

Table 1

Common Components of Automotive Brake Linings**

<u>Binder and Organic</u> <i>Friction modifiers</i>	<u>Fiber Reinforcer</u>	<u>Property Modifier</u>
Phenolic ^{type} resin	Chrysotile asbestos* (grade 4-7)	Lead compounds
Rubber		Zinc compounds
Tire scrap ‡	- Unaltered	Antimony oxide
Pitch ‡	- Calcined	Iron oxide
Cork ‡	- Mixed fiber	Copper metal
Gilsonite ‡		Brass chips
Cashew nut ^{shell} resin		Clay minerals
? Boron compounds		Barite (BaSO_4)
<i>Drying oils</i>		Wollastonite (CaSiO_3)
<i>Cured cashew nut shell resin particles ‡</i>		Quartz (SiO_2)
		Cryolite ($\text{Na}_6\text{AlF}_{13}$)
		Rottenstone (SiO_2)
		Coke (C)
		Coal (C)
		Gilsonite (C)
		Graphite (C)
		Carbon black (C)
		Molybdenum sulfide (MoS_2)
		Fluorspar (CaF_2)

* Chrysotile fiber constitutes about 50% by weight of most automotive brakes currently manufactured in the United States.

** See Carroll, 1962; Anderson, 1969, Anderson, 1974; Jacko and DuCarme, 1973; Bark, et al., 1975.

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