

Section VIII

Shampoos

Aloe Vera Gel Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Aloe Vera Gel Liquid (1:1)	50.0
Water	14.5
Mackernium 007 (Polyquaternium 7)	3.0
Mackstat SBC-8 (Mild Shampoo Blend)	32.0
Mackstat DM (DMDM Hydantoin)	qs
Dye, Fragrance	qs to 100.0

Procedure:

1. Disperse Mackernium 007 in water and Aloe Vera Gel Liquid.
2. Add Mackadet SBC-8 and heat to 45C.
3. Blend until homogeneous.
4. Adjust viscosity with Sodium Chloride.
5. Add remaining components and blend until clear.
6. Cool to room temperature.

Acid Balanced Conditioning Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
TEA Lauryl Sulfate (40%)	35.0
Mackam 35HP (Cocamidopropyl Betaine)	10.0
Mackalene 426 (Isostearamidopropyl Morpholine Lactate)	6.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add components to water.
2. Heat to 40C.
3. Blend until clear.
4. Adjust pH to 4.0 with Citric Acid.
5. Cool to room temperature.

All Purpose Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackadet SBC-8 (Mild Shampoo Blend)	20.0
Sodium Chloride	qs
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add Mackadet SBC-8 to water.
2. Blend until clear.
3. Add Mackstat DM.
4. Adjust viscosity to 2000-3000 cps with Sodium Chloride.
5. Add Dye and Fragrance.
6. Blend until clear.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Amide Free Shampoo
Formulated to be amide-free

<u>Ingredients:</u>	<u>Wt%</u>
Water	q.s. to 100
Carbopol 1382 (Goodrich)	0.25
Quickpearl II	5.00
Chembetaine OL-30	0.50
Sulfochem ES-2	26.00
Sulfochem SLS	12.00
Chembetaine C	4.00
Chembetaine S	3.00
Fragrance, color, preservatives, etc.	q.s.
NaCl	(0.50 typical) q.s.

Blending Procedure:

Blend ingredients in order listed, allowing Carbopol to solubilize completely before adding remaining ingredients. Add NaCl to desired viscosity.

Typical Physical Properties:

Appearance: Pearly liquid

Viscosity: Brookfield LVT, Sp. 3, 6 rpm, 25C: 9,000 cps

Formulation No. F1001

Premium Clarifying Shampoo

Preliminary formulation. Normal, dry, fine, and damaged hair type versions may be made by increasing the amount of dimethicone to achieve more conditioning or increasing the amount of EA-2 and ALS to increase cleansing.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem EA-2	35.00
Sulfochem ALS	32.00
Preservatives	q.s.
Amidex CME	1.00
Water, soft	to 100
AXS	0.75
Panthenol	0.50
Fragrance, color, etc.	q.s.
Other ingredients	q.s.

Blending Procedure:

With medium agitation, mix water, Sulfochem EA-2, and ALS in main vessel. Heat to 145-155F, add Amidex CME and citric acid, and mix until solution is clear and homogeneous. Turn on cooling and add preservatives, fragrance, color, and remaining ingredients. Adjust pH to 5.0-5.5 with citric acid. Adjust viscosity to 5,000-7,500 cps (NH₄Cl to bring viscosity up, AXS to bring it down).

Formulation No. F1006

SOURCE: Chemron Corp.: Suggested Formulations

Anti-Dandruff Lotion Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Part A:	
Veegum	1.0
Methocel FYM	0.8
Water	qs to 100.0
Part B:	
Sodium Olefin Sulfonate (40%)	35.0
Mackamide LLM (Lauramide DEA)	4.0
Mackamide S (Soyamide DEA)	1.0
Mackpro NLP (Quaternium-79 Hydrolyzed Collagen)	2.0
Part C:	
Zinc Omadine (48%)	4.0

Procedure:

1. Thoroughly disperse Veegum in water at 70C.
2. Slowly add Methocel FYM and blend until homogeneous.
3. Add Part B to Part A and adjust pH to 6.5 with Citric Acid.
4. Add Zinc Omadine (Part C) and blend until homogeneous.

Anti-Dandruff Cream Type Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Sodium Lauryl Sulfate (30%)	61.8
Mackam 35HP (Cocamidopropyl Betaine)	10.0
Sodium Chloride	7.0
Triple Pressed Stearic Acid	5.0
Mackamide LLM (Lauramide DEA)	4.0
Propylene Glycol	4.0
Zinc Pyrithione (48%)	4.0
Mackamide PKM (Palmkernelamide MEA)	2.0
Caustic Soda (50%)	1.6
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Heat Stearic Acid, Mackamide LLM, Mackamide PKM, and Propylene Glycol to 70C.
2. Heat SLS, Mackam 35HP, Sodium Chloride, Caustic Soda, and water to 70C.
3. Add oil to water and cool to 55C.
4. Slowly add Zinc Pyrithione.
5. Cool to 45C and add remaining components.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Antidandruff Shampoo
clear, 13.6% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Octopirox/Piroctone Olamine	0.50
B Water	10.00
C Genapol LRO liquid/Sodium Laureth Sulfate	30.00
D Hostapon KCG/Sodium Cocoyl Glutamate	5.00
Fragrance	0.30
E Polymer JR 400/Polyquaternium-10	0.30
F Water	40.90
G Dyestuff solution	q.s.
Extrapon Chamomile Special	2.00
Genagen CAB/Cocamidopropyl Betaine	8.00
Genapol L-3/Laureth-3	1.50
H Sodium chloride	1.50

Procedure:

1. Mix A and B.
 2. Add C to 1 and keep stirring until a clear solution has been obtained.
 3. Stir the components of D one after another into 1.
 4. Dissolve E in F under stirring while heating slightly and then stir into 1.
 5. Stir the components of G one after another into 1.
 6. If necessary adjust the pH.
 7. Finally adjust the viscosity with H.
- Formula B I/6144

Antidandruff Shampoo
clear, 13.1% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Octopirox/Piroctone Olamine	0.50
B Water	10.00
C Genapol LRO liquid/Sodium Laureth Sulfate	30.00
D Genapol SBE/Disodium Laureth Sulfosuccinate	5.00
Fragrance	0.30
Merquat 550/Polyquaternium-7	1.00
Water	43.20
Dyestuff solution	q.s.
Genagen CAB/Cocamidopropyl Betaine	8.00
Genapol L-3/Laureth-3	0.50
E Sodium chloride	1.50

Procedure:

1. Mix A and B.
2. Add C to 1 and keep stirring until a clear solution has been obtained.
3. Stir the components of D one after another into 1.
4. If necessary adjust the pH.
5. Finally adjust the viscosity with E.

Formula B I/6143

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

Antidandruff Shampoo
clear, 12.3% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Octopirox/Piroctone Olamine	0.50
B Water	10.00
C Genapol LRO liquid/Sodium Laureth Sulfate	30.00
D Belsil DMC 6032/Dimethicone Copolyol Acetate	0.50
Fragrance	0.30
E Allantoin	0.30
F Water	46.40
G Dyestuff solution	q.s.
Panthenol	1.00
Genagen CAB/Cocamidopropyl Betaine	8.00
Genapol L-3/Laureth-3	1.50
H Sodium chloride	1.50

Procedure:

1. Mix A and B.
 2. Add C to 1 and keep stirring until a clear solution has been obtained.
 3. Stir the components of D one after another into 1.
 4. Dissolve E in F under stirring while heating slightly and then stir into 1.
 5. Stir the components of G one after another into 1.
 6. If necessary adjust the pH.
 7. Finally adjust the viscosity with H.
- Formula B I/6146

Conditioning Shampoo
with a silk-lustre effect, 20.6% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	35.00
Hostapon SCID/Sodium Cocoyl Isethionate	2.00
Coconut fatty acid diethanolamide	3.00
B Water	37.20
C Hostapon KCG/Sodium Cocoyl Glutamate	5.00
Belsil DMC 6032/Dimethicone Copolyol Acetate	1.00
Fragrance	0.30
Genapol L-3/Laureth-3	4.00
Genagen CAB/Cocamidopropyl Betaine	9.00
Genapol TSM/PEG-3 Distearate, Sodium Laureth Sulfate	4.00
Dyestuff solution	q.s.
Preservative	q.s.
D Sodium chloride	2.00

Procedure:

1. Dissolve the components of A stirring into B and warming to approx. 60C.
 2. Cool down and add the components of C at approx. 35C while stirring.
 3. If necessary adjust the pH.
 4. Finally adjust the viscosity with D.
- Formula B I/6148

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

Apricot Shower Shampoo Gel

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Sodium Lauryl Sulfate (30%)	25.1
Schercotaine APAB (40%)/Apricotamidopropyl Betaine	12.6
Schercamox CAA-G (35%)/Cocamidopropylamine Oxide	3.8
Schercoquat APAS (90%)/Apricotamidopropyl Ethyl- dimonium Ethosulfate	0.6
Herbasol Extract Apricot/Apricot Extract	1.0
Preservative	0.2
Color, Fragrance	q.s.
Water (deionized)	56.7

Procedure:

1. Heat water to 50C. With stirring add Schercoquat APAS to dissolve.
2. Add Schercotaine APAB, mix.
3. Add Schercamox CAA-G, mix.
4. Add preservative, mix.
5. Add Apricot Extract, mix.
6. Increase stirring and add Sodium Lauryl Sulfate. Mix thoroughly at high rpm until uniform.
7. To clear up bubble formation, warm finished product at 45-50C.

