



Skin Moisturizers

The cheapest are actually the best

Even if your beauty regime is careless, the one thing you probably cannot do without, especially in winters, is a moisturizer or a skin lotion. A bit of secondary research on the Internet will tell you that middle-class Indians buy more moisturizers than any other skincare product. Expectedly, almost every large FMCG company today has at least one moisturizer brand in the market. However, not all brands fare equally so far as quality is concerned. While none of the ones we tested were unsafe or unhealthy, some did score better as they were true to their claims and were better value for money. Read on to know what we found after testing 12 top-selling brands of moisturizers in an NABL-accredited lab.

A Consumer Voice Report

As there are no specific Indian Standards for moisturizers or skin lotions, our tests are primarily based on the 'related' Indian Standard, IS: 6608-2008, which is set for skin creams. We have also followed other relevant/related

guidelines to figure out what best suits the Indian consumer.

CV Recommendation | Top Performers

Dove | Vaseline | Parachute

Value for Money
Parachute | Vaseline

Lesser Performers | Most Expensive
Lotus Herbals | Olay

Top Performer in Skin Hydration
Dove

Top Performer in Sensory Tests
Parachute

KEY FINDINGS

- In overall performance, Dove, Vaseline and Parachute were the top three brands.
- The key ingredient total fatty substance (TFS) was found highest in Vaseline, followed by Boro Plus. It was lowest in Lacto Calamine.
- The 'total residue' was highest in Vaseline, followed by Boro Plus; it was lowest in Vivel.
- The effect of moisturizer on skin (skin hydration test) was maximum in the case of Dove, followed by Parachute and Nivea; it was lowest in Vivel and Lotus Herbals.
- In the sensory test, all the brands performed satisfactorily and were judged to be almost equal.
- Boro Plus and Parachute were the least expensive – costing Rs 55 (100 ml) and Rs 59 (100 ml), respectively; Lotus Herbals and Olay were the most expensive – costing Rs 225 (80 ml) and Rs 210 (75 ml), respectively.
- All the brands were found safe to use and passed the critical tests for checking presence of heavy metals and microbiological activity.

WHAT IS A MOISTURIZER?

Moisturizers are classified as beauty products that are intended for hygiene, hydration and care of the skin. Water is often the main ingredient, which the skin absorbs and other ingredients retain. Naturally occurring skin lipids and sterols, as well as artificial or natural oils, humectants, emollients, lubricants, etc., may be part of the composition of commercial skin moisturizers.

DO THEY ALL WORK?

Dry skin is not a serious health problem. However, it can not only cause discomfort but also result in cracks and fissures that invite infection and inflammation.

Dozens of moisturizers or lotions are available on the retail shelves. Most of these flaunt a long list of ingredients including vitamins and minerals that may make a layperson think that using these products will nourish his skin or result in better complexion. However, in most cases, vitamins in moisturizers do not make much difference, either because the amounts used are too small to have much effect, or because the vitamins degrade with exposure to light and oxygen. Also, the fact to be remembered is that skin barely absorbs vitamins. In any case, vitamins help the body, including skin, only when they are consumed orally.

The best that a moisturizer can do is to help in treating dryness of skin, and one should not expect anything beyond that anyway. Dryness gets treated as moisturizer supplies a little bit of water to the skin and contains fatty substances that hold it in.



Comparative Test

BRANDS TESTED

Rank	Total Score out of 100 (Rounded off)	Brand name	Variant	Type	Manufactured/Marketed by
1	83	Dove	Deep Care Complex	Nourishment body lotion	Hindustan Unilever
1	83	Vaseline	Total Moisture	Moisturizer	Hindustan Unilever
1	83	Parachute	Deep Nourishing Milk	Body lotion	Marico
2	82	Boro Plus	Badam & Milk Cream	Moisturizer	Emami
3	78	Garnier	Body Cocoon	Intense moisturizing lotion	L'Oreal India
4	77	Olay	Moisturizing Lotion	Moisturizing lotion	Procter & Gamble
5	76	Nivea	Express Hydration	Body lotion	Nivea India
5	76	Lacto Calamine	With Kaolin & Aloe Vera	Daily nourishing lotion	Piramal Enterprises
6	74	Himalaya		Body lotion	The Himalaya Drug Company
7	70	Lotus Herbals	Sandal Screen	Sunscreen with moisturizing lotion	Lotus Herbals
8	69	Lakme	Peach Milk	Milk moisturizer	Hindustan Unilever
9	64	Vivel	Cell Renew	Moisturizer	ITC

Score Rating: >90: very good*****, 71–90: good****, 51–70: fair***, 31–50: average**, up to 30: poor*

PHYSICO-CHEMICAL TESTS

◆ Total Fatty Substance (Tfs)

Total fatty substance maintains and nourishes the dry skin and, hence, is one of the most important ingredients that determine the quality of moisturizers.

