◆DUPONT Liveo™ TE-9330 Silicone Elastomer Blend

Silicone Topical Excipients

Liveo[™] TE-9330 Silicone Elastomer Blend is swollen and dispersed crosslinked polydimethylsiloxane (PDMS) balls in a non-volatile and low viscosity fluid.

COMPOSITION

Silicone elastomer and low viscosity dimethicone (5 cSt) - cross-linked silicone elastomer gel INCI NAME: Dimethicone (and) Dimethicone Crosspolymer.

Applications, Features & Benefits:

Liveo[™] TE-9330 Silicone Elastomer Blend can be used in topical formulations as they offer multifunctional benefits to formulation, including a unique smooth feel, effective delivery of actives and a mattifying effect. The material shows also are semi-occlusive property and it enable rheological modification to formulations.

Such silicone Elastomer blend is currently used:

- in a range of drug delivery topical formulations for prescription and over-the-counter therapies focusing on growth indications such as actinic keratosis, atopic dermatitis, psoriasis, pain and scar management.
- in a range of dermatological consumer healthcare, medicated skin care or topical medical devices applications including creams, gel and sunscreen creams.

Liveo™ TE-9330 Silicone Elastomer Blend can be incorporated easily into many product forms:

- \cdot Gels, creams and novel forms to improve patient compliance due to unique sensory feel
- Creams and gels that offer a mattifying effect for acne applications

PACKAGING

This product is available in 15 kg pails and 180 kg drums. Samples are available in 0.4 kg cans.

Product information Colour	Clear
Rheological properties	
Viscosity	300000 - mPa.s 500000
Additional information	50000
How to use	FORMULATION TIPS Liveo [™] TE-9330 Silicone Elastomer Blend can be formulated into oil-in-water emulsions, water-in-silicone emulsions, and anhydrous products. To incorporate Liveo [™] TE-9330 Silicone Elastomer Blend into a formulation, it should be combined with the oil or silicone phase. Before proceeding, ensure that the LiveoTM TE-9330 Silicone Elastomer Blend is evenly dispersed in the oil/silicone phase. The viscosity of Liveo [™] TE-9330 Silicone Elastomer Blend

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decreases as it is diluted with other oils.

PROCESSING

Liveo[™] TE-9330 Silicone Elastomer Blend is a viscous product that has the unique characteristic of being a sheer thinning material. The following information will aid in the selection of the proper equipment to use when processing Liveo[™] TE-9330 Silicone Elastomer Blend.

Pump recommendation :

GRACO BULLDOG[®] 10:1 Pump with follower plate. For more information, contact GRACO at +1-800-367-4023.

Note: GRACO offers various BULLDOG models, and other pump manufacturers may offer similar equipment equally capable of processing the material efficiently. Users should work directly with the pump manufacturer to determine the best design for their needs.

Customer-specific pump design considerations:

1. Pressure and flow requirements

a) Air supply pressure: Will depend on plant's air supply capabilities.
b) Discharge pressure: Will depend on total pressure required to move the silicone elastomer blend from point A to point B. Pressure drops due to elevation, frictional losses within the piping, fittings, valves, filters, etc., will need to be considered.

c) Flow requirements: Will depend on how quickly the user wishes to transfer the silicone elastomer blend from a 55-gal drum into a vessel.

2. Material viscosity in cP at the application temperature

Liveo[™] TE-9330 Silicone Elastomer Blend is shear thinning. Effective viscosity is 80,000-100,000cP. This is only an example; it is the responsibility of the user to determine the effective viscosity based on the user's application. Once the material is pushed through the pump by the follower plate and processed in the pump, the product will shear thin and process as a lower-viscosity fluid.

<u>3. Construction material for wetted parts</u> Stainless steel is recommended but carbon steel may also be used.

4. Construction materials for seals and gaskets.

 $\mathsf{VITON}^{\circledast}$ or $\mathsf{TEFLON}^{\circledast}$ materials are recommended. Please contact DuPont for alternatives.

CLEAN-UP

Liveo[™] ST-Cyclomethicone 5-NF or any silicone fluids, which dilutes the viscosity of Liveo[™] TE-9330 Silicone Elastomer Blend to water thin, is recommended for soaking or cleaning equipment. Other non-polar solvents may work as well.

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