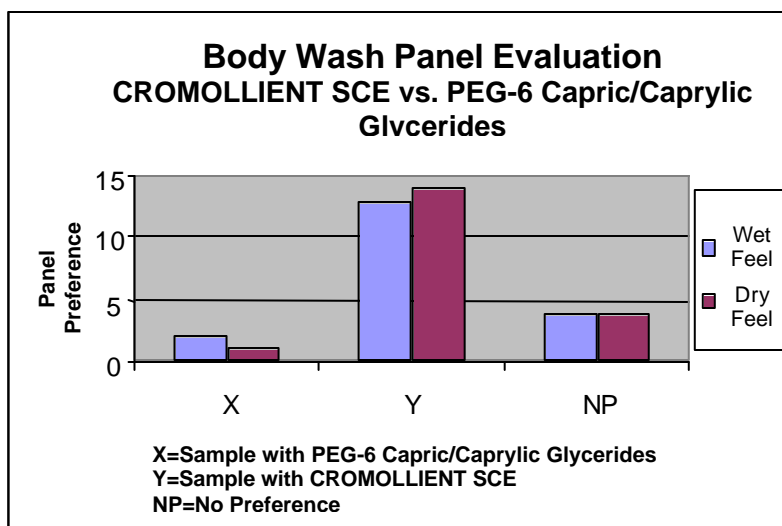


Performance Data

Skin Care:

In a blind performance test, panelists were asked to evaluate a body wash (see formula below) for product feel during lathering and for afterfeel on drying. The overwhelming preference in both wet and dry feel was the body wash containing **CROMOLLIENT SCE** which was preferred by nearly 75% of panel members, compared to a prototype using a comparable emollient.



Body Wash Formula (BP-53)

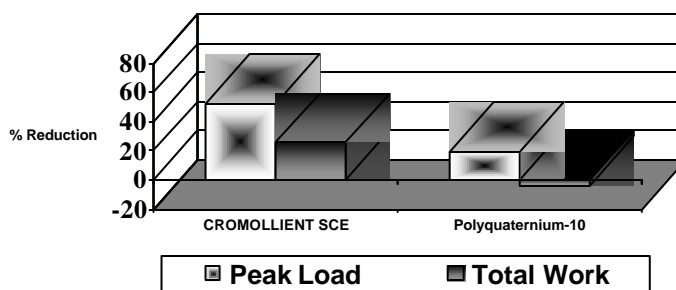
<u>Ingredients</u>	<u>% w/w</u>	
	<u>X</u>	<u>Y</u>
PART A		
Deionized Water	54.00	54.00
SLES, 3 mole	20.00	20.00
CROSULTAINE C-50 (Cocodimonium Hydroxysultaine)	12.00	12.00
Disodium EDTA	0.10	0.10
PART B		
INCROMIDE CA (Cocamide DEA)	3.00	3.00
GLYCEROX 767 (PEG -6 Capric/Caprylic Glycerides)	3.00	—
CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	—	3.00
CROTHIX LIQUID (PEG-150 Pentaerythrityl Tetrastearate (and) PEG-6 Caprylic/Capric Triglyceride (and) Water)	3.00	3.00
PART C		
CROTEIN C-50 (Hydrolyzed Collagen)	1.00	1.00
INCROMECTANT LAMEA (Acetamide MEA (and) Lactamide MEA)	1.00	1.00
CITRIC ACID	1.00	1.00
GERMABEN 11 (Methyl Paraben (and) Butyl Paraben (and) Ethyl Paraben (and) Propyl Paraben)	1.00	1.00

PROCEDURE: Combine Part A ingredients and mix until clear. Combine Part B ingredients and heat to 50°C, mixing until clear. Slowly add Part B to Part A, mixing well. Add Part C ingredients individually and mix until uniform.
pH = 4.58; Viscosity=1,100 cps (RVT Spindle #4 @ 10rpm, RT)

Hair Care:

In a separate study **CROMOLLIENT SCE** was found superior in reducing the wet combing forces of virgin hair tresses, as shown by the graph below. The combing work and peak force of tresses treated with a shampoo containing **CROMOLLIENT SCE** were evaluated against those treated with a shampoo containing Polyquaternium-10. Values given are percent reductions as compared to a control. The improvements in wet coming for **CROMOLLIENT SCE** tresses are dramatic, as seen by the 50+% decrease in peak combing force. Given this, **CROMOLLIENT SCE** can be of immense benefit in the formulation of baby shampoos, as it gives formulators an ideal means of keeping baby's fine hair more snarl-free.

