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2011 Chemicals & Materials

Structure-property analysis of unfilled IR vulcanizates characterized by mechanical and rheological measurements

Polyepichlorohydrin compounds for service in ethanol fuel applications

The white carbon footprint



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**Rubber Expo
Information
on page 70**



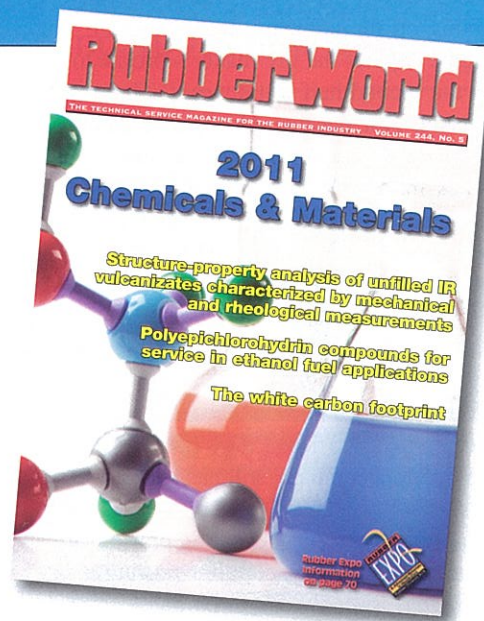
FEATURES

14 The white carbon footprint

by Larry R. Evans, *Transportation Research Center*. Estimates are presented for the amount of energy needed for each major step in the manufacturing process to convert crystalline silicone dioxide into a different physical form of silicone dioxide, namely amorphous, an integral component of the tread compound used for fuel-efficient tires.

22 Structure-property analysis of unfilled polyisoprene (IR) vulcanizates characterized by mechanical and rheological measurements

by William M. Boye, *Cray Valley USA*, and Ed Terrill, *Akron Rubber Development Laboratory*. Use of mechanical and analytical tests were used in this study to characterize the crosslink network differences that are unique to each vulcanization system.



28 Polyepichlorohydrin compounds in ethanol-containing fuel contact

by Samuel C. Harber, *Zeon Chemicals*. Results are presented of a study where polyepichlorohydrin terpolymer (GECO) and copolymer (ECO) compounds were evaluated long-term in various ethanol-containing fuel blends.

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