



SAFETY DATA SHEET

SAFETY DATA SHEET NUMBER: ABS-BP-SDS-1

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Integrally Molded Brake Pad
MANUFACTURER / SUPPLIER: ABS Friction Inc.
55 Taggart Street
Guelph, ON
Canada, N1L 1M9
EMERGENCY PHONE NUMBER: (519) 763-9000
8:30 AM to 4:30 PM ET
www.absfriction.com
PRODUCT USE: Vehicle brake pad
DATE OF PREPARATION: August 20, 2015

SECTION 2 – HAZARDS IDENTIFICATION

CLASSIFICATION: This product meets the OSHA definition of an “article”, therefore the OSHA Hazard Communication Standard can be considered inapplicable.
As a manufactured article, this product is not subject to WHMIS

GHS LABEL SYMBOL: None
HAZARD STATEMENTS: None
PRECAUTIONARY STATEMENTS: None

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

| CHEMICAL IDENTITY | CONCENTRATION (PERCENT WEIGHT/WEIGHT) | CAS NUMBER |
|------------------------------|--|-------------|
| Aluminum oxide | >1% | 1344-28-1 |
| Barium sulfate | >1% | 7727-43-7 |
| Copper | >1% | 7440-50-8 |
| Zinc | >1% | 7440-66-6 |
| Carbon fibre | >1% | 7440-44-0 |
| Alkaline-earth silicate wool | >1% | 436083-99-7 |
| Graphite | >1% | 7782-42-5 |
| Cellulose | >1% | 9004-34-6 |
| Iron | >1% | 7439-89-6 |
| Magnesium oxide | >1% | 1309-48-4 |
| Iron oxide | >1% | 1309-37-1 |
| Calcium hydrate silicate | >1% | 1344-95-2 |
| Steel fibre | >1% | 7439-89-6 |
| Crystalline silica (quartz) | >1% | 14808-60-7 |

| | | |
|--------|-------|-----------|
| Kaolin | <1% | 1332-58-7 |
| Phenol | <1% | 108-95-2 |
| Lead | <0.1% | 7439-92-1 |

Remaining ingredients are either non-hazardous, or are contained within this product below de minimis concentrations.

THIS PRODUCT CONTAINS NO ASBESTOS

SECTION 4 - FIRST AID MEASURES

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| INHALATION: | If symptoms are experienced (e.g. cough, irritation, etc.), remove victim to fresh air. If irritation persists, seek medical attention. |
| SKIN CONTACT: | In case of irritation, remove contaminated clothing and flush affected areas with water. If irritation persists, seek medical attention. |
| EYE CONTACT: | Remove any contact lenses. Immediately and continuously flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek medical attention. |
| INGESTION: | Seek medical attention. |
| PERSONAL PROTECTIVE EQUIPMENT FOR FIRST AID RESPONDERS: | Not applicable |

SECTION 5 – FIRE FIGHTING MEASURES

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| SUITABLE EXTINGUISHING MEDIA: | Water spray, dry chemical, carbon dioxide, or foam. |
| HAZARDOUS COMBUSTION PRODUCTS: | May release traces of ammonia |
| SPECIAL PROTECTIVE ACTIONS FOR FIREFIGHTERS: | As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing. Keep adjacent containers cool by spraying with water. |

SECTION 6 – ACCIDENTAL RELEASE MEASURES

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| PERSONAL PRECAUTIONS: | Wear appropriate personal protective equipment – refer to Section 8 for more information. This would include a particulate respirator if airborne dust is generated. |
| ENVIRONMENTAL PRECAUTIONS: | Not applicable |
| METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: | Avoid generating dust from this product. Clean up using methods that do not generate dust such as HEPA vacuum or wet clean up. Avoid using compressed air for removal of dust. |

SECTION 7 – HANDLING AND STORAGE

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| HANDLING PROCEDURES AND EQUIPMENT: | Handle in accordance with good industrial hygiene and safety practices. Minimize dust generation. Use adequate ventilation if dust is generated. Avoid contact with skin and eyes. |
| STORAGE REQUIREMENTS: | Store the product in a dry area as contact with moisture may promote rust. |
| SENSITIVITY TO MECHANICAL IMPACT: | Not sensitive |
| SENSITIVITY TO STATIC DISCHARGE: | Not sensitive |

