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TECHNICAL DATA SHEET

SilPlex[®] J2-S-PG
Silquat[®] Complex

DESCRIPTION

SilPlex[®] J2-S-PG is a unique complex of a silicone quaternary compound and an anionic silicone compound. This product is our **Silplex J2-S** reformulated into the preferred propylene glycol. **Silplex J2-S-PG** is water soluble, has good compatibility with anionic surfactants and provides outstanding conditioning to hair and skin. The INCI name is Silicone Quaternium-20.

TYPICAL PROPERTIES

Appearance	Clear Light Yellow Liquid
Colour, Gardner	2
Water solubility (1%)	Soluble
Activity	80% in propylene glycol

USES AND APPLICATION

Silplex J2-S-PG is a water-soluble, alcohol soluble and hydro alcoholic soluble silicone that imparts outstanding hair conditioning especially in 2-in-1 shampoos. It also provides a smooth silky feel to skin and can be used for shaving products.

Silplex J2-S-PG is very mild to the skin and eye allowing its use in baby shampoos and other highly sensitive applications.

Silplex J2-S-PG is typically used at concentrations ranging from 0.5 - 3.0% by weight.

APPLICATIONS DATA

Unlike most conditioning agents, **Silplex J2-S-PG** will foam in solution without additional surfactants. Figure 1 shows the foam height of a 1% solution of **Silplex J2-S** at 0, 2, and 5 minutes after 20 seconds of sparge. **Silplex JS-2-PG** will also not alter the foam generation qualities of a shampoo in which it is formulated.

Foam Height 1% Silplex J2-S

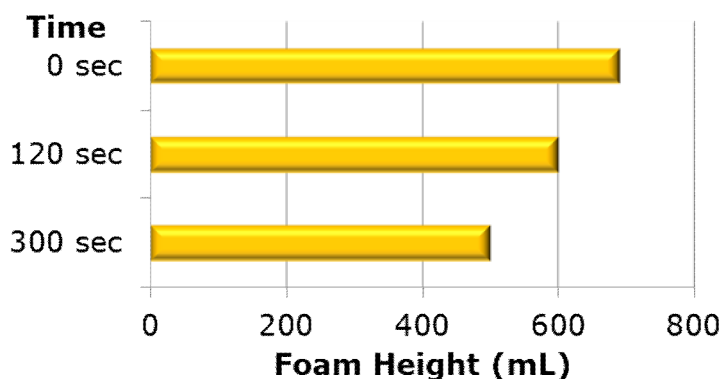


Figure 1: Foam Height

Conditioning Data:

A basic 2-in-1 conditioning shampoo was formulated and evaluated on virgin brown hair using the formula and procedure in Table 1.

Table 1: Conditioning Shampoo

Phase	Ingredients	Grams	Phase	Grams	
A	D.I. Water	44.4	B	Citric Acid (40% aq)	q.s.
	Silsurf® A208	0.4		Silplex® J2-S	2.0
	Na ₂ EDTA	0.1		Nipaguard DMDMH	0.4
	Sodium Laureth-2 Sulfate	33.5		Sodium Chloride	0.5
	Cocamidopropyl Betaine	6.0		Crothix (PEG-150 Pentaerythrityl Tetrastearate)	2.0
	Decyl Glucoside	3.0			
	Disodium Cocoamphodiacetate	3.0			
	DMDM Hydantoin	0.7			
Wheat Protein	0.5				

Procedure:

1. Into a clean container equipped with a propeller mixer, add water and then slowly add the Phase A ingredients one by one while minimizing air incorporation.
2. Add in the **Silplex J2-S** and Nipagard from Phase B. Adjust pH by using citric acid to pH = 5.0 ~ 6.5, and adjust viscosity to 3,600 cps ~ 12,000 cps by addition of NaCl (q.s.) and up to 2% Crothix.
3. The formulation was clear, pH 6.3, 8,300 cps and stable for more than four weeks.
4. 10 inch virgin brown hair was treated with 2 gm of shampoo and evaluated. Ratings were from 1-5 with 5 being the best. Results are shown in Figure 2.

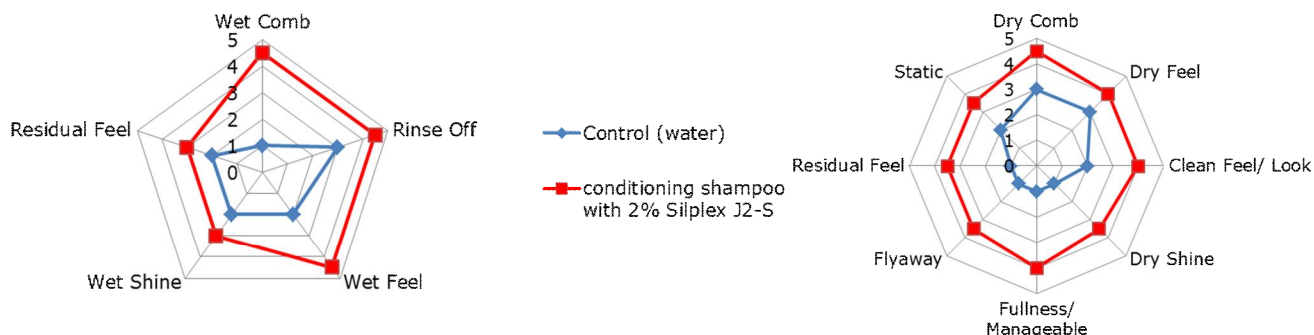


Figure 2: Conditioning results.

SAFETY

Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information.

STORAGE AND SHELF LIFE

When stored in the original, unopened containers between 10 and 40°C, **Silplex J2-S-PG** has a shelf life of 36 months from date of manufacture.

PACKAGING

Silplex J2-S-PG is available in 20kg and 200kg plastic containers

DISCLAIMER

Siltech believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user’s responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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