Technical Data Sheet

Perkalink®
900

Specialty and Standard Chemicals

Function

Perkalink® 900 is a highly effective anti-reversion agent for sulfur crosslinking of NR, NBR, IR, (H)IIR, SBR and BR and their blends as well as a co-agent for peroxide crosslinking with best balance.

Product description

Composition: 1,3-bis(citraconimidomethyl)benzene

Appearance: off-white pastilles
Density (at 20 °C): approximately 1.27 g/cm³

Property	Nominal value	Unit	Test method
Assay	≥ 85.0	%	RUC 503
Initial melting point	≥ 75	°C	ASTM D 1519 A
Final melting point	85 ± 5	°C	ASTM D 1519 A
Volatile matter	≤ 0.5	%	ASTM D 4571 (15-23)
Ash content	≤ 0.3	%	ASTM D 4574

Use as anti-reversion agent for sulfur crosslinking

Mode of action: Perkalink® 900 is active during long vulcanization times and during thermal degradation to benefit cured articles. The loss of crosslink density caused by reversion is reconstituted to its initial level. Perkalink® 900, therefore, is the solution for thick molded articles.

Processing: Perkalink® 900 should be added together with accelerators.

Vulcanizate Properties: Perkalink® 900 has no influence on cure and initial vulcanisate properties. Only during the reversion process Perkalink® 900 will build up new crosslinks to stabilize the crosslink density via a Diels Alder mechanism. Overall the mechanical and dynamic properties of a vulcanisate after long vulcanisation time or severe dynamic stress during use are constant.

Dosage: 0.5 - 2 phr

Use as co-agent for peroxide crosslinking

Mode of action: Crosslinking of polymers with peroxides is the second important way to vulcanize macro molecules after sulfur cure. Peroxides will decompose into radical structures under the influence of heat, light or high energy radiation. The radicals are transferred to the polymer chain resulting in a crosslink between two polymer backbones. Depending from the polymer structure also a degradation of the polymer chain is possible. For this reason the crosslinking reaction must be higher in comparison to the degradation reaction. For polymers like PP or IIR the degradation reaction is higher.

To increase the efficancy of the crosslinking reaction of peroxides so-called co-agents are used. Co-agents are for example triallylcyanurate (TAC) and -isocyanurate (TAIC), triallylphoshate (TAP), triallyltrimellitate (TAM), m--phenylene-bis-maleimide (known as HVA-2) or several other chemicals. HVA-2 is used often in high temperature applications in EPDM or FKM, disadvantage is the toxcitity of this chemical.

Vulcanizate Properties:	Perkalink® 900 has similar structure elements compared to HVA-2. Oligomeric structures (resins) of Perkalink® 900 are known be have higher thermal stability compared to resins made with HVA-2. For this reason Perkalink® 900 was tested as co-agent in a peroxide cured EPDM compound. Additionally also TAC and TRIM were tested. Perkalink® 900 showed the best performance like long scorch saftey and short vulcanisation time compared to the other tested co-agents. With about similar crosslinking density (XLD) the vulcanizate with Perkalink® 900 has longer elongation at break and higher tensile strength compared to HVA-2. The compression set tested at 48 h at 125 °C is similar for all vulcanizates.
Conclusion:	Perkalink® 900 used as co-agent show the best balance in long processing saftey and fast cure in combination with high elongation at break and tensile strength.

Packaging

20 kg cardboard box on 1000 kg skid.

Storage stability

In original closed packaging under cool (approximately 25 °C) and dry conditions 730 days from date of production.

Handling

For additional handling information on Perkalink® 900 please consult current safety data sheet.

These raw material properties are typical and, unless specifically indicated otherwise, are not to be considered as delivery specification.

Perkalink® is a Registered Trademark of LANXESS Deutschland GmbH.

Our technical advice - whether verbal, in writing or by way of trials - is given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended processes and uses. The application, use and processing of the products are beyond our control and, therefore, entirely your own responsibility. Should, in spite of this, liability be established for any damage, it will be limited to the value of the goods delivered by us and used by you. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery.

RheinChemie Additives

LANXESS Deutschland GmbH
BU Rhein Chemie
Kennedyplatz 1
50569 Cologne, Germany
Phone: +49 (0)221 8885-0
E-Mail: rubber.additives@lanxess.com
http://rch.lanxess.com