

## Cohedur® RK

Specialty and Standard Chemicals

### Function

Cohedur® RK is a valuable addition to the range of Cohedur® bonding agents. It serves as the resorcinol component of the three-component system, but direct bonding compounds containing it have better scorch resistance than those made with resorcinol itself. Cohedur® RK must be used in conjunction with Cohedur® A grades and reinforcing silica, e.g. Vulkasil® S. It is intended mainly for use with chloroprene rubber, e.g. Baypren®.

### Product description

Composition: resorcinol derivative on filler in the ratio 1:1

Appearance: white powder

Density: approximately 1.7 g/cm<sup>3</sup>

<u>Property</u>	<u>Nominal value</u>	<u>Unit</u>	<u>Test method</u>
Ash content (at 950 °C)	44.0 ± 2.0	%	17 E
Content of MgO	9.0 ± 0.5	%	116

### Use

Mode of action: Cohedur® RK, in conjunction with Cohedur® A grades and reinforcing silica, e.g. Vulkasil S, gives vulcanizates based on chloroprene rubber (e. g. Baypren®) good adhesion to all the normal reinforcing materials (rayon, polyamide, polyester with special spin finish, glass fibers, and bare, galvanized and brasscoated steel cord) without their first having to be treated with a bonding agent. The bonds are highly resistant to dynamic and thermal stresses.

The bonding is further improved to a small extent by preliminary dipping of the reinforcing materials in resorcinol formaldehyde solution. Cohedur® RK and Cohedur® A grades can also be used in rubber solutions for the dough spreading process. Direct bonding compounds are, however, the main field of application because they enable dipping of the fabric or other reinforcing material to be dispensed with.

Cohedur® RK is a special product intended mainly for chloroprene rubber compounds but it can also be used for direct bonding compounds based on NR, SBR, BR and their blends. Experience gained so far indicates that Cohedur® RK is not suitable for NBR.

Processing: Cohedur® RK can be added at practically any stage of the compounding operation. However, the required methylene donor, i.e. Cohedur® A grades, should be added at the end of the compounding cycle because the bonding system is sensitive to heat. Nevertheless, combinations of Cohedur® RK with Cohedur® A grades are less sensitive to heat than are combinations of Cohedur® RS with Cohedur® A grades or Cohedur® RDL.

Cohedur® RK is absorbed by the compound immediately. It disperses quickly and well. Unlike resorcinol, Cohedur® RK has no tendency to bloom. In addition, since it forms no rubber-insoluble adducts with methylene donors, the direct bonding compounds are entirely free from blooming.

Direct bonding compounds containing Cohedur® RK in conjunction with Cohedur® A grades have good scorch resistance, though their scorch times are slightly shorter than those of compounds without bonding agents. Hexamethylene tetramine (e.g. Cohedur® H 30 or Rhenogran® Hexa-80) can be used, but the scorch resistance advantage is then lost.

Vulcanizate Properties: Combinations of Cohedur® RK with Cohedur® A grades improve the physical properties of the vulcanizates, such as the tensile strength, modulus, tear resistance and Shore A hardness values. They somewhat reduce the elongation at break and elasticity.

Like all bonding agents containing resorcinol, combinations of Cohedur® A grades with Cohedur® RK give light-colored vulcanizates the reddish-brown color that is typical of resorcinol formaldehyde resins. The discoloration does not extend to adjacent rubber that contains no Cohedur®. Moreover, as resorcinol formaldehyde resins are highly polymeric, the reddish-brown color is not washed out by water or organic solvents. The intensity of the discoloration can be reduced by adding titanium dioxide to the compound.

Dosage: Typical levels of addition based on 100 parts by weight of elastomer are:

Cohedur® RK	7 - 9	phr
Cohedur® A *)	2 - 2.5	phr
Vulkasil® S	10 - 30	phr

\*) Cohedur® A 200; for Cohedur® A 250 the quantity must be doubled.

## Packaging

25 kg package on 600 kg skid.

## Storage stability

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

## Handling

For additional handling information on Cohedur® RK 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.

Baypren® is a Registered Trademark of Bayer AG, Germany.

Cohedur® and Vulkasil® are Registered Trademarks of LANXESS Deutschland GmbH.

Rhenogran® is a Registered Trademark of Rhein Chemie Rheinau GmbH, Germany.

---

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.

---



**LANXESS Deutschland GmbH**

**BU Rhein Chemie**

Kennedyplatz 1

50569 Cologne, Germany

Phone: +49 (0)221 8885-0

E-Mail: [rubber.additives@lanxess.com](mailto:rubber.additives@lanxess.com)

<http://rch.lanxess.com>