A. Ecotoxicity

Fish

No
information

Shellfish

No
information

Bird

No

B. Persistence and degradability

information

Persistence

No
information

Degradability

No

C. Bioconcentration

information

Condenasability

No
information

Biodegradable

No
information

D. Mobility in soil

No
information

E. Other adverse effects	No information
3) Cashew dust	
- No information	
4) Barium sulfate	
A. Ecotoxicity	
Fish	No information
Shellfish	EC50 32 mg/ℓ 48 hr Daphnia magna ※ Reference : ECOTOX
Bird	EC50 1890.263 mg/ℓ 96 hr ※ Reference: ECOSAR
B. Persistence and degradability	
Persistence	log Kow 0.63
Degradability	No information
C. Bioconcentration	
Condenasability	BCF 3.162
Biodegradable	No information
D. Mobility in soil	No information
E. Other adverse effects	No information
5) Coke	
A. Ecotoxicity	
Fish	No information
Shellfish	No information
Bird	No information
B. Persistence and degradability	
Persistence	No information
Degradability	No information
C. Bioconcentration	
Condenasability	No information
Biodegradable	No information
D. Mobility in soil	No information
E. Other adverse effects	No information
6) Copper	
A. Ecotoxicity	
Fish	LC50 0.37 mg/ℓ 96 hr
Shellfish	EC50 0.0318 mg/ℓ 48 hr

Bird	LC50 0.092 mg/ℓ 15 hr
B. Persistence and degradability	
Persistence	log Kow -0.57 (Estimated)
Degradability	
C. Bioconcentration	No information
Condenasability	
Biodegradable	BCF 5830
D. Mobility in soil	No information
E. Other adverse effects	No information

7) Graphite

A. Ecotoxicity	
Fish	No information
Shellfish	No information
Bird	No information
B. Persistence and degradability	
Persistence	Not applicable
Degradability	No information
C. Bioconcentration	
Condenasability	No information
Biodegradable	No information
D. Mobility in soil	No information
E. Other adverse effects	No information

8) Ferric Oxide

A. Ecotoxicity	
Fish	No information
Shellfish	No information
Bird	No information
B. Persistence and degradability	
Persistence	Not applicable
Degradability	No information
C. Bioconcentration	
Condenasability	No information
Biodegradable	No informat`
D. Mobility in soil	No information

E. Other adverse effects

No
information

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 Consideration

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	None	Not Regulated	None	None	Not applicable
IATA	None	Not Regulated	None	None	Not applicable

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:

This product is not subject to CERCLA reporting requirements; however, 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:** Delayed Health**This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313:**

Index	Industrial safety and health acts	Toxic chemicals control acts	Safety control of dangerous substances acts	Waste management act
1. Aramid pulp	No information	No information	No information	Specified waste
2. Phenolic Resin	No information	No information	No information	No information
3. Coke	No information	No information	No information	Specified waste
4. Mineral fiber	Exposure limits set material	No information	No information	No information
5. Iron oxide	Working Environment Measurement substances, Managed hazardous substances, Exposure limits set material, Special health diagnostic substances	No information	No information	No information
6. Graphite	Working Environment Measurement substances, Exposure limits set material, Special health diagnostic substances	No information	No information	Specified waste
7. Barium sulfate	No information	No information	No information	Specified waste

8. Antimony trisulfide	Working Environment Measurement substances, Managed hazardous substances, Exposure limits set material, Special health diagnostic substances	No information	No information	Specified waste
9. Other substance	-	-	-	-

INTERNATIONAL REGULATIONS:

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

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Instability: 0

HMIS Ratings: Health: 1* Flammability: 0 Physical Hazard: 0

*Chronic Health Hazard

The information herein is believed to be accurate, however, no representation or warranty as to its accuracy. The data is furnished gratuitously and independently of any sale of the product, and only for customer investigation and independent verification. In no event be responsible for any damages of whatever nature directly or indirectly resulting from the publication or use of or reliance upon data. Contained herein. No express or implied warranty of any kind, including warranties of merchantability or fitness for use, with respect to the product or to the data herein is made hereunder.