

## CASHEW NUT SHELL LIQUID AS AN ANTIOXIDANT IN NATURAL RUBBER COMPOUNDING

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All rubbers are susceptible to attack by oxygen, ozone, heat, light, weather and radiation. The attack by these agents causes a gradual breakdown of the polymer thus resulting in deterioration of rubber products, the process being referred to as the aging process. Materials, known as antioxidants are added to rubber during compounding to prevent or retard the aging process. The commonly used commercial antioxidants belong either to the phenolic type or to the amine type. Hindered phenols form an important group in the phenolic type of antioxidants. Cashew Nut shell Liquid (CNSL) consists mainly of Anacardic acid and Cardol both belonging to the class of hindered phenols. This paper reports the investigations carried out at the CISIR on the possibility of using CNSL as an antioxidant in natural rubber compounding. The laboratory scale investigations show that the antioxidant activity of CNSL is comparable with that of the antioxidants used most commonly by the rubber industry in Sri Lanka.

Also the Stress Relaxation properties and the Creep behaviour of the rubber vulcanisates have been found to improve when CNSL is used as the antioxidant.