Formulation 221-89

Clear 2-in-1 Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Deionized Water	54.4
Schercoquat DAS	3.0
Rhodacal A246/L/Sodium C14-16 Olefin Sulfonate	30.0
Schercomid AME-70/Acetamide MEA	2.0
Schercotaine CAB-G/Cocamidopropyl Betaine	10.0
Schercoquat IALA/Isostearamidopropyl Laurylacetyl-dimonium Chloride	0.6
Preservative	q.s.

Procedure:

Dissolve Schercoquat DAS in water with gentle heat to 40C. Add the rest of the ingredients one by one in order listed, mixing well after each addition.

Formulation SK 140

SOURCE: Scher Chemicals, Inc.: Suggested Formulations

Clear Conditioning Shampoo with SM2101

A conditioning shampoo designed for daily use on normal to dry hair. SM2101 is an excellent conditioner providing softness and combability. SF1188A provides additional conditioning, enhances wet combing and stabilizes foam. Both products are readily removed, and therefore build-up is not a problem. As is, this formulation is clear but may be opacified if desired.

<u>Ingredient/Function:</u>	<u>Wt%</u>
Part A:	
Deionized Water/Diluent	38.32
Guar Hydroxypropyltrimonium Chloride (1)/Conditioner/ Thickener	0.75
Propylparaben/Preservative	0.05
Methylparaben/Preservative	0.15
Part B:	
Ammonium Lauryl Sulfate (26%)/Primary surfactant	24.00
Ammonium Laureth Sulfate (28%)/Primary surfactant	14.30
Cocoamidopropyl Betaine (35%)/Secondary surfactant	11.43
Part C:	
Lauramide DEA/Foam booster	2.00
Cocamide MEA/Foam booster	2.50
Part D:	
Trimethylsilylamodimethicone (and) Isolaureth-6 (and) Octoxynol-40 (SM2101) (2)/Conditioner	4.00
Dimethicone Copolyol (SF1188A or SF1288A) (2)/ Conditioner/Foam stabilizer	1.00
Part E:	
Polysorbate-80/Solubilizer	1.00
Fragrance (3)	0.50

Procedure:

1. Combine parabens. Slowly sprinkle mixture into water with rapid propeller agitation. Add guar hydroxypropyltrimonium chloride in same manner.
2. When thoroughly solvated, reduce to slow agitation. Add ingredients of Part B individually, allowing each ingredient to be thoroughly mixed. After addition of Part B is complete, heat to 65C with continued slow agitation.
3. Melt together Part C, add to Part AB at 65C. Remove heat and continue stirring.
4. Add Part D below 45C with slow-moderate propeller mixing for 15 minutes.
5. Mix fragrance into polysorbate-80 and add to batch below 40C. Continue stirring to room temperature.

Trade Names/Suppliers:

- (1) Jaguar C-13S, Rhone-Poulenc
- (2) GE Silicones
- (3) Fragrance J-6636, Bell Fragrance & Flavor

SOURCE: GE Silicones: Personal Care Formulary: Formula SH103

Clear Conditioning Shampoo with SM2115

SM2115 is a 20% active emulsion of a substantive, non-curable amine functional silicone fluid. It is a microemulsion which remains clear upon dilution, enabling the formulation of a clear product. This is an excellent conditioning shampoo which provides a soft, smooth, silky feel to hair and puts an end to dry, frizzy ends.

<u>Materials/Function:</u>	<u>Wt%</u>
Part A:	
Water/Diluent	37.12
Methylparaben/Preservative	0.15
Propylparaben/Preservative	0.05
Part B:	
Dimethicone Copolyol (SF1188A or SF1288) (1)/ Conditioning agent/Foam stabilizer	1.00
Ammonium Lauryl Sulfate (26%)/Primary surfactant	24.00
Ammonium Laureth Sulfate (28%)/Primary surfactant	14.30
Cocamidopropyl Betaine/Secondary surfactant	11.43
Part C:	
Cocamide MEA/Foam booster	4.00
PEG-150 Pentaerthrityl Tetrastearate (2)/Thickener	0.95
Part D:	
Trimethylsilylamodimethicone (and) Octoxynol-40 (and) Isolaureth-6 (and) Glycerin (SM2115) (1)/Conditioning agent	2.50
Part E:	
Fragrance	q.s.
Polysorbate-80/Solubilizer	2.50
Glycerin/Solubilizer/Humectant	2.00

Procedure:

1. Heat water to 65C. Feather in methylparaben and propylparaben until dissolved with rapid agitation.
2. Reduce agitation to moderate agitation. Add ingredients of Part B to Part A in the order listed.
3. Melt Part C in a separate container. Add to Part AB when melted.
4. Cool mixture to 40C and add Part D.
5. In a separate container, mix together Part E. Add to the mixture when temperature is 40C or less.

Trade Names/Suppliers:

- (1) GE Silicones
- (2) Croda, Inc.

SOURCE: GE Silicones: Personal Care Formulary: Formula SH 104

Clear Shampoo

<u>Component:</u>	<u>Wt%</u>
Texapon NSO/Sodium Laureth Sulfate	27.0
Dehyton PK 45/Cocamidopropyl Betaine	6.0
Plantacare 818/Coco Glucoside	4.0
Lamesoft PO 65/Coco-Glucoside (and) Glyceryl Oleate	2.5
Jaguar C 162/Guar Hydroxypropyl Trimonium Chloride	0.1
NaCl	0.9
Water	59.5
Perfume/preservative	q.s.
pH-value: 5.5	
Viscosity in mPas: 6,600	

Preparation in the Laboratory:

Swell Jaguar C 162 in water (pH approx. 5-6). Add Texapon NSO by stirring. Add Lamesoft PO 65 and mix until homogeneous. Incorporate successively the other ingredients. Adjust the pH value.

Formulation No.: 98/040/2

Clear Shampoo with Gluadin WP

<u>Component:</u>	<u>Wt%</u>
Plantacare 1200 UP/Lauryl Glucoside	4.0
Texapon K 14S 70 spec./Sodium Myreth Sulfate	11.0
Dehyton K/Cocamidopropyl Betaine	7.0
Gluadin WP/Hydrolyzed Wheat Protein	1.5
Water, de-ionized	72.6
Arlypon F/Laureth-2	0.9
NaCl	3.0
pH-value: 5.5	
Viscosity mPas, 23C: 1950	

Preparations in the Laboratory:

Add all ingredients in the order as shown. Mix at room temperature. Set pH value, then adjust viscosity with salt.

Formulation DE/97/030/2

Gel-Shampoo with Gluadin WP

<u>Component:</u>	<u>Wt%</u>
Plantacare 1200 UP/Lauryl Glucoside	6.0
Texapon NSO/Sodium Laureth Sulfate	31.0
Texapon SB 3F/Disodium Laureth Sulfosuccinate	8.0
Gluadin WP/Hydrolyzed Wheat Protein	2.0
Water, de-ionized	49.0
NaCl	4.0

Viscosity (mPas) Brookfield RVF, 23C, Sp4, 20 rpm: 4,250

Preparations in the Laboratory:

Add all ingredients in the order as shown. Mix at room temperature. Set pH-value, then adjust viscosity with salt.

Formulation DE/97/030/1

SOURCE: Henkel KGaA: Care Chemicals Division: Suggested Formulas

Conditioner Shampoo

<u>Component:</u>	<u>Wt%</u>
Texapon N70/Sodium Laureth Sulfate	10.0
Plantacare 818UP/Coco Glucoside	4.0
Dehyton K/Cocamidopropyl Betaine	5.0
Lamesoft PO65/Coco-Glucoside (and) Glyceryl Oleate	1.5
Euperlan PK3000AM/Glycol Distearate (and) Laureth-4 (and) Cocamidopropyl Betaine	3.2
Polymer JR400/Polyquaternium-10	0.3
Sodium chloride	1.5
Water de-ionized	ad 100

pH-Value: 5.5

Viscosity in mPas: Brookfield, RVF, 23C, Spindle 4,
rpm 10: 8500Preparation in the Laboratory:

Add the ingredients in the order as shown. Mix at room temperature.

