

**Producing Ground Scrap Tire Rubber: A Comparison Between Ambient and
Cryogenic Technologies:**

M. H. Blumenthal

Executive Director, Scrap Tire Management Council

1400 K Street, NW

Washington, D.C.

20005

In 1985, the scrap tire industry was created when Minnesota became the first state to develop specific legislation and regulations for scrap tires. Up to that time, many scrap tires, like most solid and household wastes, went into the municipal dump. Those tires not placed in the dump went into stock piles, some of which still exist today. Prior to 1985, few, if any scrap tires were processed. The Minnesota program changed all that.

The equipment first introduced to process scrap tires consisted of redesigned wood or metal shredders. The performance of these systems left much to be desired. In the past 10 years, many companies and equipment systems, designed especially for scrap tires, have come into existence. Until recently, scrap tires were typically processed by "ambient" systems. These systems consist of a mechanical process, which

cuts and or grinds whole tire rubber into the desired sized particle at room (ambient) temperatures.

Historically, producing ground rubber, like all other rubber processing, was done by an ambient (room temperature) processing system. Within the last several years, cryogenic processing of scrap tires has been introduced for the preparation of ground rubber. In the cryogenic process, rubber is introduced into a bath of liquid nitrogen, instantly freezing the rubber. Once embrittled, the rubber is struck with an impact devise, effective shattering the rubber.