



## Rinse-Off Moisturization Assay

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**Tradename:** AC Moisture-Plex Advanced PF

**Code:** 16503PF

**CAS #:** 56-81-5 & 7732-18-5 & 28874-51-3 & 57-13-6 & 99-20-7 & 125275-25-4 & 9067-32-7

**Test Request Form #:** 3946

**Lot #:** 34038P

**Sponsor:** Active Concepts, LLC; 107 Technology Drive Lincolnton, NC 28092

**Study Director:** Maureen Danaher

**Principle Investigator:** Jennifer Goodman

**Test Performed:**

Rinse Off Moisturization Assay

### Introduction

An *in-vivo* study was conducted over a period of three days to evaluate the moisturization benefits of **AC Moisture-Plex Advanced PF** in a body wash formulation. 15 M/F subjects between the ages of 23-45 participated in the study. Results indicate that **AC Moisture-Plex Advanced PF** is capable of significantly increasing moisturization compared to the control body wash.

The rinse off moisturization assay was conducted to assess the moisturizing ability of **AC Moisture-Plex Advanced PF** in a body wash formulation.

### Materials

A. Equipment: DermaLab Skin Combo (Hydration/ Moisture Pin Probe)

### Methods

The moisture module provides information about the skin's hydration by measuring the conducting properties of the upper skin layers when subjected to an alternating voltage. The method is referred to as a conductance measurement and the output is presented in the unit of uSiemens (uS). A moisture pin probe is the tool used to gather hydration values.

15 (M/F) subject panels between the ages of 23 and 45 were used to determine moisturization improvements compared to the control body wash base. The DPM 9003 and XPRT Software purchased from NOVA Technology Corporation were used to obtain and analyze the initial stratum corneum hydration values on the volar forearm for each subject. The products used in the study included the control body wash, as well as the control body wash containing 2.0% AC Moisture-Plex Advanced PF.

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After subjects showered using the respective body wash, hydration measurements were recorded after 15 minutes, 1 hour, 8 hours and 24 hours. Subjects then showered using the respective body wash and the measurement process was repeated in succession for a total of 3 days. The formula used to calculate the percent increase in moisture is:

$$\% \text{ Moisture Increase} = ((\text{Average Moisture Increase} - \text{Average Baseline Value}) / \text{Average Baseline Value}) * 100$$

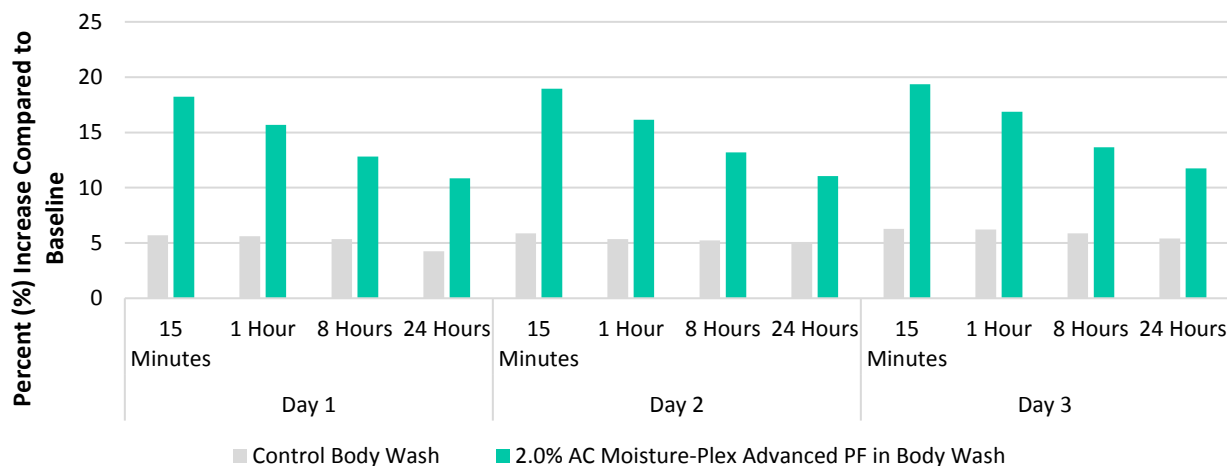
	INCI Name	% w/w
Deionized Water	Water	64.00%
Stepanblend FF40	Sodium C14-16 Olefin Sulfonate (and) Cocamide MIPA (and) Cocamidopropyl Betaine	25.50%
Plantaren 818 UP	Coco Glucoside	4.00%
Stepan-Mild GCC	Glyceryl Caprylate/Caprates	0.50%
<b>M15019</b> Leucidal Liquid SF	Lactobacillus Ferment	4.00%
<b>M14003</b> AMTicide Coconut	Lactobacillus & Cocos Nucifera (Coconut) Fruit Extract	2.00%

**Table 1.** Control Body Wash Formulation

### Results

**AC Moisture-Plex Advanced PF** showed very high moisturizing capabilities at a 2.0% concentration.

#### Average Increase in Moisturization



**Figure 1.** Moisturization Results.



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Results for Day 1 Stratum Corneum Moisture Study – Control Body Wash Formulation				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	102	106	105	103
2	107	107	106	104
3	109	108	107	106
4	110	112	111	113
5	107	106	109	107
6	102	101	103	101
7	105	108	111	110
8	108	108	110	109
9	113	112	109	108
10	110	109	108	105
11	112	113	112	110
12	109	108	104	104
13	107	105	102	102
14	106	105	104	103
15	110	108	111	110
Mean	108	108	107	106
Median	108	108	108	106
MIN	102	101	102	101
MAX	113	113	112	113
Percent Increase in Moisture	5.69%	5.62%	5.36%	4.25%