Formulation 97/007/2

Conditioner Shampoo

<u>Component:</u>	<u>Wt%</u>
Texapon NSO/Sodium Laureth Sulfate	27.0
Dehyton PK 45/Cocamidopropyl Betaine	3.7
Lamesoft PO 65/Coco-Glucoside (and) Glyceryl Oleate	5.0
Euperlan PK 1200/Coco-Glucoside (and) Glycol Distearate (and) Glycerin	3.0
Cosmedia Guar C261/Guar Hydroxypropyl Trimonium Chloride	0.1
Arlypon F-T/Laureth-2	1.55
Water	59.65
Perfume/preservative	n.B.

WAS%: 11.6

pH-value: 5.7

Viscosity in mPas: 9,300

Preparation in the Laboratory:

The Cosmedia-Swelling is prepared with water. Add Texapon NSO and Lamesoft PO 65 and mix until homogeneous. Incorporate successively Euperlan PK 1200 and Dehyton PK 45 and adjust viscosity with Arlypon F-T.

Formulation No.: 94/193/236

SOURCE: Henkel KGaA: Care Chemicals Division: Suggested Formulas

Conditioner Shampoo

<u>Component:</u>	<u>Wt%</u>
Cosmedia Guar C 261/Guar Hydroxypropyl Trimonium Chloride	0.5
Cetiol HE/PEG-7 Glyceryl Cocoate	0.5
Texapon K14S spec./Sodium Myreth Sulfate Wheat Protein	40.0
Lamepon S/Potassium Cocoyl Hydrolyzed Collagen	10.0
Euperlan PK3000AM/Glycol Distearate (and) Laureth-4 (and) Cocamidopropyl Betaine	2.0
Glycerin 86%	2.0
Nutrilan I	5.0
Arlypon F/Laureth-2	2.5
Water	ad 100.0

pH Value: 5.5

Preparation in the Laboratory:

Mix ingredients at room temperature. Set pH value, then adjust viscosity with salt.

Formulation No.: 91/165/11

Shampoo with PIT

<u>Component:</u>	<u>Wt%</u>
I. Texapon NSO/Sodium Laureth Sulfate	40.0
Dehyton K/Cocamidopropyl Betaine	12.5
Lamesoft PW45/Lipid layer enhancer	5.0
II. Cosmedia Guar C261N/Guar Hydroxypropyl Trimonium Chloride	0.25
III. Methocel E4M Premium EP/Hydroxypropyl Methylcellulose	1.5
Water and preservation	ad 100

Viscosity mPas: Brookfield, RVF 20C, Spindle 4: 6000

pH-value: 5.5

Preparation in the Laboratory:

Of Methocel E4M Premium EP and Water has to be manufactured a clear swelling. In this swelling Cosmedia Guar C261N has to be strewed and homogeneous distributed. With addition of citric acid the pH value will be slightly acidified, which means that Cosmedia Guar is also starting to swell. After completed swelling Texapon NSO, Dehyton K and Lamesoft PW45 will be stirred homogeneous into the swelling. At the end the pH value will be focused.

Formulation No.: 93/176/97

SOURCE: Hankel KGaA: Care Chemicals Division: Suggested Formulas

Conditioning Shampoo

This formula uses Incroquat HO-80PG, a quaternary conditioning agent suitable for 2-in-1 shampoos, in combination with Incromine Oxide C and Crodafos SG to give hair improved wet combing and a soft, dry feel. Incroquat HO-80 PG has been found to work especially well with polymeric quaternaries, like the Jaguar C14S used here, as it appears to enhance the effects of these polyquats, resulting in greater conditioning.

<u>Ingredients:</u>	<u>Weight%</u>
Part A:	
Deionized Water	57.05
Guar Hydroxypropyltrimonium Chloride	0.35
Citric Acid	0.10
Part B:	
SLES (3 mole)	15.00
SLS	5.00
Incronam 30 (Cocoamidopropyl Betaine)	6.00
Incromide LR (Lauramide DEA)	3.00
Crodafos SG (PPG-5-Ceteth-10 Phosphate)	2.00
Glycerox HE (PEG-7 Glyceryl Cocoate)	1.00
Incroquat HO-80PG (Dioleoylamidoethyl Hydroxyethylmonium Methosulfate)	2.50
Glycol Stearate	0.50
Incromine Oxide C (Cocamidopropylamine Oxide)	2.00
Part C:	
Propylene Glycol (and) Diazolidinyl Urea (and) Methyl Paraben (and) Propyl Paraben	1.00
Hexylene Glycol	3.00
Dimethicone Copolyol	1.50

Procedure:

Combine Part A ingredients with good mixing. Heat Part A ingredients to 45C. Add Part B ingredients to Part A as listed. Heat batch up to 70-75C with good mixing. Make sure all ingredients are dissolved. Start cooling batch. At 50C, add Part C.

pH=5.5+-0.5

Viscosity=3,000 cps+-10%, Spindle #4 @ 10 rpm

N.A.T.C. Approved

SOURCE: Croda Inc.: Formulation SH-96

Conditioning Shampoo

This formula uses Incroquat Behenyl HE, a quaternary conditioning agent suitable for 2-in-1 shampoos, in combination with Incromine Oxide C and Crodafos SG to give hair improved wet combing and a soft, dry feel. Incroquat Behenyl HE also works especially well with polymeric quaternaries, like the Jaguar C14S used here, and has been found to enhance the effects of these polyquats, resulting in greater conditioning.

<u>Ingredients:</u>	<u>Weight%</u>
Part A:	
Deionized Water	59.55
Guar Hydroxypropyltrimonium Chloride	0.35
Citric Acid	0.10
Part B:	
SLES (3 mol)	15.00
SLS	5.00
Incronam 30 (Cocamidopropyl Betaine)	6.00
Incromine Oxide C (Cocamidopropylamine Oxide)	2.00
Incromide LR (Lauramide DEA)	3.00
Crodafos SG (PPG-5-Ceteth-10 Phosphate)	2.00
Glycerox HE (PEG-7 Glyceryl Cocoate)	1.00
Incroquat Behenyl HE (Behenamidopropyl Hydroxyethyl Dimonium Chloride)	2.50
Part C:	
Propylene Glycol (and) Diazolidinyl Urea (and) Methyl Paraben (and) Propyl Paraben	1.00
Hexylene Glycol	2.50

Procedure:

Combine Part A ingredients with good mixing. Heat Part A ingredients to 45C. Add Part B ingredients to Part A as listed. Heat batch up to 70-75C with good mixing. Make sure all ingredients are dissolved. Start cooling batch. At 50C, add Part C.

pH=5.0+-0.5

Viscosity=10,000+-10%, Spindle #4 @ 10 rpm.

N.A.T.C. Approved

SOURCE: Croda Inc.: Formulation SH-97

Conditioning Shampoo

Prototype formula for a premium 2-in-1 shampoo.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem EA-2	34.90
Sulfochem ALS	31.00
Preservative (Kathon CG)	q.s.
Amidex CME	1.20
EGDS	1.00
Water, soft	to 100
AXS	0.75
Propylene glycol	0.65
Fragrance, color, etc.	q.s.
Quatrex S	0.50
Dimethicone	1.25

Blending Procedure:

With medium agitation, mix water and ALS in vessel. Heat to 145-155F, add EGDS, and mix until melted. Turn on cooling and add EA-2, Quatrex S, Dimethicone, and citric acid. Add Amidex CME (temperature must still be above 125F). Premix AXS, propylene glycol, and zinc, and add to main vessel. When temperature reaches 45F, add Kathon CG, fragrance, and color. Adjust pH to 5.5-6.5 with citric acid. Adjust viscosity to 5,000-7,500 cps (use NaCl to bring viscosity up and AXS to bring it down).
Formulation No. F1009

Conditioning Shampoo

Prototype formulation for a mild, high-foaming conditioning shampoo.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem DLS	40.00
Preservative	q.s.
Amidex CME	1.20
EGDS	1.00
Water, soft	to 100
AXS	0.75
Propylene glycol	0.65
Fragrance, color, etc.	q.s.
Quatrex S	0.50
Dimethicone	0.75

Blending Procedure:

With medium agitation, mix water and DLS in vessel. Heat to 145-155F, add EGDS, and mix until melted. Turn on cooling and add Quatrex S, Dimethicone, and citric acid. Add Amidex CME (temperature must still be above 125F). Add AXS and propylene glycol. When temperature reaches 45F, add preservative, fragrance, and color. Adjust pH to 5.5-6.5 with citric acid. Adjust viscosity to 5,000-7,500 cps (use NaCl to bring viscosity up and AXS to bring it down).
Formulation No. F1014

SOURCE: Chemron Corp.: Suggested Formulations

Conditioning Shampoo

Starting formulation for an economical conditioning shampoo

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem B-2090P	35.00
Water, soft	63.10
Fragrance	0.15
NaCl	typical: 0.55
Citric acid	typical: 0.10
Preservatives	q.s.
Quatrex S	0.30
Dimethicone	0.75
Color	q.s.

Blending Procedure:

With medium agitation, mix water, Sulfochem B-209, Quatrex S, and dimethicone in main vessel. Add citric acid and mix until solution is homogeneous. Add preservatives, fragrance, color, and remaining ingredients. Adjust pH to 6.0-6.5 with citric acid. Adjust viscosity to 7,500-9,500 cps with sodium chloride.