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

| EXPOSURE LIMITS: | Occupational Exposure Limits (OEL) | |
|----------------------------|---|--|
| | <i>ACGIH^a</i> | <i>OSHA PEL</i> |
| | <i>TLV-TWA^b</i> | <i>TWA^b</i> |
| Aluminum oxide | 1 mg/m ³ Respirable Fraction | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |
| Barium sulfate | 5 mg/m ³ Inhalable Fraction | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |
| Calcium hydrate silicate | 10 mg/m ³ | 15 mg/m ³ |
| Cellulose | 10 mg/m ³ | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |
| Copper | 1 mg/m ³ | 1 mg/m ³ |
| Crystalline silica, quartz | 0.025 mg/m ³ Respirable Fraction | $\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$ Respirable |
| Graphite | 2 mg/m ³ Respirable Fraction | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |
| Iron oxide | 5 mg/m ³ Respirable Fraction | 10 mg/m ³ , fume |
| Kaolin | 2 mg/m ³ Respirable Fraction | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |
| Lead | 0.05 mg/m ³ | 0.05 mg/m ³ |
| Magnesium oxide | 10 mg/m ³ Inhalable Fraction | 15 mg/m ³ , fume |
| Phenol | 5 ppm | 5 ppm |
| Zinc oxide | 2 mg/m ³ Respirable Fraction | 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Fraction |

a – American Conference of Governmental Industrial Hygienists, 2015

b – Threshold Limit Value - Time Weighted Average (i.e. 8 hours)

b – US Occupational Safety and Health Administration Permissible Exposure Limit

c – Time Weighted Average (i.e. 8 hours) Limit

Consult your local regulatory agency for the occupational exposure limit in effect in your jurisdiction.

GLOVES (SPECIFY):

Individuals with sensitive skin should wear protective gloves and clothing that covers any skin that may come into repeated or prolonged contact with this product or any dust generated from this product.

RESPIRATOR (SPECIFY):

Respirator use not likely required under normal conditions of use. Conduct an assessment of the potential for worker exposure. If a respirator is required, a filtering-facepiece or half-facepiece respirator equipped with particulate cartridges should be sufficient depending on the results of air monitoring in the workplace.

See CSA Standard Z94.4-11 "Selection Care and Use of Respirators" or the "NIOSH Guide to the Selection and Use of Particulate Respirators (1996)" for additional information.

EYE (SPECIFY):

Avoid eye contact. Wear safety glasses with side shields or goggles if airborne dust is generated. See CSA Standard Z94.3-07 (R2012) "Eye and Face Protectors" or ANSI/ISEA Z87.1-2010 "American National Standard for Occupational and Educational Personal Eye and Face Protection Devices" for additional information.

FOOTWEAR (SPECIFY):

As required

OTHER EQUIPMENT (SPECIFY):
ENGINEERING CONTROLS (E.G. VENTILATION, ENCLOSED PROCESS, SPECIFY):

Not applicable
 If user operations generate airborne dust, use ventilation to keep exposure to airborne contaminants below applicable exposure limits.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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| PHYSICAL STATE: | Solid |
| ODOUR AND APPEARANCE: | Solid disc brake pad light grey to black appearance with a friction material odour |
| ODOUR THRESHOLD: | Not available |
| SPECIFIC GRAVITY (WATER=1): | 2.02 – 3.05 |
| SOLUBILITY IN WATER | Insoluble |
| CO-EFFICIENT OF WATER/OIL DISTRIBUTION: | Not applicable |
| VAPOUR PRESSURE: | Not applicable |
| BOILING POINT (°C): | Not applicable |
| MELTING/FREEZING POINT (°C): | Not applicable |
| PH: | Not applicable |
| VAPOUR DENSITY (AIR=1): | Not applicable |
| EVAPORATION RATE (BUTYL ACETATE=1): | Not applicable |
| FLASHPOINT (°C) AND METHOD: | Not applicable |
| UPPER FLAMMABLE LIMIT (%): | Not applicable |
| LOWER FLAMMABLE LIMIT (%): | Not applicable |
| AUTO-IGNITION TEMPERATURE (°C): | Not available |
| DECOMPOSITION TEMPERATURE (°C): | Not available |

SECTION 10 – STABILITY AND REACTIVITY

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| REACTIVITY: | Stable under normal conditions of use |
| CHEMICAL STABILITY: | Normally stable. Hazardous polymerization will not occur. |
| CONDITIONS TO AVOID: | None |
| INCOMPATIBLE MATERIALS: | Not available |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Not available |

SECTION 11 – TOXICOLOGICAL INFORMATION

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| ROUTE OF ENTRY: | <input checked="" type="checkbox"/> Skin Contact <input type="checkbox"/> Skin Absorption <input checked="" type="checkbox"/> Eye Contact <input checked="" type="checkbox"/> Inhalation <input type="checkbox"/> Ingestion |
| ACUTE TOXICITY: | Not available for this product Aluminum Oxide: LD ₅₀ greater than 2,000 mg/kg oral/rat Iron Oxide: LD ₅₀ greater than 10,000 mg/kg oral/rat Magnesium Oxide: LD ₅₀ - No standard animal toxicity value was found |