**Table 2.** Results for Day 1 Stratum Corneum Moisture Study – Control Body Wash Formulation



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Results for Day 2 Stratum Corneum Moisture Study – Control Body Wash Formulation				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	103	107	106	105
2	106	105	107	109
3	110	109	108	108
4	109	108	110	112
5	108	107	106	108
6	101	100	101	102
7	104	103	102	105
8	108	106	105	112
9	111	113	112	106
10	108	107	106	105
11	114	113	112	111
12	110	109	108	103
13	109	108	107	104
14	107	106	105	102
15	112	111	115	114
Mean	108	107	107	107
Median	108	107	107	106
MIN	101	100	101	102
MAX	114	113	115	114
Percent Increase in Moisture	5.88%	5.36%	5.23%	4.97%

**Table 3.** Results for Day 2 Stratum Corneum Moisture Study – Control Body Wash Formulation



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Results for Day 3 Stratum Corneum Moisture Study – Control Body Wash Formulation				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	104	103	103	102
2	106	106	105	104
3	110	109	108	107
4	108	107	106	106
5	106	105	104	105
6	115	114	113	111
7	104	103	103	107
8	107	106	105	108
9	105	110	109	107
10	114	117	117	115
11	115	114	113	111
12	108	110	110	109
13	104	103	108	107
14	107	106	105	104
15	113	112	111	110
Mean	108	108	108	108
Median	107	107	108	107
MIN	104	103	103	102
MAX	115	117	117	115
Percent Increase in Moisture	6.27%	6.21%	5.88%	5.42%

**Table 4.** Results for Day 3 Stratum Corneum Moisture Study – Control Body Wash Formulation

<b>Results for Day 1 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation</b>				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	113	112	109	107
2	127	125	122	120
3	118	116	113	109
4	121	119	114	112
5	124	120	117	116
6	126	124	121	119
7	109	107	105	104
8	110	109	104	103
9	115	113	106	104
10	121	118	117	113
11	128	126	124	123
12	131	128	126	122
13	129	124	122	120
14	114	110	108	107
15	123	119	118	117
Mean	121	118	115	113
Median	121	119	117	113
MIN	109	107	104	103
MAX	131	128	126	123
Percent Increase in Moisture	18.24%	15.69%	12.81%	10.85%

**Table 5.** Results for Day 1 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation



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<b>Results for Day 2 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation</b>				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	115	113	109	107
2	128	122	117	115
3	117	114	112	110
4	123	119	115	113
5	122	117	114	112
6	127	123	120	119
7	111	110	108	105
8	114	111	109	107
9	112	109	107	105
10	122	118	115	113
11	127	125	123	120
12	133	130	127	125
13	129	123	121	120
14	116	114	110	108
15	124	129	125	120
Mean	121	118	115	113
Median	122	118	115	113
MIN	111	109	107	105
MAX	133	130	127	125
Percent Increase in Moisture	18.95%	16.14%	13.20%	11.05%

**Table 6.** Results for Day 2 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation



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<b>Results for Day 3 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation</b>				
Panelists	15 minutes (DPM Units)	1 hour (DPM Units)	8 hours (DPM Units)	24 hours (DPM Units)
1	114	112	110	108
2	124	122	119	116
3	115	113	111	110
4	119	116	115	112
5	126	124	120	118
6	129	126	124	120
7	107	104	103	101
8	115	112	110	107
9	121	117	114	112
10	127	125	121	119
11	129	126	120	118
12	132	130	125	121
13	128	126	121	117
14	116	114	109	107
15	124	121	117	116
Mean	122	119	116	114
Median	124	121	117	116
MIN	107	104	103	101
MAX	132	130	125	121
Percent Increase in Moisture	19.35%	16.86%	13.66%	11.76%

**Table 7.** Results for Day 3 Stratum Corneum Moisture Study – 2.0% AC Moisture-Plex Advanced PF Body Wash Formulation

<b>Average Percent (%) Increase in Moisturization</b>												
	<b>Day 1</b>				<b>Day 2</b>				<b>Day 3</b>			
	<b>15 Minutes</b>	<b>1 Hour</b>	<b>8 Hours</b>	<b>24 Hours</b>	<b>15 Minutes</b>	<b>1 Hour</b>	<b>8 Hours</b>	<b>24 Hours</b>	<b>15 Minutes</b>	<b>1 Hour</b>	<b>8 Hours</b>	<b>24 Hours</b>
<b>Control Body Wash</b>	5.69	5.62	5.36	4.25	5.88	5.36	5.23	4.97	6.27	6.21	5.88	5.42
<b>2.0% AC Moisture-Plex Advanced PF in Body Wash</b>	18.24	15.7	12.8	10.85	18.95	16.14	13.2	11.05	19.35	16.9	13.66	11.76

**Table 8.** Average Increase In Moisturization

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### Discussion

As evidenced in a 3 day rinse-off efficacy study of **AC Moisture-Plex Advanced PF** on skin, moisture levels were improved by 10.85% after 24 hours and by 11.76% after 3 days when compared to baseline measurements. When compared to the control body wash, **AC Moisture-Plex Advanced PF** improved moisturization by 87.42% after 24 hours and after 3 days **AC Moisture-Plex Advanced PF** improved moisturization by 73.81%. Results indicate that **AC Moisture-Plex Advanced PF** is capable of increasing moisturization when used in a rinse-off application.