Typical Physical Properties:

Viscosity: 7,500-9,500 cps

pH: 6.0-6.5

Formulation No. E3132

Regular Shampoo

Starting formulation for a high quality shampoo for normal hair.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem B-209	35.00
Water, soft	63.99
Fragrance	0.15
NaCl	typical: 0.75
Citric acid	typical: 0.12
Color	q.s.
Preservatives	q.s.

Blending Procedure:

With medium agitation, mix water and Sulfochem B-209 in main vessel. Mix until solution is clear and homogeneous. Add preservatives, fragrance, color, and remaining ingredients. Adjust pH to 6.75-7.75 with citric acid. Adjust viscosity to 10,000-12,000 cps with sodium chloride.

Typical Physical Properties:

Viscosity: 10,000-12,000 cps

pH: 6.75-7.75

Formulation No. E3127

SOURCE: Chemron Corp.: Suggested Formulations

Conditioning Shampoo with Botanicals

Conditioning shampoo containing natural ingredients to enhance the conditioning and shine of the hair. SM2169 is utilized to provide combability, shine and softness.

<u>Materials/Function:</u>	<u>Wt%</u>
Part A:	
Deionized Water/Diluent	52.85
Polyquaternium-10 (1)/Thickener/Conditioner	0.40
Part B:	
Sodium Laureth Sulfate (and) Glycol Stearate (30%)/ Primary surfactant	20.00
Disodium Laureth Sulfosuccinate/Primary surfactant	10.00
Cocamidopropyl Betaine/Secondary surfactant	4.00
PEG-120 Jojoba Acid (and) PEG-120 Jojoba Alcohol (2)/ Conditioning/Shine	3.50
Part C:	
Lauramide DEA/Foam booster	4.00
Part D:	
Panthenol/Conditioning/Shine	0.50
Nettle Extract (and) Chamomile Extract (and) Comfrey Extract (and) Henna Extract (and) Rosemary Extract (3)/ Botanicals/Conditioning	0.50
Part E:	
Dimethicone (and) Laureth-4 (and) Laureth-23 (SM2169)(4)/ Conditioning/Shine	3.40
Phenoxyethanol (and) Methylparaben (and) Ethylparaben (and) Butylparaben (and) Propylparaben (5)/Preservative	0.80
Fragrance	q.s.
Disodium EDTA/Preservative	0.05
Part F:	
Color	q.s.

Procedure:

- Charge water of Part A. With medium propeller stirring, slowly sprinkle in the polyquaternium-10. Mix 20 minutes until all polyquaternium-10 is dispersed and heat to 50C.
- With batch at 50C, slowly add Part B to Part A in given order and mix until dissolved.
- Add Part C and slowly mix until dissolved. Begin force-cooling of batch to 45C.
- Add Part D to batch in given order and mix with slow to moderate propeller agitation.
- Add Part E to batch in given order and mix with slow to moderate propeller agitation.
- Adjust color with Part F. Mix until uniform.

Trade Names/Suppliers:

- Celquat SC-240, National Starch and Chemical Corp.
- International Flora Technologies, Ltd.
- Vege-Tech
- GE Silicones
- Nipa Laboratories, Inc.

SOURCE: GE Silicones: Personal Care Formulary: Formula SH 102

Conditioning Shampoo with SM2169

SM2169 is a 60% non-ionic emulsion of a 60,000 centistoke dimethicone fluid. In conditioning shampoos, it is a conditioning agent providing combability, softness and shine. This formulation provides conditioning for normal hair.

Materials/Function:

	Wt%
Part A:	
Polyquaternium-10 (1)/Thickener/Conditioner	0.4
Polyquaternium-10 (2)/Thickener/Conditioner	0.4
Distilled Water	56.0
Part B:	
Ammonium Lauryl Sulfate (and) Ammonium Laureth Sulfate (and) Cocamidopropyl Betaine (and) Cocamide DEA (42%)(3)/Surfactant/Foam booster	38.0
Part C:	
Ethylene Glycol Distearate/Pearlizing agent	1.0
Ceteareth-20/Emulsifier	0.3
Part D:	
Dimethicone (and) Laureth-4 (and) Laureth-23 (SM2169)(4)/ Conditioning agent	3.4
Propylene Glycol (and) Diazolidinyl Urea (and) Methyl- paraben (and) Propylparaben (5)/Preservative	0.5
33% Citric Acid and/or 25% NaOH/pH adjuster	q.s.
Distilled Water	q.s.

Procedure:

1. Stir Part A ingredients until polyquaternium-10 materials are completely dissolved.
2. Add Part B ingredient to Part A with moderate agitation.
3. Heat mixture of Part A and Part B to 60-65C.
4. Melt Part C ingredients and add to warm mixture.
5. With continued agitation, cool mix below 40C.
6. Add SM2169 and preservative.
7. Adjust pH to approximately 6.0.
8. Add fragrance and water to bring to 100%.

Trade Names/Suppliers:

- (1) Ucare Polymer LR-400, Amerchol Corp.
- (2) Ucare Polymer LR-30M, Amerchol Corp.
- (3) Stepanol AEG, Stepan Co.
- (4) GE Silicones
- (5) Sutton Labs

SOURCE: GE Silicones: Personal Care Formulary: Formula SH101

Conditioning Shampoo with Viscasil 60M

Viscasil 60M is a high molecular weight dimethicone fluid. It provides conditioning in a daily use conditioning shampoo. A suspension system is typically used to provide formulation stability.

<u>Materials/Function:</u>	<u>Wt%</u>
Part A:	
Sodium Laureth Sulfate (28%)/Primary surfactant	35.7
Cocamide DEA/Secondary surfactant	4.0
Part B:	
Water/Diluent	56.9
Acrylates/C10-30 Alkyl Acrylate Crosspolymer (1)/Thickening/Suspending	0.8
Methylchloroisothiazoline (and) Methylisothiazolinone (2)/Preservative	0.1
Part C:	
Sodium Hydroxide (50%)/Neutralizer	q.s.
Part D:	
Dimethicone (Viscasil 60M) (3)/Conditioning/Shine	2.5
Part E:	
Citric Acid (33%)/pH adjustment	q.s.

Procedure:

1. Mix Part B ingredients with moderate agitation until completely dissolved.
2. Add Part A to Part B with moderate agitation.
3. Add Part C to pH=7.5.
4. Add Part D slowly with moderate agitation.
6. Add Part E to pH=6.0

Trade Names/Suppliers:

- (1) Carbopol, BF. Goodrich Co.
- (2) Rohm and Haas Co.
- (3) GE Silicones

SOURCE: GE Silicones: Personal Care Formulary: Formula SH 100

Cream Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate LO-Special (Disodium Lauryl Sulfosuccinate)	88.0
Cetyl Alcohol	2.0
Brij 52	2.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Fragrance	qs to 100.0
Solids, %: 40.0(+/-1.0)	
pH (as is): 5.5-6.0	
Appearance: Pearly Cream	

Procedure:

1. Add Cetyl Alcohol, Brij 52 and Water to Mackanate LO-Special.
2. Heat to 70C.
3. Blend until homogeneous.
4. Adjust pH to 5.5-6.0 with Sodium Hydroxide.
5. Cool to 50C and add Mackstat DM and Fragrance.
6. Adjust solids to 40.0(+/-1.0)% at this point.
7. Cool to room temperature.

Mild Conditioning Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate EL (Disodium Laureth Sulfosuccinate)	10.0
Mackam 35 (Cocamidopropyl Betaine)	25.0
Sodium Laureth Sulfate (60%)	10.0
Mackanate DC-30 (Disodium Dimethicone Copolyol Sulfosuccinate)	1.0
Mackamide C (Cocamide DEA)	2.0
Polysorbate 20	1.0
Paragon III (Phenoxyethanol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

pH: 5.5-6.7
Viscosity (cps, 25C): 600-1200

Procedure:

1. Add surfactants to water.
2. Start mixing at room temperature until all components are clearly dissolved.
3. Blend Fragrance with Polysorbate and add to batch.
4. Adjust pH to 5.5-6.7 with Citric Acid.
5. Adjust viscosity to 600-1200 cps with Sodium Chloride.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Dry/Damaged Hair Shampoo

Starting formulation for a mild shampoo for dry or damaged hair.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem SBS	37.00
Water, soft	62.33
Fragrance	0.20
NaCl	q.s.
Preservatives	q.s.
Citric acid	typical: 0.02
Quatrex S	0.25
Panthenol	0.20

Blending Procedure:

Charge mixing vessel with water and Sulfochem SBS, and mix until dissolved. Adjust pH with citric acid to 6.5-7.0. Add preservatives, color, fragrance, and remaining ingredients. Adjust viscosity to 2,500-3,500 cps with sodium chloride.

