



FLEXSYS

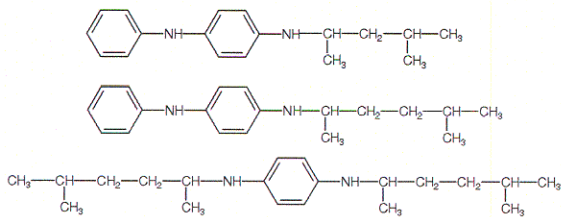
Product Data

SANTOFLEX 715PD

Blend of alkyl-aryl- and dialkyl-p-phenylenediamines

CAS Reg. No.: 793-24-8/3081-01-4/3081-14-9

Molecular weight: 268/282/305



FUNCTION

Santoflex 715PD functions as an antidegradant blend providing protection against ozone and fatigue degradation in both static and dynamic operating conditions.

MAJOR APPLICATIONS AND PROPERTIES

- Santoflex 715PD, a liquid 85:15 blend of Santoflex 1350PD and Santoflex 77PD, provides the advantages of having dialkyl and alkyl-aryl-p-phenylenediamine properties in one product, so only one product needs to be inventoried.
- Santoflex 715PD applications include use in natural and synthetic rubbers to achieve effective resistance to ozone, fatigue and aging in products subjected to static, continuous and intermittent dynamic conditions of service.
- Santoflex 715PD provides powerful antiozonant and antioxidant properties with excellent high temperature fatigue and flex resistance to rubber compounds.
- While used primarily for ozone resistance, Santoflex 715PD is a more active antioxidant than quinoline or diphenylamine based antioxidants.
- Santoflex 715PD provides compound protection against catalytic degradation by copper and other heavy metals.
- The product has no negative effects on compound adhesion to textiles or steel cord up to levels of 2 phr. Above this concentration it may bloom and interfere with ply to ply and ply to cord adhesion.
- It will discolor compounds and cause severe contact and migration staining.
- Santoflex 715PD is regulated for use in articles in contact with food as specified under BgVV XXI, Category 4. Santoflex 715PD is not regulated for use in FDA food contact applications.

COMPOUNDING INFORMATION

For a radial tire we suggest the following loadings:

Tread	: 1.5-2.0	phr
Sidewall	: 3.0	phr min.

Santoflex 715PD resists oxidation in a cured compound. However, adding Flectol TMQ antioxidant to the compound will protect the antiozonant from oxidation, thus further enhancing long term performance.

Because Santoflex 715PD contains a dialkyl PPD it may reduce scorch safety and increase cure rate more so than other PPD's. One can evaluate the effect for any particular compound using a rheometer. The use of Santogard PVI, N-(cyclohexylthio)phthalimide, can reverse this effect.

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Antidegradants

HANDLING PRECAUTIONS

For detailed information on toxicological properties and handling precautions please refer to the current Safety Data Sheet. This information sheet can be downloaded from our web site or requested from the nearest Flexsys office and should be consulted before handling this product.

STORAGE RECOMMENDATIONS

Santoflex 715PD can be stored in drums or in bulk tanks. Store drums below 35°C and away from direct sunlight. For heated bulk storage above 35°C incorporate a nitrogen blanket on the tank to prevent product oxidation that could reduce its usefulness as an antiozonant. Also continuously circulate product stored in heated tanks to minimize temperature gradients and reduce heating element fouling, thus maximizing the product's consistency.

PRODUCT INFORMATION

Santoflex 715PD Product form	liq liquid mixture	
<u>PRODUCT SPECIFICATIONS</u>		<u>Test method</u>
Appearance	dark liquid	FF97.5
Active ingredients, total (GC) (%) min.	95.0	FGC97.10
- Santoflex 6PPD (%) min.	39.0	FGC97.10
- Santoflex 7PPD (%) min.	39.0	FGC97.10
- Santoflex 77PD (%) min.	14.0	FGC97.10
Heat loss (%) max.	1.0	FGr97.7
Ash (%) max.	0.1	FGr90.9
<u>TYPICAL PROPERTIES</u>		
Viscosity at 75°C (cSt)	12-16	
Specific gravity at 45/15°C	0.970-0.986	

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60 S. Seiberling Street • Akron, Ohio 44305

For further information please contact your local Flexsys office or regional Flexsys headquarters:

Regional Headquarters	:	Brussels	Akron	Singapore
Tel.	:	+32 2 714 32 11	+1 330 666 41 11	+65 872 28 08
Fax	:	+32 2 714 32 32	+1 330 668 83 45	+65 872 28 18

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