

SiSiB® PC2363 Long-Chain Polyether Mercaptosilane

INTRODUCTION

SiSiB® PC2363 is a long-chain polyether mercaptosilane coupling agent developed for silica-reinforced rubber compounds, particularly low-rolling-resistance tire tread formulations.

During mixing, the silane functionality reacts with silanol groups on the silica surface, promoting silica hydrophobation and filler dispersion. During vulcanization, the mercapto functionality reacts with the rubber polymer, establishing effective chemical coupling between silica and the rubber matrix.

Compared with conventional polysulfide silanes such as TESPT and TESP, SiSiB® PC2363 promotes efficient silica-polymer coupling, helping reduce Mooney viscosity and improve mixing efficiency. It also contributes to improved rebound resilience and lower $\tan \delta$ at 60 °C.

Comparative testing shows approximately 80% lower volatile generation than conventional sulfur-functional silanes.

PHYSICAL PROPERTIES

Appearance *	Colorless to dark yellow liquid
Flash Point (°C)	> 170
Density, 25°C, g/cm ³	0.98-1.00
Viscosity, 25°C (mPa·s)	40-100
Refractive Index (25°C)	1.45-1.48
Sulfur Content (wt%)	2.2-3.6
Heating Loss (%), 105°C	< 3.5

Appearance*: May become milky or solidify at low temperature.

These values are typical and are not intended for use as specifications.

APPLICATIONS

SiSiB® PC2363 is particularly suitable for high-silica rubber compounds and low-rolling-resistance tire tread formulations.

It can also be used in other silica-reinforced rubber applications where improved filler dispersion, lower Mooney viscosity, efficient mixing and reduced volatile emissions are required.

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USAGE GUIDELINES

SiSiB® PC2363 is normally added together with silica during rubber mixing.

The recommended dosage is 10-12 wt% based on the amount of silica. The optimum dosage may vary depending on the polymer system, silica type and loading, compound formulation, mixing conditions and target performance, and should be determined through formulation trials.

SiSiB® PC2363 is also suitable for one-step mixing processes, helping reduce Mooney viscosity, improve filler dispersion and enhance overall mixing efficiency.

PACKING

SiSiB® PC2363 is available in 25 kg pail, 200 kg drum and 1000 kg IBC.

STORAGE

Keep the container tightly closed and store in a cool, dry and well-ventilated place. Protect from moisture and high humidity.

When stored under the recommended conditions, SiSiB® PC2363 has a shelf life of 12 months from the date of manufacture.

HANDLING

This document does not contain the product safety information required for safe use. Before handling, please refer to the product and safety data sheets, as well as container labels, for information on safe usage, physical hazards, and health risks. Safety Data Sheet is available on the website, from the distributor, or by contacting SiSiB customer service.

NOTE

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

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