- The range of TFS was between 5.3 per cent and 27.85 per cent, with Vaseline containing the highest amount, followed by Boro Plus and Parachute. The lowest amount was in Lacto Calamine.

◆ Total Residue

Residues are the substances remaining after removal of water by the process of heating and evaporation.

- Vaseline contained the highest percentage of total residue and hence scored highest.



Brand→	Dove	Vaseline	Parachute	Boro Plus	Garnier	
MRP (Rs)/Volume (ml)	80/100	60/100	59/100	55/100	185/250	
Cost per 10 ml (Rs)	8.0	6.0	5.9	5.5	7.4	



◆ Water Content

Water in moisturizer helps to keep the skin smooth and soft, as well as radiant and healthy by retaining moisture in the outermost skin layer. Water is a major ingredient in moisturizer because it helps in mixing the ingredients and retains its homogeneity.

- A balanced quantity of water was found in Dove.

◆ Viscosity

Moisturizing creams and lotions are defined by their viscosity or thickness. Formulating moisturizing creams, therefore, largely depends upon the required end-product consistency, influencing the choice of material to use. One desirable factor (viscosity) in product development is having a product that easily squeezes out of a tube and breaks off cleanly after application.

- Olay was found to have the balanced/desired viscosity, followed by Boro Plus and Parachute. Lotus Herbals had the lowest viscosity.

◆ Thermal Stability

Thermal stability is the resistance to permanent change in properties caused solely by heat. As per IS requirement, skin cream should pass the test. There should be no separation of water from the lotion when tested in oven for a specified time and at the temperature as laid down in the IS.

- All the brands qualify the thermal stability test and were given equal scores.

◆ Gritty Matter (Skin Scratch Test)

This test is done to check the presence of solid particles in the skin cream.

- All brands passed this test.

HEAVY METALS

Heavy metals are metallic or chemical elements that have a relatively high density and are toxic or poisonous at high concentrations. This test was conducted to check presence of toxic metals like lead and arsenic. As per the IS and ECOMARK requirements, the limit for lead and arsenic is maximum 20 parts per million (ppm) and 2 ppm, respectively.

- All the brands passed the tests.

MICROBIOLOGICAL TESTS

Total viable count (TVC) should not be more than 1,000 cfu/gm in skin cream; gram -ve pathogens should be less than 10.

- All brands passed the tests.

GENERAL PARAMETERS

◆ Packaging

The moisturizer should be packed in a sealed container that keeps its contents safe from any deterioration. It should also be easy to use – the user should not struggle to get the liquid out of the pack. The packaging should not be deceptive either, wherein the pack might look large but has lesser quantity inside. Further, the material used should ideally be recyclable and reusable.

- Nivea scored the highest for its tamperproof bottle as well as for its easily reusable packaging.
- Lotus Herbal had the spray bottle, making it most convenient to use.

◆ Net Volume

Net volume of the material was measured by weight/volume of the sample and then compared with their declared values.

- Except Garnier, Lotus Herbals, Parachute and Vaseline, which were slightly lower than the declared values but within permissible error/ tolerance, all the other brands contained the product above their declared values.

