

# PERFORMANCE TEST:

## COLONIAL CHEMICAL'S CATIONIC ALKYL GLYCOSIDES

This performance test demonstrates the efficacy of SUGA<sup>®</sup>QUAT products as hair conditioners. For the purpose of this test, several hair conditioning formulations were prepared using SUGA<sup>®</sup>QUAT products. These SUGA<sup>®</sup>QUAT -based formulations were then applied to human hair strands that had been artificially damaged with chemical treatments. After being applied, the formulations were then rinsed off, and a sensory test was performed where professional hairstylists evaluated the feel of the hair. Distearyl-dimethylammonium chloride was selected as a control in this experiment.

### Root Formula

Ingredient	wt %	Formulation No.	Test Additives
Ammonium salt of stearyl trimethylammonium chloride	1.20	CD-1	Distearyl-dimethylammonium chloride
Test Additive (Formulation No.)	1.20	CD-2	SUGA <sup>®</sup> QUAT TM-0410
Cetyl alcohol	5.20	CD-3	SUGA <sup>®</sup> QUAT TM-1212
Cetyl iso-octanoate	1.60	CD-4	SUGA <sup>®</sup> QUAT TM-1218
Glyceryl stearate	1.20	CD-5	SUGA <sup>®</sup> QUAT TM-8610
Olive oil	0.80	CD-6	SUGA <sup>®</sup> QUAT L-1210
Antiseptic	0.20	CD-7	SUGA <sup>®</sup> QUAT S-1210
Silicone derivative	2.00		
Purified water	to 100.00		

**Evaluation Procedure:** Asian hair strands were purchased from a supplier in Japan and artificially damaged with a chemical treatment. Once moistened, strands were towel dried, the conditioning formulations were applied. The treated strands were then rinsed with warm water before the sensory test.

**Sensory test results of conditioners formulated with COLONIAL'S cationic alkyl glycosides**

Recipe No.	Additives	Overall Rating	Remarks
CD-1	Control	C	
CD-2	SUGA <sup>®</sup> QUAT TM-0410	BC	residual feeling better than CD-1
CD-3	SUGA <sup>®</sup> QUAT TM-1212	BC	as above
CD-4	SUGA <sup>®</sup> QUAT TM-1218	B	better than CD-2 & -3
CD-5	SUGA <sup>®</sup> QUAT TM-8610	AB	best feeling in both spreading and rinsing
CD-6	SUGA <sup>®</sup> QUAT L-1210	C	very low viscosity
CD-7	SUGA <sup>®</sup> QUAT S-1210	B	slightly inferior to CD-5

**Conclusion:** COLONIAL CHEMICAL'S cationic alkyl glycosides impart a moist and supple feel to hair when compared to that of distearyl-dimethylammonium chloride. Among the products tested here, SUGA<sup>®</sup>QUAT TM-8610 shows itself to be the best choice for hair conditioning purposes; SUGA<sup>®</sup>QUAT S-1210 appears to be the second best choice.

Last Modified 07/12/2005

**WARRANTY**

Colonial Chemical guarantees that its products meet published specifications. No other warranties or guarantees are expressed or implied because the use of this material is beyond the control of Colonial Chemical.