
Technical Information

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Supersedes issue dated May 2008

04_070215e-03/Page 1 of 8

Luvitol[®] Lite

® = Registered trademark of BASF group

Light emollient for cosmetic formulations


The Chemical Company

**Beauty Care
Ingredients**

Chemical Nature	Alkanes, C16-20-iso-
INCI Name	Hydrogenated Polyisobutene
CAS-No.	90622-59-6, (945244-91-7 Canada)
PRD-No.	30289094
Appearance	Clear liquid, with a characteristic odor
Specification	See separate document: "Standard Specification (not for regulatory purposes)" available via BASF's WorldAccount: https://worldaccount.basf.com (registered access).

Application

Luvitol Lite is a cosmetic oil, which can be used in all kinds of cosmetic preparations. It can be used as a component of the oil phase in cosmetic and dermatologic applications.

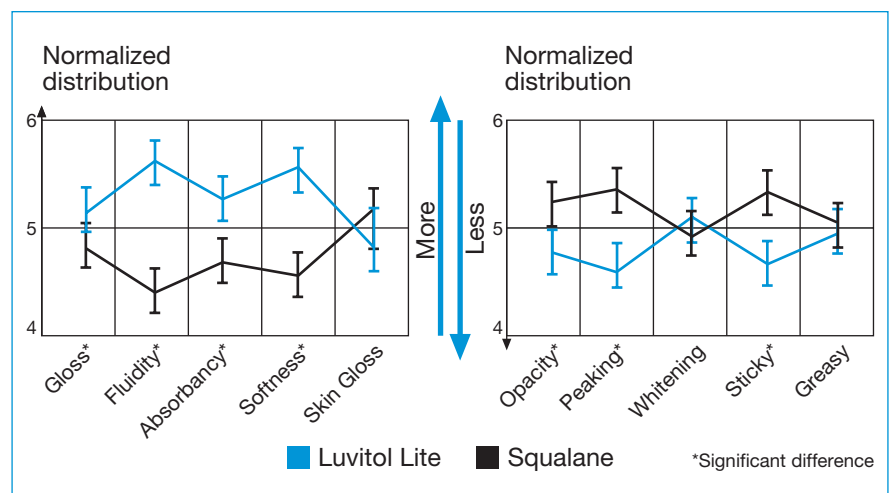
In skin care formulations Luvitol Lite provides lightweight moisturisation with a pleasantly soft, non-oily skin sensation. It actively helps to maintain the skin's natural water balance for a more radiant appearance by acting as a moisture loss barrier. The increased hydration levels helps the skin appear more radiant and supple. When added to sun protection formulations, Luvitol Lite helps to improve the skin feel to make them appear lighter than they are.

In hair care formulations, Luvitol Lite conditions the hair to a silky smooth finish with an enhanced shine. The hair is conditioned without build-up, making it ideal for every day use.

Consumer application tests

Skin sensation

Consumers desire multi-functional products that offer immediate and noticeable benefits. In a skin sensory study conducted by Ecole de Biologie Industrielle, an expert panel evaluated the differences between Luvitol Lite and Squalane. The thirty eight panellists evaluated identical formulations comparing Luvitol Lite to squalane. The data recorded can be seen in the following table. Overall, Luvitol Lite was evaluated as having a superior fluidity, quicker absorption rate, reduction in stickiness on the skin and a significant softer skin feeling in comparison to squalane.