**Reduction in Wet Combing Forces
CROMOLLIENT SCE vs. Polyquaternium-10**



Control represented by the baseline

CROMOLLIENT SCE provides a substantial improvement in the wet combing properties of virgin hair.

Applications

- Body Washes
- Liquids Soaps
- Facial Cleansers
- Baby Shampoos
- 2-in-1 and Conventional Shampoos
- Bath Oils
- After Shave Products
- Low VOC Products
- Pre-Solubilizer for Benzophenone-3 and for hair dye actives

CROMOLLIENT SCE is suitable for a wide range of products and confers a silky emollience that is distinct and immediately perceptible. Our applications work indicates that the di-ester works especially well in clear surfactant systems (*i.e.*, *body washes*) and appears to have little effect on foaming when used at up to 3% active. Additional testing has shown **CROMOLLIENT SCE** is an excellent wax solvent for lipsticks or lip balms (*see formula SC-305, page 5*). **CROMOLLIENT SCE** also possesses extremely effective solubilizing properties—so much so, that even very difficult materials like the sunscreen Benzophenone-3 can be presolubilized at

concentration levels up to as high as 20-25. The di-ester can also be used as a presolubilizer for hair dyes or as a pigment wetting agent for Mica or TiO₂. Use level: 1-5% for surfactant-based systems; 1-25% for other applications.

Solubilities

Mineral Oil	Soluble
Almond Oil	Soluble
Alcohol SD40	Soluble
CRODAMOL PMP (PPG-Myristyl Ether Propionate)	Soluble
INCRODET TD-7 C (Trideceth-7 Carboxylic Acid)	Soluble
ALS	Soluble
TEALS	Soluble
SLES (3 mol)	Soluble
Water:Alcohol:	
75:25	Insoluble
50:50	Soluble
25:75	Soluble
Deionized Water (pH 9.0)	Dispersible
Glycerin	Insoluble
Propylene Glycol	Dispersible

Typical Analysis

APPEARANCE	Clear liquid
COLOR (APHA)	< 20
ODOR	Mild, characteristic
ACID VALUE	< 1.0
SAPONIFICATION VALUE	70
pH	6.0

CROMOLLIENT SCE Lip Balm with Benzophenone-3**SC-305**

This lip balm formula highlights **CROMOLLIENT SCE** and demonstrates the di-ester's use as a wax solvent and its compatibility with common lipstick ingredients. The use of **CROMOLLIENT SCE** here results in a hard, stable stick that has a fine crystal structure and no observable syneresis. **CROMOLLIENT SCE** also helps to solubilize the sunscreen Benzophenone-3.

Ingredients**%****PART A**

SYNCROWAX HGL-C (C18-36 Acid Triglyceride)	12.0
SYNCROWAX ERL-C (C18-36 Acid Glycol Ester)	3.0
Petrolatum	61.7
SUPER STEROL ESTER (C10-30 Cholesterol/Lanosterol Esters)	3.0

PART B

CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	10.0
Benzophenone-3	5.0
Ethylhexyl Dimethyl PABA (1)	5.0

PART C

Methyl Paraben	0.1
Propyl Paraben	0.2

PROCEDURE

Combine ingredients of Part A and heat to 80-85°C, mixing until homogenous. Cool to 75°C. Combine ingredients of Part B with mixing and heat to 75°C. Add Part B to Part A with mixing. Then add Part C ingredients individually, mixing well. Cool mixture to 70°C and pour into molds.