Typical Physical Properties:

Viscosity: 2,500-3,500 cps

pH: 6.5-7.0

Formulation No. E3147

Botanical Shampoo

Starting formulation for a very mild shampoo containing botanical extracts.

<u>Ingredients:</u>	<u>Wt%</u>
Sulfochem SBS	35.00
Water, soft	63.85
Fragrance	0.15
NaCl	q.s.
Preservatives	q.s.
Botanical extracts	1.00
Color	q.s.

Blending Procedure:

Charge mixing vessel with water and Sulfochem SBS, and mix until dissolved. Adjust pH with citric acid to 6.5-7.5. Add preservatives, color, fragrance, and remaining ingredients. Adjust viscosity to 2,000-3,500 cps with sodium chloride.

Typical Physical Properties:

Viscosity: 2,000-3,500 cps

pH: 6.5-7.5

Formulation No. E3146

SOURCE: Chemron Corp.: Suggested Formulations

Hair Shampoo

Hair Shampoo containing Bentone EW rheological additive.

<u>Ingredients:</u>	<u>Wt%</u>
Sodium Laureth Sulphate	28.0
Cocamidopropylbetaine	6.0
Coco Glucoside	6.0
Glycol Distearate, Steareth 4	3.0
Dimethicone Copolyol	0.2
D-Panthenol	1.0
Bentone EW (3% in dist. water)	50.0
Methyldibromoglutaronitrile, Propylene Glycol	0.2
Laureth 3	2.0
Lactic Acid	qs to pH 5.5-6.0
Demineralized Water	bal to 100%

Method of Manufacture:

1. Prepare a dispersion of Bentone EW in most of the distilled water.
2. Using a propeller stirrer, add the surfactants one by one, in the order listed.
3. Add the pearlizing agent and the silicone.
4. Dissolve the panthenol in the remaining water by warming slightly, and then add to the batch.
5. Add the perfume and preservative, then add laureth 3.
6. Adjust the pH if required.

Bentone EW is incorporated at a level of 1.5% w/w. This level was selected to ensure easy handling during product manufacture and also to minimize cost. However, it is high enough to demonstrate a considerable difference in performance from the control product when evaluated in salon trials.

SOURCE: Rheox, Inc.: Elementis Specialties: Suggested Formula

Hair Shampoo

for daily use, clear, 15.9% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	35.00
B Genapol AMS/TEA-PEG-3 Cocamide Sulfate	6.00
Fragrance	0.30
Water	46.45
Dyestuff solution	q.s.
Preservative	q.s.
Genagen CAB/Cocamidopropyl Betaine	10.00
Genapol L-3/Laureth-3	1.00
C Sodium chloride	1.25

Procedure:

1. Stir the components of B one after another into A.
2. If necessary adjust the pH.
3. Finally adjust the viscosity with C.

Formula B I/1132

Hair Shampoo

clear, 17.7% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	35.00
B Genapol SBE/Disodium Laureth Sulfosuccinate	12.30
Fragrance	0.30
Genapol L-3/Laureth-3	1.00
Water	41.15
Panthenol	0.50
Genagen CAB/Cocamidopropyl Betaine	8.00
Dyestuff solution	q.s.
Preservative	q.s.
C Sodium chloride	1.75

Procedure:

1. Stir the components of B one after another into A.
2. If necessary adjust the pH.
3. Finally adjust the viscosity with C.

Formula B I/1133

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

Hair Shampoo

clear, 13.8% active ingredient

Recipe:

	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	35.00
B Genapol SBE/Disodium Laureth Sulfosuccinate	6.00
Fragrance	0.30
Water	55.00
Genapol L-3/Laureth-3	2.00
Genagen CAB/Cocamidopropyl Betaine	5.00
Dyestuff solution	q.s.
Preservative	q.s.
C Sodium chloride	1.70

Procedure:

1. Stir the components of B one after another into A.
2. If necessary adjust the pH.
3. Finally adjust the viscosity with C.

Formula B I/1128

Hair Shampoo

for daily use, clear, 15.6% active ingredient

Recipe:

	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	30.00
B Genapol SBE/Disodium Laureth Sulfosuccinate	6.00
Hostapon KCG/Sodium Cocoyl Glutamate	5.00
Fragrance	0.30
Water	48.70
Dyestuff solution	q.s.
Preservative	q.s.
Genagen CAB/Cocamidopropyl Betaine	6.00
Genapol L-3/Laureth-3	2.00
C Sodium chloride	2.00

Procedure:

1. Stir the components of B one after another into A.
2. If necessary adjust the pH.
3. Finally adjust the viscosity with C.

Formula B I/1134

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

Hair Shampoo

for dry hair, with a pearl-lustre effect, 16.0% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	30.00
Polymer JR 400/Polyquaternium-10	0.20
Hostapon SCID/Sodium Cocoyl Isethionate	3.00
B Water	49.00
C Hostapon KCG/Sodium Cocoyl Glutamate	6.00
Fragrance	0.30
Genapol L-3/Laureth-3	0.50
Genapol PGM/Sodium Laureth Sulfate, Glycol Distearate, Cocamide MEA	4.00
Genagen CAB/Cocamidopropyl Betaine	6.00
Dyestuff solution	q.s.
Preservative	q.s.
D Sodium chloride	1.00

Procedure:

1. Stir A into B while heating to approx. 60C.
 2. Cool down and add the components of C at approx. 35C while stirring.
 3. If necessary adjust the pH.
 4. Finally adjust the viscosity with D.
- Formula B I/2131

Hair Shampoo

with a pearl-lustre effect, 19.1% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Hostapon SCID/Sodium Cocoyl Isethionate	6.40
B Water	37.60
C Genapol L-3/Laureth-3	2.00
Hostapon KCG/Sodium Cocoyl Glutamate	7.20
Genapol LRO liquid/Sodium Laureth Sulfate	40.00
Fragrance	0.30
Genapol PGL/Glycol Distearate, Cocamide MEA, PPG-4 Deceth-4	5.00
Dyestuff solution	q.s.
Preservative	q.s.
D Sodium chloride	1.50

Procedure:

1. Stir A into B while heating to approx. 60C and cool down.
 2. At approx. 30C stir the components of C into 1.
 3. If necessary adjust the pH.
 4. Finally adjust the viscosity with D.
- Formula B I/2132

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

Hair Shampoo

with a pearl-lustre effect, 16.6% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Hostapon SCID/Sodium Cocoyl Isethionate	3.60
B Water	43.95
C Genapol LRO liquid/Sodium Laureth Sulfate	40.00
Fragrance	0.30
Genapol PGM/Sodium Laureth Sulfate, Glycol Distearate, Cocamide MEA	5.00
Dyestuff solution	q.s.
Preservative	q.s.
Genagen CAB/Cocamidopropyl Betaine	6.00
D Sodium chloride	1.15

Procedure:

1. Stir A into B while heating to approx. 60C and cool down.
2. At approx. 30C stir the components of C into 1.
3. If necessary adjust the pH.
4. Finally adjust the viscosity with D.

Formula B I/2134

Conditioning Shampoo

clear, 17.2% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Genapol LRO liquid/Sodium Laureth Sulfate	35.00
B Genapol AMS/TEA-PEG-3 Cocamide Sulfate	6.00
Belsil DMC 6032/Dimethicone Copolyol Acetate	0.50
Merquat 550/Polyquaternium-7	1.00
Fragrance	0.30
Genapol L-3/Laureth-3	2.00
C Water	41.70
Glycerin	2.00
Genagen CAB 818/Cocamidopropyl Betaine	10.00
Dyestuff solution	q.s.
Preservative	q.s.
D Sodium chloride	1.50

Procedure:

1. Add the components of B into A and keep stirring until a clear solution has been obtained.
2. Stir the components of C one after another into 1.
3. If necessary adjust the pH.
4. Finally adjust the viscosity with D.

Formula B I/6147

SOURCE: Hoechst Aktiengesellschaft: Guide Recipes

High Foaming Adult Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackadet BW-173 (Sodium Lauryl Sulfate (and) Cocamide DEA (and) Cocamidopropyl Betaine)	32.0
Sodium Chloride	0.1-1.0
Paragon III (Phenoxyethanol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

This shampoo will be a viscous liquid with a pH of 6.0-7.0 and a concentration of approximately 12-13%.

Procedure:

1. Completely disperse Mackadet BW-173 in warm water (approximately 40C).
2. Add appropriate amount of Sodium Chloride and blend until clear and homogeneous.
3. Add Citric Acid, if necessary, to adjust pH to 6.0-7.0.
4. Add Paragon III, Fragrance, and Dye.
5. Cool and fill.