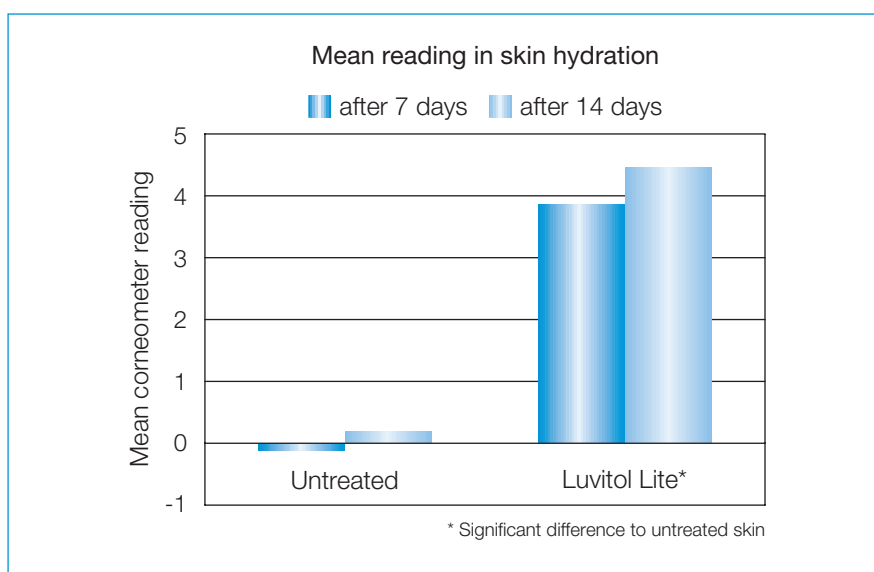


Skin hydration

A skin hydration study was carried out by Derma Consult GmbH, Germany. This test showed that daily use of Luvitol Lite helped to improve skin hydration. As shown in the below diagram, Luvitol Lite shows a 12% increase in skin hydration when compared to untreated skin.

Number of panelists:	20
Sex:	female
Age:	29 – 62, average age 41.2
Test area:	inner sides of forearms
Duration:	14 days
Application frequency:	twice daily
Test instrument:	corneometer
Measurement frequency:	once per week

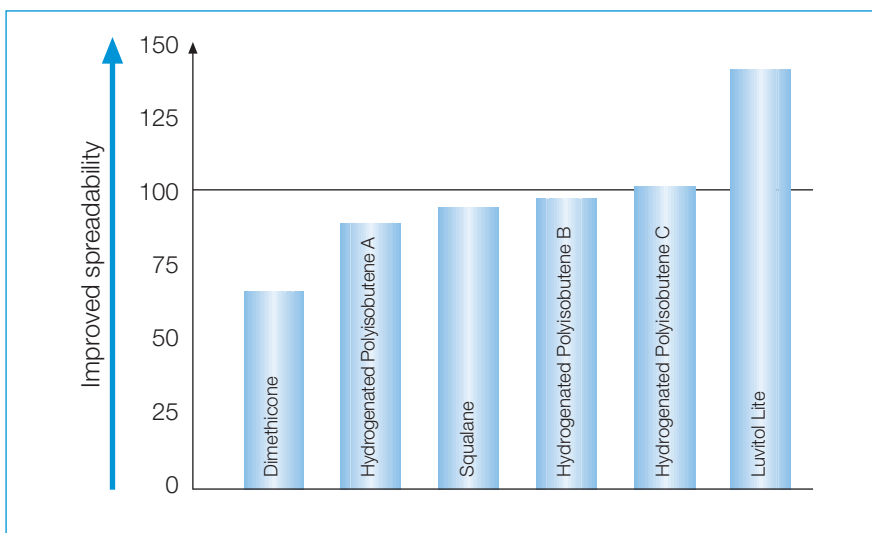
Panelists were treated with a spray emulsion formula containing 7% Luvitol Lite. Corneometer measurements were taken on day seven and day fourteen for a skin hydration comparison.



Non-comedogenic

A comedogenicity study was conducted by Clinical Research Laboratories, Inc, which showed Luvitol Lite to be non-comedogenic making it an ideal choice for daily moisturising applications.

Improved spreadability



Luvitol Lite’s superior spreadability and improved absorption rate reduce rub in time and improve skin sensation during and after application. The chart to the left reports the results of the investigation.

