

# Material Safety Data Sheet

## Section I

Product Name

**BRAKE LINING MATERIAL (ZAF-01-EE/BPS-401-EE/ZAF-02-FE/BPS-402-FE/MORSE-G9-FE)**

Manufacturer

**Morse Automotive  
M.A. EAST, INC.  
101 Friction Drive  
Cartersville, Georgia 30120**

Emergency Telephone Number  
770-607-2222

Telephone Number for Information  
770-607-2222

Date of preparation:  
April 19, 1991

## Section II - Hazardous Ingredients/Identity Information

Hazardous Components

(Specific Chemical Identity: Common Names(s))                      %                      OSHA PEL                      ACGIH TLV                      Notes

**Binder System Component (uncured) may contain:**

Cashew Plant Derivatives	*	none	none	skin irritant
Hexamethylenetriamine (or other hardner)	*	none	none	--
Phenol	*	5 ppm	5 ppm	skin notation

**Reinforcement and Filler Component**

Amorphous Silicates	*	(80 mg/m <sup>3</sup> )/%SiO <sub>2</sub>	10mg/m <sup>3</sup>	
Aramid Fibers	*	15 mg/m <sup>3</sup> (A)	10 mg/m <sup>3</sup> (A)	total dust(B)
Carbon Black	*	3.5 mg/m <sup>3</sup>	3.5 mg/m <sup>3</sup>	total dust
Coal (less than 5% SiO <sub>2</sub> )	*	2.4 mg/m <sup>3</sup> /(%SiO <sub>2</sub> +2)	2 mg/m <sup>3</sup>	total dust
Coke	*	15 mg/m <sup>3</sup> (A)	10 mg/m <sup>3</sup> (A)	total dust(B)
Graphite	*	15 mg/m <sup>3</sup> (A)	2 mg/m <sup>3</sup>	respirable dust
Metals and their Oxides (Iron, Zinc, Aluminum, Magnesium, Calcium)	*	5 - 15 mg/m <sup>3</sup>	5 - 10 mg/m <sup>3</sup>	total dust(B)
Nonasbestiform Talc	*	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	respirable dust

\* The exact percentage of ingredients in this product is proprietary information. Only components which may be health hazards as defined in 29CFR1910.1200 are listed above. Information necessary for emergency health or health hazard investigations will be released to medical or health and safety personnel under signed confidentiality agreements.

(A) As particulates not otherwise regulated

(B) Respirable dust exposure limits for these components are 5 mg/m<sup>3</sup>

## Section III - Physical/Chemical Characteristics

Boiling Point/Melting Point

N/A

Specific Gravity (Water=1)

1.5 to 2.5

Vapor Pressure (mmHg)

very low (slight resin odor)

Vapor Density (Air=1)

N/A

Solubility in Water

insoluble

Evaporation Rate

(Butyl Acetate=1)                      N/A

NFP Chemical Hazard Rating

Health=1 (slight)    Fire=1 (slight)    Reactivity=1 (slight)

Appearance and Odor

Dark gray solid. Slight resin odor.

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**Section IV - Fire and Explosion Hazard Data**

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Flash Point (Method Used) N/A	Flammability N/A	LEL N/A	UEL N/A
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**Extinguishing Media**

Water or ABC Dry Chemical as appropriate for surrounding fire.

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**Unusual Fire & Explosion Hazards**

This material may produce irritating smoke in smoldering fire.

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**Special Fire Fighting Procedures**

Suggested respiratory protection - positive pressure, self-contained breathing apparatus approved by NIOSH.

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**Section V - Reactivity Data**

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Stability	Unstable N/A	Conditions to Avoid  No known hazard during normal industrial use. Avoid temperatures greater than 800 °F.
	Stable YES	

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**Incompatibility (Materials to Avoid)**

Strong acids and other oxidizing agents.

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**Hazardous Decomposition or Byproducts**

Normal combustion products: carbon monoxide, carbon dioxide, and soot.

Product specific combustion products: ammonia, oxides of nitrogen, phenols, and aldehydes.