Wheat Germ Conditioning Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate OPS (Disodium Oleamido MIPA Sulfosuccinate)	20.0
Sodium Laureth Sulfate (30%)	24.0
Mackanate WGD (Disodium Wheatgermamido PEG-2 Sulfosuccinate)	8.0
Mackam WGB (Wheatgermamidopropyl Betaine)	5.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add surfactants to water.
2. Heat to 40C.
3. Adjust pH to 5.5 with Citric Acid.
4. Add remaining components.
5. Adjust viscosity to 2000 cps with Sodium Chloride.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

High Foaming 2 in 1 Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Ammonium Lauryl Sulfate (28%)	65.0
Mackalene 426 (Isostearamidopropyl Morpholine Lactate)	6.0
Mackanate DC-30 (Disodium Dimethicone Copolyol Sulfosuccinate)	4.0
Mackester EGDS (Glycol Distearate)	1.0
Mackamide PKM (Palmkernelamide MEA)	2.0
Mackernium 007 (Polyquaternium 7)	0.4
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Combine first five components and heat to 70C with continuous mixing.
2. Dilute Mackernium 007 in remaining water and slowly add to the blend.
3. Blend until product is homogeneous and cool to 50C.
4. Add Mackstat DM, Dye, and Fragrance.
5. Adjust pH to 5.0-6.0 with Citric Acid and cool.

Silicone Free 2:1 Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Ammonium Lauryl Sulfate (30%)	40.0
Mackanate LA (Diammonium Lauryl Sulfosuccinate)	20.0
Mackalene 426 (Isostearamidopropyl Morpholine Lactate)	6.0
Mackamide CMA (Cocamide MEA)	2.0
Mackernium 007 (Polyquaternium 7)	1.2
Mackester EGDS (Glycol Distearate)	1.0
Sodium Chloride	0.8
Paragon (Propylene Glycol (and) DMDM Hydantoin (and) Methylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add first seven components to water.
2. Heat to 70C.
3. Cool to 50C and add Paragon, Dye, and Fragrance.
4. Adjust pH to 5.5-6.0 with citric acid.
5. Cool to room temperature.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Highly Pearlescent Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Sodium Laureth Sulfate (60%)	20.0
Mackamide C (Cocamide DEA)	2.0
Mackester SP (Glycol Stearate (and) Stearamide MEA)	2.0
Stearic Acid	2.0
Magnesium Sulfate (7H ₂ O)	6.0
Diethanolamine	0.67
Paragon II (Propylene Glycol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
D.I. Water, Dye, Fragrance	qs to 100.0

pH: 7.5-8.0

Viscosity (cps, 25C): 1000-2500

Procedure:

1. Heat water to 75C and add Magnesium Sulfate; dissolve completely.
2. Add other surfactants and DEA, then add waxes.
3. Keep temperature at 70C for 20 minutes; start cooling slowly.
4. At 35C add remainder of components and cool while mixing to room temperature.
5. Adjust pH to 7.5-8.0 with dilute TEA or dilute Sulfuric Acid.

Economy Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackadet SBC-8 (Mild Shampoo Blend)	10.0
Sodium Chloride	qs
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add Mackadet SBC-8 to water and blend until clear.
2. Add Mackstat DM.
3. Adjust viscosity to 3000-4000 cps with Sodium Chloride.
4. Add Dye and Fragrance and blend until clear.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Natural Conditioning Shampoo-Pearlescent

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water (Deionized)	52.50
Ethylene Glycol Monostearate/Glycol Stearate	1.0
Schercoquat SOAS (90%)/Soyamidopropyl Ethyldimonium Ethosulfate	1.5
Schercotaine CAB-G (35%)/Cocamidopropyl Betaine	20.0
Schercamox CAA-G (35%)/Disodium Oleamido PEG-2 Sulfosuccinate	7.0
Sodium Lauryl Ether Sulfate(30%)/Sodium Laureth (3.0 EO) Sulfate	18.0
Preservative	q.s.
Fragrance	q.s.

Procedure:

1. Heat water to 60C.
 2. Gently melt Ethylene Glycol Monostearate (m.p.-56-60C) and, with stirring, add to water.
 3. Add Schercoquat SOAS to dissolve.
 4. Add Schercotaine CAB-G, followed by Schercamox CAA-G.
 5. Slowly add Sodium Lauryl Ether Sulfate, mix thoroughly, as viscosity will build rapidly.
 6. Cool, add Preservative and Fragrance.
- Formula SK-156

Shower-Shampoo Gel

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Sodium Lauryl Sulfate (30%)	20
Alpha Olefin Sulfonate (40%)/Sodium C14-16 Olefin Sulfonate	10
Schercopol OMES-Na (35%)/Disodium Oleamido PEG-2 Sulfosuccinate	10
Schercotaine CAB-G (35%)/Cocamidopropyl Betaine	10
Schercamox CAA-G (35%)/Cocamidopropylamine Oxide	3
Schercoquat IAS-LC (90%)/Isostearamidopropyl Ethyl Dimonium Ethosulfate	1
Color, Fragrance, Preservative	q.s.
Water (deionized)	q.s. to 100

Procedure:

1. Heat water to 50C. With stirring add Schercoquat IAS-LC to dissolve.
2. Add Schercotaine CAB-G.
3. Add Schercamox CAA-G and Schercopol OMES-Na.
4. Slowly add Alpha Olefin Sulfonate, viscosity builds slightly.
5. Increase stirring and slowly add Sodium Lauryl Sulfate. Mix thoroughly at high rpm until uniform.
6. To clear up bubble formation heat finished product in an oven (at 45-50C).

Typical Specifications:

Activity: 19%

Viscosity @ 25C: 16,000 cps (without fragrance)

pH @ 25C: 6.8

Formula SO-006

SOURCE: Scher Chemicals, Inc.: Formulas SK-156 and SO-006

Natural Mild (Apricot) Conditioning Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Schercoquat APAS/Apricotamidopropyl Ethyldimonium Ethosulfate	0.5
Schercotaine APAB (40%)/Apricot Amidopropyl Betaine	6.0
Schercotaine CAB-G (45%)/Cocamidopropyl Betaine	14.0
Sipon ES-2 (27%)/Sodium Lauryl Ether Sulfate	18.0
Herbasol Extract Apricot/Apricot Extract	1.0
Schercomid SAP/Apricot Kernel DEA	1.0
Preservative	0.2
Water (deionized)	59.3
Color, Fragrance	q.s.

Procedure:

1. Heat water to 50C. With stirring add Schercoquat APAS to dissolve.
 2. Add preservative, mix.
 3. Add Schercotaine APAB & Schercotaine CAB-G. Heat & mix to 50C until uniform.
 4. Add Schercomid SAP, mix.
 5. Add Apricot Extract, mix.
 6. Add Sipon ES-2. Mix thoroughly until uniform.
- Formula 220-195

Conditioning Shampoo
(Self Preserved)

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water (Deionized)	48.5
Schercoquat IIS-LC (98%)/Isostearyl Ethyl Imidonium Ethosulfate	1.5
Schercotaine UAB (35%)/Bis (Undecylenic Amidopropyl Dimethyl Glycine)	10.0
Schercotaine CAB-G (45%)/Cocamidopropyl Betaine	10.0
Schercopol OMS-Na (35%)/Disodium Oleamido MEA Sulfosuccinate	10.0
Sodium Lauryl Ether Sulfate (30%)/Sodium Laureth (2 OEO) Sulfate	20.0
Fragrance	q.s.

Procedure:

1. Heat water to 45C. With stirring add Schercoquat IIS-LC to dissolve.
2. Add Schercotaine CAB-G and Schercotaine UAB.
3. Add Schercopol OMS-Na.
4. Slowly add Sodium Lauryl Ether Sulfate; mix thoroughly as viscosity will build rapidly.
5. Cool, q.s. with fragrance.

Typical Specifications:

Activity: 19%

Viscosity @ 25C: 2600 cps (without Fragrance)

Formula SO-0027

SOURCE: Scher Chemicals, Inc.: Formula 220-195 & SO-0027

Natural Mild (Wheat Germ) Conditioning Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Schercoquat WOAS/Wheat Germ Amidopropyl Ethyldimonium Ethosulfate	0.5
Schercotaine WOAB/Wheat Germ Amidopropyl Betaine	6.0
Schercotaine CAB-G (45%)/Cocamidopropyl Betaine	14.0
Sipon ES-2 (27%)/Sodium Lauryl Ether Sulfate	18.0
Herbasol Extract Wheat Germ/Wheat Germ Extract	1.0
Schercomid SWG/Wheat Germ Diethanolamide	1.0
Preservative	0.2
Water (deionized)	59.3
Color, Fragrance	q.s.

Procedure:

1. Heat water to 50C. With stirring add Schercoquat WOAS to dissolve.
2. Add preservative, mix.
3. Add Schercotaine WOAB & Schercotaine CAB-G. Heat & mix to 50C until uniform.
4. Add Schercomid SWG, mix.
5. Add Wheat Germ Extract, mix.
6. Add Sipon ES-2. Mix thoroughly until uniform.