	Olay	Nivea	Lacto Calamine	Himalaya	Lotus Herbals	Lakme	Vivel
	210/75	70/75	155/120	80/100	225/80	175/120	79/100
	28	9.33	12.92	8.0	28.12	14.58	7.9

Comparative Test

PHYSICO-CHEMICAL TEST SCORES

Brand →	% Weightage	Dove	Vaseline	Parachute	Boro Plus	
Parameter ↓						
Total fatty substance	12	6.32	12	10.16	11.09	
Total residue	12	10.68	11.71	8.47	11.03	
Water content	5	4.50	4.42	4.28	4.24	
Viscosity	6	3.6	4.50	5.55	5.70	
pH	3	2.70	2.81	2.69	2.71	
Thermal stability	4	4	4	4	4	
Gritty matter	3	3	3	3	3	

SENSORY TESTS

Sensory tests were conducted in a clinical research organization (CRO) to evaluate the application benefits of a topical moisturizer after two weeks of usage by adult women. We roped in volunteers to determine skin hydration through Corneometer and also the overall condition and appearance of skin through a self-assessment questionnaire on various parameters.

Approximately 150 volunteers were selected by the CRO and provided the masked and coded samples along with feedback questionnaires. Each sample was to be used by around 12 to 15 subjects (volunteers) regularly as per a predetermined method: the subject's ventral left forearm was washed with water and blot-dried gently with towel, and moisturizer was applied (2 to 3 drops on forearm) on first day. For universal spread of moisturizer, about five standardized circular hand movements were used.

The following attributes were judged by the volunteers:

1. Improvement in skin texture after application
2. Does the moisturizer absorb in your skin approximately after application?

3. Improvement in softness and suppleness of skin after application
4. Improvement in skin glow after application
5. Does your skin feel oily after application?
6. Rate moisturizer on the basis of keeping your skin hydrated for longer time after application
7. Does the moisturizer produce itching or burning feeling after application?
8. Fragrance of moisturizer after application
9. Rate as per convenience and easy use of packing of moisturizer
10. Rate the moisturizer based on above attributes for daily use



SENSORY SCORES

Brand →	Para-chute	Olay	Lotus Herbals	Nivea	Boro Plus	Garnier	Vivel	Lakme	Himalaya	Vaseline	Dove	Lacto Calamine
Score out of 15	11.50	11.35	11.29	11.16	11.15	11.11	11.04	11.01	10.82	10.77	10.72	10.71

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	Garnier	Olay	Nivea	Lacto Calamine	Himalaya	Lotus Herbals	Lakme	Vivel
	9.68	7.55	7.86	6.12	8.87	8.66	7.40	6.74
	7.41	5.99	6.73	8.64	5.79	5.92	5.19	4.15
	3.34	3.67	3.53	4.41	3.65	3.41	3.70	2.04
	5.40	5.80	3.74	3.33	4.57	2.1	3.44	4.46
	2.51	2.88	2.43	2.68	2.79	2.92	2.74	2.97
	4	4	4	4	4	4	4	4
	3	3	3	3	3	3	3	3

◆ Skin Hydration by Corneometer

The Corneometer is a scientific instrument for measuring skin hydration effect. For our tests on moisturizers, it was used to measure the skin hydration in arbitrary units (condition) prior to the use of test sample and then after 2 and 3 hours of application of test sample on Day 1, and after 2 hours of application of test sample on Day 7 and Day 14. Subject's ventral left forearm, where the moisturizer was applied, was utilized for the measurements. Corneometer measurements were taken in triplicate and the average of the three readings was used in the statistical analysis.



Brand	Day 1, after 2 Hours	Day 1, after 3 Hours	Day 7, after 2 Hours	Day 14, after 2 Hours	Score out of 20
Dove	19.16	17.51	23.36	27.66	19.6
Parachute	14.77	13.56	18.3	17.34	15.28
Nivea	7.46	6.94	17.63	20.24	14.25
Olay	13.02	9.33	16.29	15.69	13.46
Lacto Calamine	13.07	11.09	15.36	15.63	13.43
Garnier	9.33	8.05	17.55	16.29	13.3
Vaseline	8.84	6.28	13.45	15.09	11.62
Himalaya	6.69	6.35	13.86	15.31	11.49
Boro Plus	6.33	5.03	14.31	11.96	10.39
Lakme	5.54	2.23	12.16	12.64	9.5
Lotus Herbals	1.88	3.56	11.04	12.6	8.81
Vivel	2.52	2.48	9.39	9.81	7.39

- Dove showed the maximum difference from the baseline reading on Corneometer and hence scored highest. It was followed by Parachute and Nivea.
- Vivel showed the minimum difference, which meant very slight effect of the moisturizer on skin.