

RELENTLESSLY DRIVEN TO OUTLAST

FLEXSYS > Santoflex™ Antidegradants

Santoflex™, the world's leading antidegradants (PPDs), prevent premature aging and degradation of rubber from ozone and oxygen. Santoflex antidegradants also protect against fatigue and heat. These are critical, since degrading rubber results in reduced flexibility and a shorter service life for finished parts. As a leading supplier of antidegradants to the tire industry, we hold a series of patents for our innovative manufacturing process of the key intermediate that's used to manufacture Santoflex, which is known for its reliability and consistency.

Santoflex antidegradants offer:



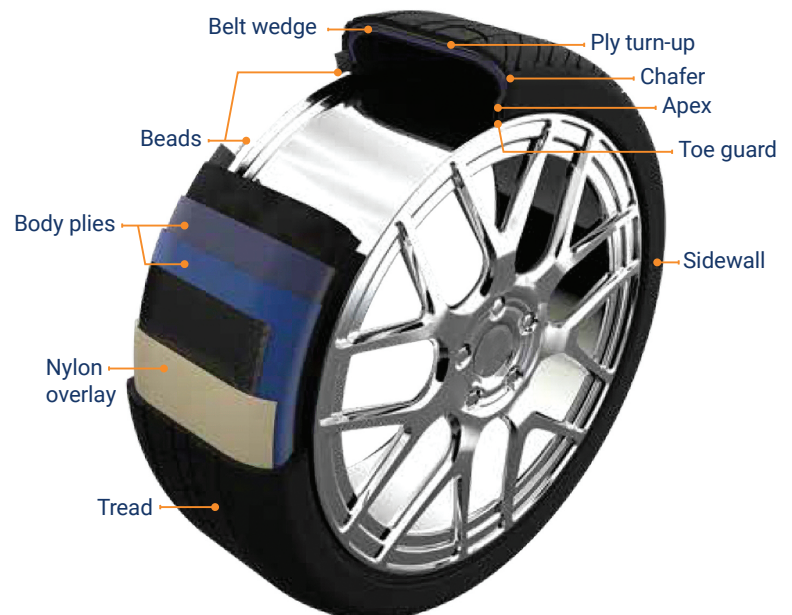
Ozone resistance



Extended flexibility



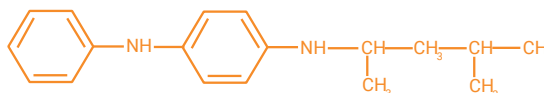
Fatigue resistance



Product: Santoflex™ 6PPD

Chemical name: *N*-(1,3-dimethylbutyl)-*N'*-phenyl-*p*-phenylenediamine

Chemical structure:



Santoflex 6PPD is a market leading, powerful antidegradant for natural and synthetic elastomer compounds. Santoflex 6PPD provides protection against fatigue degradation in both static and dynamic operating conditions.

OTHER SANTOFLEX™ PPD PRODUCTS

Santoflex™ 77PD

Chemical name: *N,N'*-bis(1,4-dimethylpentyl)-*p*-phenylenediamine

Application

- ▶ Santoflex 77PD is used in compounds subjected to static conditions for long periods of time, i.e., tires used in aircraft, OTR, mobile homes, and agriculture equipment, as well as structural mounts, fixed hoses, gaskets etc.
- ▶ Due to high solubility in rubber, the product does not bloom or easily leach from compounds even at high concentrations

Santoflex™ 134PD

Chemical name: 1:2 blend of *N*-(1,3-dimethylbutyl)-*N'*-phenyl-*p*-phenylenediamine and *N*-(1,4-dimethylpentyl)-*N'*-phenyl-*p*-phenylenediamine

Application

- ▶ Santoflex 134PD provides efficient stabilization for a wide range of solution and emulsion polymerized elastomers that can tolerate discoloration
- ▶ The product provides powerful antiozonant and antioxidant properties with excellent high-temperature flex fatigue resistance to rubber compounds
- ▶ Santoflex 134PD is a liquid at room temperature, providing handling advantages over heated liquid PPDs

MAJOR APPLICATION AND PROPERTIES

Santoflex 6PPD applications include use in pneumatic tire components, solid tires, belts, hoses, cables, automotive mounts, and general mechanical products that are exposed to continuous and intermittent dynamic operating conditions and require protection from ozonation.

Santoflex 6PPD provides powerful antiozonants and antioxidant properties with excellent high temperature, fatigue and flex resistance to rubber compounds.

Santoflex 6PPD gives efficient stabilization for a wide range of solution and emulsion polymers.

Santoflex 6PPD gives rubber protection against catalytic degradation from copper and other heavy metals.

Our recommended products will change depending on rubbers and formulation. For further information regarding our products, visit **Flexsys.com**



Although the information and recommendations set forth herein are presented in good faith, Flexsys America L.P. makes no representations or warranties as to the completeness or accuracy thereof. You must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. Nothing contained herein is to be construed as a recommendation to use any product, process, equipment, or formulation in conflict with any patent, and we make no representations or warranties, express or implied, that the use thereof will not infringe any patent. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND NOTHING HEREIN WAIVES ANY OF THE SELLER'S CONDITIONS OF SALE. Safety Data Sheets providing safety precautions that should be observed when handling and storing our products are available online or by request. You should obtain and review available material safety information before handling our products. If any materials mentioned are not our products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

© 2021 Flexsys America L.P. Flexsys brands referenced herein are trademarks of Flexsys America L.P. The ® used on Flexsys brands denotes registered trademark status in the U.S.; marks may also be registered internationally. Non-Flexsys brands referenced herein are trademarks of their respective owners.