1) Escalol 507 (ISP/Van Dyke)

September 13, 2000

After-Shave Lotion: High Alcoholic Type**BP-54**

This after shave lotion contains a high alcohol content and demonstrates the excellent solubilizing properties of **CROMOLLIENT SCE**.

<u>Ingredients</u>	<u>%</u>
<u>PART A</u>	
Deionized Water	13.80
PHYTOTAL AI (Glycerin (and) Butylene Glycol (and) Euphrasia Officinalis Extract (and) Magnolia Biondii Flower Extract (and) Melissa Officinalis (Balm Mint) Leaf Extract (and) Lecithin)	3.00
KAVA KAVA (PEG-8 (and) Water (and) Piper Methysticum Extract (and) PEG-8/SMDI Copolymer)	2.00
Butylene Glycol	1.00
<u>PART B</u>	
SD Alcohol 40	75.00
CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	5.00
Fragrance	0.20

pH=7.3 ±0.5

PROCEDURE:

Combine ingredients of Part A with mixing. Combine ingredients of Part B, mixing well, and add to Part A. Mix thoroughly before filling.

September 13, 2000

Soothing After-Shave Lotion

BP-55

This after-shave lotion confers a lubricious skin feel due to the use of **CROMOLLIENT SCE** as an emollient in the formula. KAVA KAVA and PHYTOTAL AI provide soothing effects that help alleviate the stinging sensation often felt after shaving.

<u>Ingredients</u>	<u>%</u>
<u>PART A</u>	
Deionized Water	82.70
Carbomer 934 (1)	0.20
Xanthan Gum	0.10
Disodium EDTA	0.05
<u>PART B</u>	
CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	3.00
CRODACOL CS-50 (Cetearyl Alcohol)	1.25
POLAWAX (Emulsifying Wax NF)	2.00
DISTRESSINE (Petrolatum (and) Butyrospermum Parkii (and) Pisces (and) Laureth-3 (and) Tocopheryl Acetate (and) Zea Mays	0.25
<u>PART C</u>	
CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	0.25
Dimethicone (2)	0.50
<u>PART D</u>	
Deionized Water	2.00
Triethanolamine	0.20
KAVA KAVA (PEG-8 (and) Water (and) Piper Methysticum Extract (and) PEG-8/SMDI Copolymer)	2.00
PHYTOTAL AI (Glycerin (and) Butylene Glycol (and) Euphrasia Officinalis Extract (and) Magnolia Biondii Flower Extract (and) Melissa Officinalis (Balm Mint) Leaf Extract (and) Lecithin)	2.00
Aloe Vera Gel (3)	1.50
Pentylene Glycol (4)	2.00

PROCEDURE

Disperse carbomer of Part A in water with rapid agitation, then xanthan gum. Add remaining ingredient of Part A and heat to 70-75 °C. Combine ingredients of Part B and heat to 70-75 °C. Add Part B to Part A with mixing and begin cooling. Combine Part C ingredients and add to Part A/B mixture when temperature reaches 50 °C. Add Part D ingredients when mixture has cooled to 40°C.

- | | |
|-------------------------------------------|--------------------------------------------------------|
| 1) Carbopol 934® (B.F. Goodrich) | 3) Whloe Leaf Aloe Vera Gel (Coats Aloe International) |
| 2) Silicone HL-88 (Barnet Products Corp.) | 4) Hydrolite -5 (Dragoco) |

September 13, 2000

Low VOC Hair Spray**HP-213**

The compatibility of **CROMOLLIENT SCE** in hydroalcoholic systems makes it an ideal emollient for this low VOC hairspray.

Ingredients**%**

SD Alcohol 40	53.80
Isobutylene/Ethylmaleimide/Hydroxyethylmaleimide Copolymer (1)	6.00
CROMOLLIENT SCE (Di-PPG-2 Myreth-10 Adipate)	3.00
Deionized Water	37.20

PROCEDURE

Disperse resin in alcohol, with mixing. When mixture is clear, add remaining two ingredients one at a time, mixing well after each.

- 1) Aquaflex FX-64 (ISP)

September 13, 2000