Barium Sulfate: LD₅₀ - No standard animal toxicity value was found
 Copper: LD₅₀ - No standard animal toxicity value was found
 Lead: LD₅₀ - 105 mg/kg oral/rat
 Zinc oxide: LD₅₀ - greater than 5,000 mg/kg oral/rat
 Kaolin: LD₅₀ - greater than 5,000 mg/kg oral/rat
 Phenol: LD₅₀ - 340 mg/kg oral/rat

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| SKIN CORROSION/IRRITATION: | May be irritating to the skin. |
| SERIOUS EYE DAMAGE/IRRITATION: | May be irritating to the eyes. |
| RESPIRATORY OR SKIN SENSITIZATION: | Not available |
| INTERACTIVE EFFECTS: | Not available |
| MUTAGENICITY: | Not available |
| CARCINOGENICITY: | <p>This product has not been listed as a carcinogen or a potential carcinogen by the ACGIH, the International Agency for Research on Cancer (IARC), the US National Toxicology Program (NTP) or the US Occupational Safety and Health Administration (OSHA).</p> <p>IARC lists crystalline silica as a Group 1 carcinogen (i.e., carcinogenic in humans, with sufficient epidemiological evidence). ACGIH has classified crystalline silica (quartz and cristobalite) as an A2 suspected human carcinogen (i.e., limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals with relevance to humans).</p> <p>Silica is also listed as known to be a human carcinogen by the United States National Toxicology Program (NTP).</p> |
| REPRODUCTIVE TOXICITY: | Not available |
| SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: | Not available |
| SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: | <p>May cause respiratory irritation.</p> <p>Long term overexposure to <u>respirable</u> crystalline silica may result in a lung disease known as silicosis. Silicosis is characterized by progressive scarring (or fibrosis) of the lungs and is marked by shortness of breath and impaired lung function. As well as cardiac and respiratory failure, advanced silicosis increases the risk of developing tuberculosis and lung cancer.</p> <p>Chronic exposure (ie. inhalation of iron oxide dust or fume) can cause a benign pneumoconiosis called “Siderosis”.</p> <p>Inhalation of fine particles of aluminum has been reported to result in pulmonary fibrosis.</p> |
| ASPIRATION HAZARD: | Not available. Not expected to be of concern. |

SECTION 12 – ECOLOGICAL INFORMATION

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| ECOTOXICITY: | Not available |
| PERSISTENCE / DEGRADABILITY: | Not available |
| BIOACCUMULATION / ACCUMULATION: | Not available |
| MOBILITY IN ENVIRONMENTAL MEDIA: | Not available |
| OTHER ADVERSE EFFECTS: | Not available |

SECTION 13 – DISPOSAL CONSIDERATIONS

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| DISPOSAL: | Waste should be disposed of in accordance with local provincial/state, and federal requirements. |
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SECTION 14 – TRANSPORTATION INFORMATION

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|---------------------------------|---|
| UN NUMBER: | Not a Transportation of Dangerous Goods (Canada) or Department of Transport (United States) controlled material |
| UN PROPER SHIPPING NAME: | Not applicable |

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|--------------------------------------|----------------|
| TRANSPORT HAZARD CLASSES: | Not applicable |
| PACKING GROUP: | Not applicable |
| ENVIRONMENTAL HAZARDS: | Not applicable |
| SPECIAL PRECAUTIONS FOR USER: | Not applicable |

SECTION 15 – REGULATORY INFORMATION

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|--|---|
| OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200: | This product meets the OSHA definition of an “article”, therefore the OSHA Hazard Communication Standard can be considered inapplicable. |
| SARA TITLE III SECTION 311/312: | This product contains substances regulated under OSHA Hazard Communication Standard 29 CFR1910.1200 at or above OSHA de minimis quantities. |
| SARA TITLE III SECTION 313): | If per Section 2 of this MSDS this product contains Copper (CAS # 7440-50-8) then it is subject to the reporting requirements (i.e. at or above de minimis quantities) of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) 40 CFR 372. |
| TSCA: | All ingredients in this product are either included in EPA’s Toxic Substance Control Act Inventory of Chemical Substances or exempt as naturally-occurring materials (Mica and Mineral Wool). |
| CANADIAN ENVIRONMENTAL PROTECTION ACT: | Manufactured articles are exempt from notification requirements under CEPA |
| CANADIAN WHMIS CLASSIFICATION: | Manufactured articles are not subject to WHMIS |
| EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: | Manufactured articles are exempt from notification requirements |
| EUROPEAN COMMUNITY LABELING CLASSIFICATION: | Not Applicable |
| EUROPEAN COMMUNITY RISK AND SAFETY PHRASES: | None |

SECTION 16 – OTHER INFORMATION

SDS VERSION#: August 20, 2015 (Version #2)

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