**Carlisle Brake & Friction**

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May be used to Comply with

OSHA Hazard Communication

Standard 1910,1200

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MATERIAL SAFETY DATA SHEET

Friction Material

HMIS Rating

0 Fire Hazard

1 Health Hazard

0 Reactivity

1 Personal Protection

Carlisle Brake and Friction (Bloomington, Hangzhou) materials are a resin bonded product which do not contain asbestos. When used as intended, these products meet the OSHA definition of an article and are exempt from the Hazard Communication Standard. A potential for exposure to dust when grinding, drilling, milling, etc. exists and therefore all information contained within should be followed.

Materials listed on this data sheet are contained in these products. Exact percentages are proprietary and confidential and will not be disclosed other than as required in accordance with the regulations.

The data sheet is not part of any contract or sale. While the information and recommendations set forth herein are believed to be accurate, Carlisle Brake and Friction makes no warranty with respect thereto and disclaims all liability from reliance thereon.

All applicable and aforementioned standards and specifics must be consulted for specific requirements, recommendations and controls.

# SECTION I -- IDENTITY

Non asbestos friction materials - Identity found on box or product:

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**SECTION II -- HAZARDOUS INGREDIENTS/IDENTITY INFORMATION**

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| \*Hazardous Components | CAS | Hazard | OSHA | NIOSH | | ACGIH | | Recommended Limits | | | | | Max. Weight % | | |
|  |  |  |  |  | |  | | |  | |  | | |
| Polymer | 26125-61-1 | Physical Irritant | 5mg/m³ | |  | | 10 mg/m³ | | | TLV-30 MPPCF | | Proprietary | | |
|  |  |  |  |  | |  | | |  | |  | | | |
| Barium Sulphate | 7727-433-7 | Respirable Irritant | 15 mg/m3 |  | | 5 mg/m3 | | | 1 mg/m³ | | Proprietary | | | |
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| Aluminum Oxide | 1344-28-1 | Respirable Irritant | 5mg/m³ |  | | 1 mg/m3 | | | 10 mg/m³ | | Proprietary | | | |
|  |  |  |  |  | |  | | |  | |  | | | |
| Calcined Petroleum Coke | 64743-05-1 | Respirable Irritant | 15 mg/m³ | ³ | | 5 mg/m³ | | | 5 mg/m³ | | Proprietary | | | |
|  |  |  |  |  | |  | | |  | |  | | | |
| Calcium Carbonate | 1317-65-3 | Respirable Irritant | 15 mg/m3 |  | | 5 mg/m³ | | | 5mg/m³ | | Proprietary | | | |
|  |  |  |  |  | |  | | |  | |  | | | |
| Cashew Friction Particle | 68647-81-4 | Respirable Irritant |  |  | |  | | | 5mg/m³ | | Proprietary | | | |
| Ceramic Fiber | 142844-00-6 | Respirable Irritant |  |  | |  | | | 5mg/m³ | | Proprietary | | | |
| Crystaline Silica | 1317-95-5 | Respirable Irritant |  |  | | 0.25 mg/m³ | | | 5mg/m³ | | Proprietary | | | |
| Glas Fiber | 65997-17-3 | Respirable Irritant |  |  | | 3 mg/m³ | | | 5mg/m³ | | Proprietary | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Graphite | 7782-42-5 | Respirable Irritant | 15 mg/m3 |  | 2.5 mg/m³ | 5mg/m³ | Proprietary |
| Kyanite | 1302-76-7 | Respirable Irritant |  |  | 1 mg/m³ | 5mg/m³ | Proprietary |
| Magnesium Oxide | 1309-48-4 | Respirable Irritant | 15 mg/m3 |  | 10 mg/m³ | 5mg/m³ | Proprietary |
| Talc | 14807-96-6 | Respirable Irritant |  |  | 2 mg/m³ | 5mg/m³ | Proprietary |
| Carbon Black | 1333-86-4 | Respirable Irritant | 15 mg/m3 |  | 3.5 mg/m³ | 5mg/m³ | Proprietary |

\* Listed on Title III Section 313.

The above components are each part of a resin bonded system. The product is formed into specified shapes. The composite of the listed chemical items has formed a chemically bound product which no longer necessarily exhibits the chemical properties of the above ingredients when used as a friction material.

**SECTION III - HEALTH HAZARD DATA**

A. TLV: Non-asbestos containing friction materials are not currently regulated by OSHA, NIOSH. and ACGIH. When handled properly, the material does not present a known health risk. Necessary precautions should be practiced to avoid creating uncontrolled dust when grinding, drilling or other machine work. See Section IV.

