

Technical Data Sheet

Capatue™ SLC-VS758

Abstract

Formulated silane (also called as silane cocktail) **SLC-VS758** is a crosslinking package (contains silane, peroxide initiator and Tin catalyst) specially developed for the Monosil one-step process manufacture of HDPE PEX-B pipes that meet food contact requirements.

This formulated silane allows for cost-effective production of moisture crosslinkable HDPE pipe with Monosil one-step process.

Equivalentents

Silcat® VS-758-0 from Momentive (formerly OSi Specialties)

Typical Properties

Index	Value
Appearance	Clear liquid
Color	Colorless to light straw
Specific Gravity, g/cm ³ , @ 25 °C	0.970
Viscosity, mPa s (cP), @ 23 °C (2)	2.8
Flash Point, Tag Closed Cup	25

Key features and Typical Benefits

1. PEX-b pipes made by using formulated silane SLC-VS758 show excellent mechanical properties & chemical resistance and can operate at temperatures up to 110 °C.
2. Special stabilizers prevent premature polymerization of the grafting agent and provide excellent aging properties of cross-linked polyethylene.
3. High quality surface finish of pipes results from use of SLC-VS758.

Application

SLC-VS758 is an optimized silane grafting package for the manufacturer of PEX-b pipe with Monosil process used for:

- Underfloor heating pipes
- Hot water pipes
- Sanitary and drinking water distribution

Processing Recommendations

HDPE pipes crosslinked with SLC-VS758 can meet following specifications:

- *DIN 16892 (Rohre aus vernetztem Polyethylen)*
- *EN (155 WI 023)*

Moisture content of the PE resin must be less than 200 ppm. In hot and humid countries pre-drying of the resin at 70 °C by means of an air desiccator is highly recommended.

Grafting: Optimum addition levels for a given application must be determined experimentally. Data collected on Nextrom extruders indicate that the dose levels are as follows:

Formulated silane SLC -VS758	1.8 to 2.2%
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Temperature profile setting of the extruder:

Barrel	170/180/185/195/210/220 °C
Head/die	220 °C
Screw	140 °C

Crosslinking: The rate of cure is dependent upon time, temperature and thickness of the layer and available moisture. A crosslinking degree of 65% (gel content) can be achieved by any of the following methods:

- immersion in water at 80~90 °C
- exposure to low pressure steam at 105 °C
- exposure to steam at atmospheric pressure (i.e. a sauna at 100 °C)

Food Contact Regulations

The silane component in SLC-VS758 is listed with ref PM nr 26328 in the EU Directive 90/128/EEC on plastics for use as food contact, with a maximum permitted quantity of 'residual' silane of 5 mg/kg (QM = maximum permitted quantity of the 'residual' substance in the food product).

The peroxide initiators are not regulated on an EU level. They are regulated at the country level.

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A European reference for the peroxide ingredients are the German BgVV, Section XLVI that allows these ingredients for food-contact applications in Xlinked PE, with the restriction that the total amount of decomposition products in the final resin/product does not exceed 0.2%.

The contained catalyst is allowed under the German KTW-recommendation 1.3.17 when the migration of the Sn in drinking water is lower than 5 microgram Sn/dm². The max concentration of Sn in the PE should be > 0.08 %.

Therefore, all components of SLC -VS758 are allowed as ingredients in plastics for drinking water use in Germany.

Characteristics

The component is designed to be extruded with HDPE resin in a single step and consist of:

- a) SLC-VS758 is a proprietary crosslinking system providing a stable grafting process and high crosslink density of the cured pipe.

Recommended Resins

Type of HDPE resin	Recommended	Best Performance
Melt index (190°C/2.16 kg)g/10 min	0.2~8.0	6~8
Density g/cm ³	0.945~0.955	0.950

Packing

The regular packing of this product is 25kg plastic pail, 200L steel drums and 1000L immediate bulk container.

Storage and Shelf Life

Should be stored in dry, cool, ventilated room; keep away from water, moisture, high temperature and fire. This product has a shelf life of at least 9 months if stored in tightly closed original container at room temperature.

CAUTION: NEVER STORE THIS PRODUCT ABOVE 55°C (131°F)!

If this product is kept beyond the shelf life recommend on the product label, it is not necessarily unusable, but a quality control should be performed on the properties relevant to the application.

Product Safety and Handling

When considering the use of any Capatue products in a particular application, you

should read our latest Material Safety Data Sheets (MSDS) thoroughly for handling instructions, personal protective equipment if necessary, other safety issue and toxicological data as well as for information on proper transportation, storage and use to ensure that the use you intend can be accomplished safely. Our latest Material Safety Data Sheets (MSDS) and other product safety information are available at www.capatue.com or upon request, from our customer service department.

Use of other material in conjunction with Capatue products may require addition precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

This product is for industry use only; it is neither tested nor represented as suitable for food, medical or pharmaceutical uses.

Limited Warranty Information

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Capatue's products are safe, effective, and fully satisfactory for the intended end use.

Suggestions of use shall not be taken as inducements to infringe any patent.

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Customer must do enough tests before their regular production to ensure that our product is suitable for their specific application.