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Hazardous Polymerization	Will Not Occur	Conditions to Avoid N/A
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**Section VI - Health Hazard Data**

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Route(s) of Entry:	Inhalation? YES	Skin? YES	Ingestion? UNLIKELY
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*Note: Dry grinding of the cured or partially cured material may produce an inhalation hazard as a nuisance dust.*

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**Health Hazards (Acute & Chronic)**

Skin contact with partially cured product may cause an allergic skin reaction similar to poison ivy in sensitive individuals. Prolonged or repeated skin contact may cause irritation.

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Carcinogenicity	NTP? NO	IARC Monographs? NO	OSHA Regulated? NO
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**Signs & Symptoms of Exposure**

None during normal industrial use.

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**Medical Conditions Generally Aggravated by Exposure**

None during normal industrial use. Persons with pre-existing skin disorders may be more susceptible to irritation from skin contact.

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**Emergency & First Aid Procedures**

Eye Contact - Immediately flush eyes with water for 15 minutes. If irritation persists, consult a physician.

Skin Contact - In case of irritation, wash with soap and water. Treat as for poison ivy.

Inhalation - Remove to fresh air.

Ingestion - No known hazard during normal industrial use. First Aid not applicable.

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## Section VII - Precautions for Safe Handling and Use

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### Steps to be Taken in Case Material is Released or Spilled

Material is a solid. Sweep (scoop) up and remove to a chemical disposal area. Prevent entry into natural bodies of water. Cure at 300°F for a minimum of 15 minutes, if landfill disposal is approved.

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### Waste Disposal Method

Dispose according to applicable federal, state and local regulations.  
Material may be considered inert after curing for 15 minutes at 300°F.

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### Precautions to be Taken in Handling & Storing

Segregate stored material from oils and strong oxidizing agents. Keep away from electrical discharges, welding, open flames, extreme heat, and other sources of potential ignition. During transportation, do not expose to extremely hot temperatures.

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### Other Precautions

No special DOT classification.

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## Section VIII - Control Measures

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### Respiratory Protection (Specify Type)

None required during normal industrial use. Respiratory protection suitable for the measured nuisance dust level encountered is recommended during dry grinding. Minimally, a NIOSH approved dust mask should be worn during dry grinding of cured materials.

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Ventilation	Local Exhaust None during normal industrial use. Recommended during dry grinding.	Special None during normal industrial use.
	Mechanical (General) None during normal industrial use. May be required during dry grinding.	Other None during normal industrial use.

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### Protective Gloves

Wear impervious gloves to prevent repeated or prolonged skin contact.

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### Eye Protection

None during normal industrial use. Goggles are recommended if dry grinding produces flying particles.

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### Other Protective Clothing or Equipment

As necessary to prevent prolonged skin contact.

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### Work/Hygienic Practices

Standard hygienic practices during normal industrial use. Wash skin with soap and water.

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## Section IX - SARA Title III Information

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This product may contain phenol and, therefore, may be subject to the reporting requirements of Section 313, Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372 if present or used in sufficient quantities.

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**Section X - CALIFORNIA (PROPOSITION 65) Information**

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This product is not believed to contain any chemical known to the state of California to cause cancer, birth defects, or other reproductive "harm".

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**Prepared by: Julia M. Stone, CIH, Clayton Environmental Consultants, Inc.**

**For: Tenneco Automotive Brake**

**Date: April 19, 1991**

**Revised by: Millard P. Griffin, Jr., CIH, CSP, Clayton Environmental Consultants, Inc.**

**For: Tenneco Automotive Brake**

**Date: September 23, 1994**

**Revised by: D. R. Carter, BrakePro, Inc. (Changed names, area code, address, and material names only)**

**For: BrakePro, Inc.**

**Date: April 23, 1996**

**Revised by: Velvet J. Elrod, M.A. EAST, Inc. (Changed company name and telephone number only)**

**For: M.A. EAST, Inc.**

**Date: February 18, 1998**

**Revised by: Tim Henderson, M.A. EAST, Inc. (Deleted obsolete and added new Codes to Product Name Section only)**

**For: M.A. EAST, Inc.**

**Date: September 3, 1999**

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