Formula SK 151

Clear Moisturizing Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water	53.3
Schercoquat IALA/Isostearamidopropyl Laurylacetodimonium Chloride	2.5
Sodium Lauryl Sulfate	35.0
Schercomid AME-70/Acetamide MEA	5.0
Schercomid SCO-EX/Cocamide DEA	4.0
Perfume	q.s.
Preservative	0.2

Procedure:

1. Dissolve Schercoquat IALA in 60C water. Add Schercomid AME-70.
2. Add while mixing, Sodium Lauryl Sulfate and Schercomid SCO-EX.
3. Mix until uniform.
4. At 35-40C add preservative.
5. When cool, add fragrance.

Formula SK 150

SOURCE: Scher Chemicals, Inc.: Formulas SK 150 and SK 151

Natural Mild Conditioning Shampoo
(With Wheat Germ)

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water (Deionized)	46.5
Schercoquat WOAS (90%)/Wheat Germamidopropyl Ethyl-dimonium Ethosulfate	0.5
Schercotaine CAB-G (45%)/Cocamidopropyl Betaine	20.0
Schercopol OMES-Na (35%)/Disodium Oleamido PEG-2 Sulfosuccinate	10.0
Sodium Lauryl Ether Sulfate (30%)/Sodium Laureth (3.0 EO) Sulfate	20.0
Schercomid SWG/Wheat Germamide DEA	3.0
Preservative	q.s.
Fragrance	q.s.

Procedure:

1. Heat water to 45C. With stirring add Schercoquat WOAS to dissolve.
2. Add Schercotaine CAB-G, followed by Schercopol OMES-Na.
3. Add Sodium Lauryl Ether Sulfate.
4. Add Schercomid SWG; mix thoroughly, as viscosity will build.
5. Cool, q.s. with Preservative and Fragrance.

Typical Specifications:

Activity: 20%
Viscosity @ 25C: 2900 cps (without fragrance)
pH @ 25C: 5.5

Conditioning Shampoo for Dry Scalp

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Part A:	
Water (Distilled)	34.00
Na Lauryl Sulfate	20.00
Schercotaine CAB-Z/Cocamidopropyl Betaine-Zinc	20.00
Part B:	
Water (Distilled)	20.00
Schercoquat IAS-LC/Isostearamidopropyl Ethyl Dimonium Ethosulfate	1.00
Part C:	
Schercomid SL-ML/Lauramide DEA	5.00
Part D:	
Fragrance	q.s.
Preservative	q.s.

Procedure:

1. Prepare Part A, stirring until a clear and uniform solution is formed.
2. Dissolve Schercoquat IAS-LC in water. Add solution to Part A, warming slightly if necessary to produce a clear solution.
3. Add Part C to Part D.

SOURCE: Scher Chemicals, Inc.: Formulary

Pearlescent Shampoo Concentrate

<u>Raw Materials:</u>	<u>Wt%</u>
TEA Lauryl Sulfate	50.0
Mackamide LLM (Lauramide DEA)	30.0
Mackester SP (Glycol Stearate (and) Stearamide MEA)	5.0
Propylene Glycol	5.0
Sodium Chloride	1.0
Paragon III (Phenoxyethanol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add first five components to water.
2. Heat to 70C and blend until homogeneous.
3. Cool to 40C and add Paragon III, Dye, Fragrance.
4. Adjust pH to 7.5 with Phosphoric Acid.

NOTE: Product can be diluted one pint to a gallon with water.
Viscosity can be controlled by regulating the propylene glycol.

Neutralizer Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate OM (Disodium Oleamido MEA Sulfosuccinate)	30.0
Sodium Laureth Sulfate (30%)	20.0
Mackamine CAO (Cocamidopropylamine Oxide)	6.0
Mackamine WGO (Wheatgermamidopropylamine Oxide)	2.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Solids, %: 19.5

pH: 5.0-5.5

Viscosity (cps, 25C): 1500

Procedure:

1. Add surfactants to water and blend until clear.
2. Adjust pH to 5.0-5.5 with Citric Acid.
3. Add Dye and Fragrance.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Premium High Foaming Mild Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackadet CA (Sodium Laureth Sulfate (and) Sodium Lauryl Sulfate (and) Disodium Oleamido MEA Sulfosuccinate (and) Cocamide DEA (and) Cocamidopropyl Betaine)	32.0
Sodium Chloride	qs
Paragon III (Phenoxyethanol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

This shampoo will be a viscous liquid with a pH of 6.0-7.0 and a concentration of approximately 9-10%.

Procedure:

1. Completely disperse Mackadet CA in warm water (approximately 40C).
2. Add appropriate amount of Sodium Chloride and blend until clear and homogeneous.
3. Add Citric Acid, if necessary, to adjust pH to 6.0-7.0.
4. Add Paragon III, Dye, and Fragrance.
5. Cool and fill.

Economic High Foaming All-Purpose Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackadet CA (Sodium Laureth Sulfate (and) Sodium Lauryl Sulfate (and) Disodium Oleamido MEA Sulfosuccinate (and) Cocamide DEA (and) Cocamidopropyl Betaine)	20.0
Sodium Chloride	1.0-2.0
Paragon III (Phenoxyethanol (and) DMDM Hydantoin (and) Methylparaben (and) Propylparaben)	qs
Water, Dye, Fragrance	qs to 100.0

This shampoo will be a viscous liquid with a pH of 6.0-7.0 and a concentration of approximately 9-10%.

Procedure:

1. Completely disperse Mackadet CA in warm water (approximately 40C).
2. Add appropriate amount of Sodium Chloride and blend until clear and homogeneous.
3. Add Citric Acid, if necessary, to adjust pH to 6.0-7.0.
4. Add Paragon III, Dye, and Fragrance.
5. Cool and fill.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary; Formulas

Shampoo for Permed Hair

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate OP (Disodium Oleamido MIPA Sulfosuccinate)	20.0
Mackanate CP (Disodium Cocamido MIPA Sulfosuccinate)	12.0
Sodium Laureth Sulfate (30%)	15.0
Mackamine WGO (Wheatgermamidopropylamine Oxide)	4.0
Mackalene 716 (Wheatgermamidopropyl Dimethylamine Lactate)	1.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add surfactants to water.
2. Heat to 40C.
3. Blend until clear.
4. Adjust pH to 6.0 with Citric Acid.
5. Add remaining components.
6. Adjust viscosity to 2000 cps with Sodium Chloride.

Shampoo for Color-Treated Hair

<u>Raw Materials:</u>	<u>Wt%</u>
Mackanate CP (Disodium Cocamido MIPA Sulfosuccinate)	30.0
Ammonium Lauryl Sulfate (28%)	25.0
Mackamine CAO (Cocamidopropylamine Oxide)	7.0
Mackanate WGD (Disodium Wheatgermamido PEG-2 Sulfosuccinate)	2.0
Sodium Chloride	2.0
Water, Dye, Preservative, Fragrance	qs to 100.0

Solids, %: 22.0

pH: 6.2

Viscosity (cps, 25C): 2300

Procedure:

1. Add surfactants to water and blend until clear.
2. Adjust pH to 6.0-6.5 with Citric Acid or Sodium Hydroxide.
3. Adjust viscosity with Sodium Chloride.
4. Add dye, preservative and fragrance.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

Shampoo with Unicerin C-30

<u>Raw Materials:</u>		<u>Wt%</u>
A	1 Water	66.95
	2 Propylene Glycol	1.50
	3 Uniphen P-23	0.25
	4 Unicide U-13	0.40
	5 Citric Acid	0.30
	6 Carrageenan (Chondus Crispus)	2.50
B	7 Decyl Glucoside	24.00
	8 Uniphen P-23	0.50
	9 Fragrance	0.40
C	10 FD&C Blue No. (C.I. 42090)	0.20
D	11 Unicerin C-30	3.00

Procedure:

Manufacturing is best performed in a closed apparatus (as eg. Fryma, Krieger) provided with vacuum and a speed-regulated stirrer with rotor-stator homogenizer. The microbiological quality of the demineralized water must be checked carefully.

1. Presoak 11 in aqua conservans (preserved solution containing 0.4% Uniphen P-23 and 0.3% Unicide U-13) and leave the suspension for 24 h at room temperature to soften Unicerin C-30.
2. Dissolve 3 in 1 and 2 at 100C. Let cool down to 40C and dissolve 4 and 5. Disperse 6 with a propeller stirrer at high speed. Continue stirring at reduced speed for 30 minutes, then homogenize intensively for 3 minutes and let cool overnight.
3. Dissolve separately 8 and 9 in 7. Prevent foam building (see note below).
4. At reduced stirrer speed suck B from below into A and mix further 15 minutes, then homogenize for additional 3 minutes at medium intensity.
5. Add 10 and mix 10 minutes, then homogenize 3 minutes at low speed.
6. Add 1 at low stirrer speed as long until a homogeneous distribution is obtained.

NOTE:

If manufacturing equipment is not provided with vacuum, set the stirrer below the liquid.