Ten µl of the test substance was added in the center of a 200 x 200 mm piece of filter paper. After ten minutes the area covered by the substance was marked, cut out and weighed. Using Paraffinium Perliquidium as the standard, spreadability was defined as:

$$\text{Spreadability} = \frac{\text{Area}_{\text{weight}} \text{ of test substance} \times 100}{\text{Area of standard}}$$

Paraffinium Perliquidium = 100

Hair conditioning

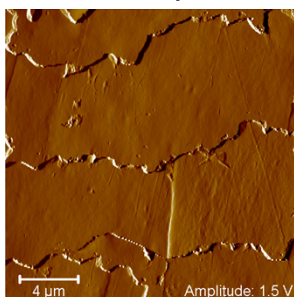
Thirteen volunteers with damaged hair received two hair conditioning products to be used on alternating days for two weeks. After each week, the participants answered a questionnaire regarding the products’ performance.

When comparing Luvitol Lite to the control, the volunteers’ good and very good responses were increased as follows:

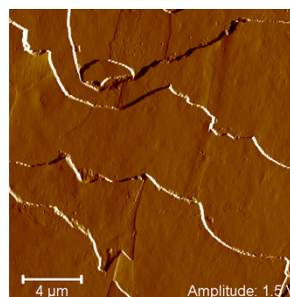
- 33% for improved manageability
- 25% for improved wash out
- 17% for improved wet combability
- 14% for improved dry combability
- 14% for improved dry detangling

Hair smoothing

Luvitol Lite lightly coats the hair shaft helping to reduce hair’s unevenness for a softer, smoother hairstyle.



Untreated



Leave-on spray with Luvitol Lite

Formulations

Luvitol Lite is a perfect choice for formulating personal care products and cosmetics such as:

- Lotions and creams
- Hair conditioners
- Facial cleansers
- Cleansing shower oils
- Moisturising body oils
- UV protection and after sun products
- Shampoos and body washes
- Hair styling products
- Color cosmetics
- Mascaras
- Foundations
- Lipsticks, lip glosses

O/W-basic emulsion with Luvitol® Lite

No. 50/00186

	%	Ingredients	Supplier	INCI name
A	1.50	Cremophor® A 25	(1)	Ceteareth-25
	2.50	Cremophor A 6	(1)	Ceteareth-6, Stearyl Alcohol
	2.50	Lanette 16	(27)	Cetyl Alcohol
	5.00	Luvitol EHO	(1)	Cetearyl Ethylhexanoate
	5.00	Luvitol Lite	(1)	Hydrogenated Polyisobutene
B	3.00	1,2 Propylene Glycol Care	(1)	Propylene Glycol
	80.00	Water dem.		Aqua dem.
C	0.50	Euxyl K 300	(42)	Phenoxyethanol, Methylparaben, Butylparaben, Ethylparaben, Propylparaben, Isobutylparaben

Production:

Heat phases A and B separately to about 80 °C. Stir phase B into phase A and homogenize shortly. Cool to about 40 °C, add phase C and homogenize again.

Properties:

pH value: 7.0
Viscosity: 3,000 mPa·s Brookfield RVD VII+

Excellence conditioning rinse

No. 03/00129

	%	Ingredients	Supplier	INCI name
A	1.00	Cremophor® A 6	(1)	Ceteareth-6, Stearyl Alcohol
	1.00	Cremophor A 25	(1)	Ceteareth-25
	1.50	Cetylstearyl Alcohol		Cetearyl Alcohol
	1.50	Glyceryl Monostearate	(44)	Glyceryl Stearate
	3.00	Paraffin Oil		Mineral Oil
	2.00	Luvitol® Lite	(1)	Hydrogenated Polyisobutene
	5.00	Luvitol EHO	(1)	Cetearyl Ethylhexanoate
B	5.00	1,2 Propylene Glycol Care	(1)	Propylene Glycol
	4.00	Luviquat® FC 550	(1)	Polyquaternium-16
	q.s	Preservative		
	76.00	Water dem.		Aqua dem.
C	q.s	Perfume		Fragrance

Production:

Separately heat Phases A and B to about 80 °C. Stir Phase B into Phase A whilst homogenizing and cool to about 40 °C. Add phase C and homogenize again.