B. Carcinogenicity: NTP - No IARC - No OSHA - No

C. Signs and symptoms of exposure to dust: Itching may develop on exposed skin. Dryness of the throat and shortness of breath indicates overexposure to the generated dust.

D. Medical conditions generally effected by exposure: Long term may lead to coughing and reduced lung capacity.

E. Emergency and First Aid Procedures: Should not be required from reasonable handling of product.

F. Hazardous Ingredient Health Hazards: Aluminum oxide, barium sulfate, glass fibers, brass, and phenolic resins. Dust can cause skin, eye, respiratory, and physical irritation. Prolonged overexposure to the dust perhaps may lead to pneumoconiosis and pulmonary problems.

G. Exposure limits, specified ingredients (See Section II): Exposure to dusts below the shown limits will substantially reduce the risk that employees will experience respiratory and physical effects when exposed to the dust generated when grinding, drilling, etc. the resin bonded material.

H. Routes of Entry: Inhalation - Yes Skin - Yes Ingestion - No

I. Long-Term Effects - Lung problems may result if exposed to dust levels above current suggested level over a prolonged term.

**SECTION IV - CONTROL MEASURES**

Respiratory Protection: NIOSH approved for pneumoconiosis and fibrosis producing dusts with TLV's not less than 0.05 mg/m³. Such as 3M8710. Follow respirator standard 1910.34.

Ventilation: Local Exhaust - Per ANSI 29.2-1971 recommended to avoid contact with dust

Mechanical (General): Remove dust with vacuum

Protective Gloves: As Needed

Eye Protection: OSHA Approved safety glasses

Other Protective Clothing or Equipment: Protective sleeves, creams for employees with sensitive skin.

Work/Hygienic Practices: Proper work practices and methods should be followed when handling product.

Employees should be instructed on the use of the control methods as outlined above. Employees should not remove dust using compressed air.

**SECTION V - PRECAUTIONS FOR SAFE HANDLING AND USE**

Steps To Be Taken in Case Material Is Released or Spilled: Avoid creating dust. Avoid sweeping or otherwise generating airborne particulate. Use approved vacuum methods. Use wet methods for cleaning or removing dust from drums. Do not use compressed air. Avoid breathing dust. Use respirator if dust becomes airborne.

Waste Disposal Method: Follow Local, State, and Federal waste disposal regulations. Properly mark all containers with appropriate labeling and dispose in landfill in compliance with regulations.

Precautions To Be Taken in Handling and Storing: Avoid creating excessive dust. Use dust collection if grinding, drilling or altering product in any way.

Other Precautions: Protective creams and sleeves may be necessary for employees with sensitive skin. Clean up using soap and water prior to eating. Wash clothing separately.

**SECTION VI - PHYSICAL / CHEMICAL PROPERTIES**

Boiling Point: N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (Air = 1): N/A

Solubility in Water: None

Specific Gravity (H2O = 1): 1.8 - 3.5 g/cm3

Melting Point: N/A

Evaporation Rate (Butyl Acetate = 1): 0

Appearance and Odor: Solid, reddish or Light tan to dark gray color. Slight Odor

**SECTION VII - FIRE AND EXPLOSION DATA**

Flash Point: N/A

Flammable Limits: N/A

Extinguishing Media: Water. Extinguisher class A, B, and C.

Special Fire Fighting Procedures: Positive pressure, self contained breathing apparatus.

Unusual Fire and Explosion Hazards: Flammable only in oxygen-rich atmosphere.

**SECTION VIII - REACTIVITY DATA**

Stability: STABLE, Conditions to Avoid: N/A

Incompatibility (Materials to Avoid): None known.

Hazardous Decomposition of Byproducts: None known.

Hazardous Polymerization: Will not occur, Conditions to Avoid: None known.

**SECTION IX - SPECIAL PRECAUTIONS**

Monitoring to determine dust and fiber limits should be done in accordance with OSHA recommended guidelines. Work areas should be kept clean and free from airborne dust through adequate dust collection and proper ventilation.

The information presented herein, while not guaranteed, was prepared on information from new material suppliers, current government standards, and ACGIH guidelines. No warranty, or guarantee, expressed or implied, is made regarding performance, stability, or otherwise. It is the user's responsibility to determine the safety of the product for his own use.

While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the user.

Any government regulations prompting changes regarding information provided to the users will be supplied to the user as it becomes available. The user is also responsible for obtaining up-to-date information pertaining to the safety as it becomes available, and for making its employees aware of all current and future safety requirements.