

## Technical Information

## TEGOMER® V-Si 4042

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

## Physical properties

Functional groups	unsaturated double bonds
Appearance	colourless, clear
Active matter	100 %
Viscosity (25 °C)	approx. 1 500 mPas
Flash point	> 300 °C
Specific gravity (25 °C)	approx. 1 g/cm <sup>3</sup>

## Application

TEGOMER® V-Si 4042 serves as process aid for highly loaded compounds containing carbon black or mineral fillers, like aluminium or magnesium hydroxide. TEGOMER® V-Si 4042 enhances the flame retardant properties of the compound.

TEGOMER® V-Si 4042 can be used to produce halogen free flame retardant polyolefin and elastomeric compounds for cable application. By thermally initiated crosslinking reactions TEGOMER® V-Si 4042 can be introduced permanently into polymeric resins and is therefore even suitable for x-PE application.

TEGOMER® V-Si 4042 is a process aid which improves the extrusion of EPM/EPDM compounds without changes in physical properties of the rubber article.

## Benefits

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

- improved polymer processing and lubrication of polymer resin
- excellent compatibilizing of (high addition levels of) inorganic fillers in the polymeric resin
- improved melt flow rates during processing
- excellent surface characteristics of cables
- no build-up of process aid on metal surfaces and no die drool appears
- excellent char formation
- low smoking cable formulation can be achieved
- low heat and smoke release
- significant improved Lower Oxygen Index (LOI)

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

- reduces the compound viscosity at higher shear forces for increased capacity or for reduced energy cost
- does not change mechanical properties as other process aids usually do
- reduces failures on the extruded surface

## Dosage

The amount of TEGOMER® V-Si 4042 used depends on the required properties and can range from 0.5 – 2.0 wt% depending on the polymer and the amount of mineral fillers or carbon black.

TEGOMER® V-Si 4042 will be used

- in HFFR compounds with 1 – 2 % on its own,
- with typically 1 % in combination with 2 – 3 % compatibilizer (PP-MAA) or
- with 0.5 – 1 % in combination with 0.5 % silane.

TEGOMER® V-Si 4042 will be used with a liquid dosage pump and injected in zone 1 or 2 of the extrusion line. It is miscible with silane, therefore it can be premixed and injected with it together.

TEGOMER® V-Si 4042 is not suitable for the surface treatment of ATH, MDH or CaCO<sub>3</sub>. For this application TEGOPREN® 6875 and TEGO-PREN® 6879 are recommended.

Therefore, if no liquid dosing pump exists for double screw extrusion lines polymer and liquid TEGOMER® V-Si 4042 should be mixed in a first step. Afterwards the FR will be added and the tumbling/mixing is carried out. This material mix can be added in the main feeder.

Premixing FR and TEGOMER® V-Si 4042 only should be definitely avoided since the surface area of the hydroxide-based FR is so high that an in-homogeneous distribution appears.

#### 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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