Properties:

pH value: 6.0
Viscosity: 6,100 mPa s

Basic hydrodispersion, cold manufacturing**No. 50/00178**

	%	Ingredients	Supplier	INCI name
A	0.20	Pemulen TR-1	(6)	Acrylates/C10-30 Alkyl Acrylate Crosspolymer
	20.00	Luvitol® Lite	(1)	Hydrogenated Polyisobutene
	0.50	Euxyl PE 9010	(42)	Phenoxyethanol, Ethylhexylglycerin
	0.90	Luvigel® EM	(1)	Caprylic/Capric Triglyceride, Sodium Acrylates Copolymer
	q.s.	Perfume		Fragrance
B	5.00	1,2 Propylene Glycol Care	(1)	Propylene Glycol
	2.00	Cremophor® A 25	(1)	Ceteareth-25
	71.35	Water dem.	(1)	Aqua dem.
C	0.05	Sodium Hydroxide	(20)	Sodium Hydroxide

Production:

Weigh out the components of phase A and mix them.
Weigh out the components of phase B and dissolve them.
Stir phase B slowly into phase A. Homogenize for a short time. Neutralize with phase C and stir till homogenous.

Properties:

pH value: 6.0
Viscosity: 14,000 mPa·s Brookfield RVD VII+

Shower oil with Luvitol® Lite 4**No. 08/00631**

	%	Ingredients	Supplier	INCI name
A	34.00	Zetesol 100	(159)	MIPA-Laureth Sulfate, Laureth-4, Cocamide DEA
	5.00	Comperlan KD	(27)	Cocamide DEA
	61.0	Luvitol Lite	(1)	Hydrogenated Polyisobutene
	q.s.	Perfume		Fragrance

Production:

Weigh out the components of phase A and dissolve them clearly.

Properties:

Viscosity: 50 mPa·s Brookfield RVD VII+

Suppliers

1. **BASF SE**
67056 Ludwigshafen, Germany
Tel.: +49(621) 60-0
Fax: +49(621) 60-42525
www.basf.com
6. **Noveon Inc.**
9911 Brecksville Road, OH 44141 Cleveland, USA
Tel.: +1(216) 447-5000
Fax: +1(216) 447-5250
www.noveon.com
20. **Merck KGaA**
Frankfurter Straße 250, 64293 Darmstadt, Germany
Tel.: +49(6151) 72-7869
Fax: +49(6151) 72-8333
www.merck.com
27. **Cognis Deutschland GmbH – Care Chemicals**
Henkelstraße 67, 40191 Düsseldorf-Holthausen, Germany
Tel.: +49(211) 7940-2289
Fax: +49(211) 798-2016
www.cognis.com
42. **Schülke & Mayr GmbH**
Robert-Koch-Str. 2, 22851 Norderstedt, Germany
Tel.: +49(40) 52100-0
Fax: +49(40) 52100-238
www.schuelke-mayr.com
159. **Zschimmer & Schwarz GmbH & Co.**
Max-Schwarz-Str. 3-5, 56112 Lahnstein/Rhein, Germany
Tel.: +49(2621) 12-0
Fax: +49(2621) 12-407
www.zschimmer-schwarz.de
44. **Evonik Goldschmidt GmbH**
Goldschmidtstraße 100, 45127 Essen, Germany
Tel.: +49(201) 173-01
Fax: +49(201) 173-3000
www.evonik.com

Storage

The shelf-life of Luvitol Lite in unopened container stored at room temperature is at least 24 months.

Toxicology

Luvitol Lite has been the subject of toxicological studies. The results obtained did not yield any indications of a toxicological risk when the product is applied in the recommended concentrations for the recommended applications.

Note

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