

## Rhenofit® PAN

Specialty and standard chemicals

### Function

Antioxidant for natural and synthetic rubber

### Product description

Composition:	Phenyl-a-naphthylamine
Appearance:	pale brown to pale violet powder
Density:	1.16 g/cm <sup>3</sup>
Melting point:	not below 50 °C
Solidification point:	not below 52.5 °C
Solubility:	freely soluble in ethyl acetate, acetone and ethyl alcohol, soluble in benzene, practically insoluble in water.
Physiological properties:	see safety data sheet

### Use

**Mode of action:** Rhenofit PAN is effective against oxidation and heat. As an inhibitor of premature dynamic cracking it lies between Rhenofit DDA and Vulkanox 4010 NA. The good solubility of Rhenofit PAN in rubber enables the effect to be improved by raising the dosage (e.g. beyond 2 parts by weight). Rhenofit PAN affords excellent protection from rubber poisons. It is very suitable for vulcanizates based on polychloroprene that are exposed to heat.

At normal dosages Rhenofit PAN has no effect on the scorch time or rate of vulcanization. Even fairly heavy dosages - of up to about 4 parts by weight - have no effect on the mechanical properties of the vulcanizates. Rhenofit PAN does not bloom, even at relatively heavy dosages.

Light-colored vulcanizates produced with Rhenofit PAN undergo brown discoloration on exposure to natural or artificial light. The chemical may also migrate into materials with which the article is in contact (e.g. into plastics, paintwork or other rubber goods). These materials may be discolored through mere contact or - after contact - through exposure to light.

**Processing:** As Rhenofit PAN has a low melting point and good solubility in rubber, it is easily incorporated and disperses very well. Increasing dosages of Rhenofit PAN have practically no effect on the viscosity of compounds.

Dosage: Based on 100 phr rubber:  
as antioxidant: 0.75-1.75 phr Rhenofit PAN  
as antioxidant (particularly for CR vulcanizates):  
1.0-2.0 phr Rhenofit PAN  
as an anti-flexcracking agent: 1.0-3.0 phr Rhenofit PAN  
or 1.0-3.5 phr Rhenofit PAN and Vulkanox 4010 NA (1:1)  
for protection form rubber poisons: 0.5-1.0 pbw Rhenofit PAN

Application: Rhenofit PAN is suitable for use in compounds based on natural rubber or synthetic rubber of the types SBR, BR, NBR, CR and IR for all dark colored goods in which staining or contact staining is not objectionable, and particularly for articles subjected to heavy dynamic stressing, e.g. tires, conveyor belts, transmission belts and buffers and also for hoses, extrudates, rollers, roller covers, etc.

### **Packaging**

25 kg FTR with black PE bag inside on 450 kg skid

### **Storage stability**

In original closed containers under cool and dry conditions 730 days from date of production. The product should be stored at temperatures below 40 °C, exposure to direct sunlight during transport or storage should be avoided.

### **Handling**

For additional handling information on Rhenofit PAN please consult material safety data sheet.

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