

Nanotechnology in tyres: Status of the technology (Nanotechnology and Tyres: Greening Industry and Transport)

This opening chapter provides an introduction to the use of nanotechnology for improving tyre performance, and in particular tyre sustainability. It provides an overview of some of the main nanotechnology solutions currently in use and emerging, as they apply in tyre production. Four nanomaterials are being investigated in more detail in this chapter: two that are currently in use -carbon black and conventional "highly dispersible" (HD) silica, and two emerging ones- new generation "highly dispersible high surface area" (HD-HS) silica and nanoclays. It also gives a first insight into the main technical barriers to commercialisation and uptake of new nanomaterials in the tyre industry.

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