

Technical Information

TEGOMER® V-Si 4042

TEGOMER® V-Si 4042 is a solvent free, reactive polysiloxane to be used as an additive for thermo-plastic compounds as well as for EPDM compounds with peroxide curing.

Physical properties

Functional groups	Double bonds
Appearance	Clear liquid
Active matter	100 %
Viscosity (25 °C)	Approx. 1 500 mPas
Flash point	236 °C
Specific gravity (25 °C)	Approx. 1 g/cm ³

Application

TEGOMER® V-Si 4042 serves as a processing aid for highly loaded compounds containing carbon black (CB) or mineral fillers, like aluminium or magnesium hydroxide.

TEGOMER® V-Si 4042 enhances the flame-retardant properties of the compound. TEGOMER® V-Si 4042 is used to produce halogen free flame-retardant polyolefin and elastomeric compounds for cable applications.

TEGOMER® V-Si 4042 is suitable for α -PE applications. By thermally initiated crosslinking reactions it can be introduced permanently into polymeric resin.

As a processing aid TEGOMER® V-Si 4042 improves the extrusion of EPM/EPDM compounds without changing the rubber articles physical properties.

Benefits

TEGOMER® V-Si 4042 provides several benefits to the HFFR polymer formulation such as:

- Lubrication and improved melt flow rate and polymer processing of highly filled compounds
- Enables excellent compatibility between flame retardant/filler/pigment and polymeric resin
- Gives excellent surface characteristics to cables
- Neither build-up on metal surfaces nor die drool appears
- Supports char formation
- Enables low smoking cable formulations
- Slows down heat and smoke release
- Significantly improves the Lower Oxygen Index (LOI)

TEGOMER® V-Si 4042 provides several benefits to EPM/EPDM peroxide cured compounds such as:

- Reduced compound viscosity at higher shear forces resulting in increased capacity or reduced energy costs
- No negative impact on mechanical properties
- Reduction of failures on the extruded surface

Dosage

The optimum dosage of TEGOMER® V-Si 4042 usually lies between 0.5 % and 2.0 % depending on the required properties and the formulation (e.g. amount of mineral fillers or CB used), e.g.

- 1.0 to 2.0 % if used in HFFR compounds on its own,
- 1.0 % if combined with 2–3 % MAA compatibilizer
- 0.5 to 1 % in combination with 0.5 % silane.

TEGOMER® V-Si 4042 usually is injected in zone 1 or 2 of the extrusion line using a liquid dosing pump.

As TEGOMER® V-Si 4042 is miscible with silanes, both can be premixed and injected together.

In case no liquid dosing pump exists, the liquid TEGOMER® V-Si 4042 can be preblended with the polymer in a first step. In a second step the powder might be added to the blend. Preblending TEGOMER® V-Si 4042 with the powder in a first step is not recommended.

Food contact status

TEGOMER® V-Si 4042 may be used in compliance with FDA 177.2600 as an elastomeric component of rubber articles intended for repeated use.

Registration

The ingredients of the product TEGOMER® V-Si 4042 are listed in the following inventories:

EINECS, TSCA, DSL, KECL, ENCS, AICS, PICCS, IECSC, NZIOC, TCSI

Based on the submitted information of our raw material suppliers we can confirm, that TEGOMER® V-Si 4042 is compliant with EC Regulation 1907/2006 (REACH).

Storage stability

TEGOMER® V-Si 4042 is stable in closed containers for a minimum of 12 months.

Packaging

200 kg steel drum (800 kg each pallet)

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicity and ecological effects

is given in our material safety data sheets.

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