SOURCE: Induchem AG; Formula 14.2

Shampoo with Unispheres YE-501

<u>Raw Materials:</u>		<u>Wt%</u>
A	1 Water	52.30
	2 Propylene Glycol	0.75
	3 Uniphen P-23	0.25
	4 Disodium EDTA	0.10
	5 Unicide U-13	0.40
	6 Acrylates/C10-30 Alkyl Acrylate Crosspolymer	1.00
B	7 Sodium Laureth Sulfate	40.00
	8 Uniphen P-23	0.50
	9 Fragrance	0.40
C	10 Sodium Hydroxide	3.50
	11 FD&C Blue No. (C.I. 42090)	0.20
D	12 Unispheres YE-501 Yellow	0.60

Procedure:

Manufacturing is best performed in a closed apparatus (as eg. Fryma, Krieger) provided with vacuum and a speed-regulated stirrer with rotor-stator homogenizer. The microbiological quality of the demineralized water must be checked carefully.

1. Dissolve 3 and 4 in 1 and 2 at 100C. Let cool down to 40C and dissolve 5. Disperse 6 with a propeller stirrer at high speed. Continue stirring at reduced speed for 30 minutes, then homogenize intensively for 3 minutes and let cool overnight.
2. Dissolve separately 8 and 9 in 7. Prevent foam building (see note below).
3. At reduced stirrer speed suck B from below into A and mix further 15 minutes, then homogenize for additional 3 minutes at medium intensity.
4. Add 10 and 11, mix 10 minutes, then homogenize 3 minutes at low speed.
5. Add 12 at low stirrer speed as long until a homogeneous distribution is obtained.

NOTE:

If manufacturing equipment is not provided with vacuum, set the stirrer below the liquid level to prevent foaming.

SOURCE: Induchem AG: Formula 14.1

Shower-Shampoo Gel

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Sodium Lauryl Sulfate (30%)	20
Alpha Olefin Sulfonate (40%)/Sodium C14-16 Olefin Sulfonate	10
Schercotaine CAB-G (35%)/Cocamidopropyl Betaine	10
Schercamox CAA-G (35%)/Cocamidopropylamine Oxide	13
Schercoquat IAS-LC (90%)/Isostearamidopropyl Ethyl Dimonium Ethosulfate	1
Color, Fragrance, Preservative	q.s.
Water (deionized)	q.s. to 100

Procedure:

1. Heat water to 50C. With stirring add Schercoquat IAS-LC to dissolve.
2. Add Schercotaine CAB-G.
3. Add Schercamox CAA-G.
4. Slowly add Alpha Olefin Sulfonate, viscosity builds slightly.
5. Increase stirring and slowly add Sodium Lauryl Sulfate. Mix thoroughly at high rpm until uniform.
6. To clear up bubble formation heat finished product in an oven (at 45-50C) overnight.

Typical Specifications:

Activity: 19%
 Viscosity @ 25C: 16,000 cps (without fragrance)
 pH @ 25C: 6.8

Formulation SK 148

Clear Super-Conditioning Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water	55.3
Schercoquat IIS-LC/Isostearyl Ethyl Imidonium Ethosulfate	0.5
Katemul IGU-70/Isostearamidopropyl Dimethylamino Gluconate	2.0
Sodium Lauryl Sulfate	33.0
Schercomid AME-70/Acetamide MEA	5.0
Schercomid SCO-EX/Cocamide DEA	4.0
Perfume	q.s.
Preservative	0.2

Procedure:

1. Dissolve Schercoquat IIS-LC in 60C water. Add Schercomid AME-70 and Katemul IGU-70.
2. Add while mixing, Sodium Lauryl Sulfate and Schercomid SCO-EX.
3. Mix until uniform.
4. At 35-40C add preservative.
5. When cool, add fragrance.

Formulation SK 143

SOURCE: Scher Chemicals, Inc.: Suggested Formulations

Shower Shampoo Liquid

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Sodium Lauryl Sulfate (30%)	15
Sodium Lauryl Ether Sulfate (30%)/Sodium Laureth (3) Sulfate	5
Alpha Olefin Sulfonate (40%)/Sodium C14-16 Olefin Sulfonate	10
Schercopol OMES-Na (35%)/Disodium Oleamido PEG-2 Sulfosuccinate	10
Schercotaine CAB-G (35%)/Cocamidopropyl Betaine	10
Schercamox CAA-G (35%)/Cocamidopropylamine Oxide	3
Schercoquat IAS-LC (90%)/Isostearamidopropyl Ethyl Dimonium Ethosulfate	1
Color, fragrance, preservative	0.1
Water (deionized)	q.s. to 100

Procedure:

1. Heat water to 50C. With stirring add Schercoquat IAS-LC to dissolve.
2. Add Schercotaine CAB-G.
3. Add Schercamox CAA-G and Schercopol OMES-Na.
4. Slowly add Alpha Olefin Sulfonate, viscosity builds slightly.
5. Increase stirring and slowly add Sodium Laureth and Sodium Lauryl Sulfate. Mix thoroughly at high rpm until uniform.
6. To clear up bubble formation heat finished product in an oven (at 45-50C) overnight.

Typical Specifications:

Activity: 19%
 Viscosity @ 25C: 9,000 cps (without fragrance)
 pH @ 25C: 6.8

Clear Conditioning Shampoo

<u>Ingredients/CTFA Name:</u>	<u>Wt%</u>
Water	64.5
Schercoquat IIS-LC/Isostearyl Ethyl Imidonium Ethosulfate	0.5
Ammonium Lauryl Sulfate 28%	30.0
Schercomid SCO-EX/Cocamide DEA	5.0

Procedure:

1. Dissolve Schercoquat IIS-LC in 60C water.
2. Add while mixing, Ammonium Lauryl Sulfate and Schercomid SCO-EX.
3. Mix until uniform.

Formula SK 90

SOURCE: Scher Chemicals, Inc.: Formulary

Stripper Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Dodecylbenzene Sulfonic Acid	21.5
Caustic Soda (50%)	5.4
Sodium Laureth Sulfate (60%)	4.0
Mackam 35 (Cocamidopropyl Betaine)	5.5
Sodium Xylene Sulfonate (40%)	8.0
Paragon (Propylene Glycol (and) DMDM Hydantoin (and) Methylparaben)	qs
Water, Dye, Fragrance	qs to 100.0
Solids, %: 30(+/-1.0)	
pH: 6.5-7.0	
Viscosity (cps, 25C): 250-350	
Cloud Point: 5C	

Procedure:

1. Add Caustic Soda to water.
2. Adjust pH to 7.0-8.0 with Dodecylbenzene Sulfonic Acid.
3. Add remaining components and adjust pH to 6.5-7.0 with Citric Acid.
4. If necessary, lower viscosity with Sodium Xylene Sulfonate or raise viscosity with Sodium Chloride.

Sting Free 2:1 Shampoo

<u>Raw Materials:</u>	<u>Wt%</u>
Mackam 2C (Disodium Cocoamphodiacetate)	35.0
Sodium Laureth-1 Sulfate	20.0
Mackanate DC-30 (Disodium Dimethicone Copolyol Sulfosuccinate)	4.0
Mackernium 007 (Polyquaternium 007)	3.0
Mackester SP (Glycol Stearate (and) Stearamide MEA)	2.0
Mackstat DM (DMDM Hydantoin)	qs
Water, Dye, Fragrance	qs to 100.0

Procedure:

1. Add Mackam 2C, Sodium Laureth-1 Sulfate, Mackanate DC-30 and Mackester SP to water.
2. Heat to 70C and blend until homogeneous.
3. Slowly add Mackernium 007.
4. Cool to 50C and add Mackstat DM.
5. Add Dye and Fragrance.
6. Adjust pH to 7.0-7.5 with Citric Acid.

SOURCE: McIntyre Group Ltd.: Personal Care Formulary: Formulas

3 in 1 Antidandruff Shampoo
17.2% active ingredient

<u>Recipe:</u>	<u>Wt%</u>
A Octopirox/Piroctone Olamine	0.40
B Water	10.00
C Genapol LRO liquid/Sodium Laureth Sulfate	30.00
Hostapon KCG/Sodium Cocoyl Glutamate	5.00
Genamin KSL/PEG-5 Stearyl Ammonium Lactate	2.00
Cetiol HE/PEG-7 Glyceryl Cocoate	1.00
Belsil DMC 6032/Dimethicone Copolyol Acetate	2.00
Merquat 550/Polyquaternium-7	5.00
Fragrance	0.30
D Water	30.30
E Glucamate DOE 120/PEG-120 Methyl Glucose Dioleate	1.00
F Genagen CAB/Cocamidopropyl Betaine	8.00
Genapol L-3/Laureth-3	2.00
Genapol TSM/PEG-3 Distearate, Sodium Laureth Sulfate	3.00

Procedure:

1. Mix A with B.
2. Add the components of C to 1 and stir well.
3. Dissolve E in D, add to 1 and stir well.
4. Stir the components of F one after another into 1.
5. Adjust the pH to 6.0

SOURCE: Hoechst Aktiengesellschaft: Formula B I/6142