



Detergent Powders: Deciding the best for you!

Detergent powder is used for washing dirty clothes. They are available in both powder and liquid forms. There are grades specified in the national standard for detergent powders, based on active ingredients, detergency quality and environmental friendliness. Now, the question is, does buying a high-priced detergent powder guarantee cleaner clothes? Sure, they are all supposed to clean our clothes and if they do that effectively enough, what else are we supposed to know that should matter to us? Is it their chemical composition, their quality aspects, their implications for personal health, or their environment-friendliness?

The test report that follows will tell you how 13 regular-selling brands in the Indian market compare against each other. Is it all the same irrespective of price and positioning? Will the most expensive detergent brands also deliver the superior performance?

A Consumer VOICE Report

The objective of this comparative testing was to assess and evaluate the popular brands of detergent powders available in the market. This test program for Compar-

ative Testing (CT) was based on the Indian standard IS: 4955: 2020 specifications for household laundry detergent powder. There are 3 grades prescribed in this

standard based on the composition, quality as well as performance. The regular selling brands of detergent powder were identified and tested in an independent and NABL accredited laboratory.

The skin irritation & skin sensitization tests prescribed in the above Indian standard are to be ascertained by the manufacturers as they are expected to test safety of their formulation before releasing the product into the market. It is necessary that the raw materials used in the formulation of detergents are such that in the concentration in which they will be

present in the finished product, are free from any harmful effects.

Brands Tested

We purchased regular selling brands of detergent powder from retail markets for comparative testing. These were then tested in a NABL accredited laboratory as per Indian standard IS: 4955:2020 specifications for household laundry detergent powders. This report includes 13 brands of medium and economy category of detergent powders meant for washing machine wash & hand wash.

Rank	Score out of 100	Brand	Net Quantity, gm	MRP/Purchase price, Rs.	Manufacturer/ marketer
Medium Price Category					
1	92	Henko Stain Care	500	72	Jyothy Laboratories Ltd
2	90	Fena Impact Wash	500	55(Free Fena cake worth Rs.5)	Fena (P) Ltd.
3	89	Surf Excel Easy Wash	500	60	HUL Ltd.
4	88	Tide Plus Double Power Jasmine & Rose	500	57	P&G Ltd.
5	85	Nirma Blue	500	50	Nirma Ltd.
6	85	Ariel Perfect Wash	500	56	P&G Ltd.
Economy/Lower price category					
1	90	Rin	500	39	HUL Ltd
2	83	Fena Super Wash Germ Clean	500	32	Fena (P) Ltd.,
3	79	Active Wheel 2 in 1	500	31	HUL Ltd.,
4	79	Patanjali Herbal wash	500	30	Patanjali Ayurved ltd
5	79	Mr White	500	32	Jyothy Laboratories Ltd.,
6	76	Tide Natural Lemon & Chandan	500	39	P&G Ltd.,
7	70	Ghari	500	32	RSPL Ltd.

CV RECOMMENDATIONS

<p>Medium Price Category</p> <p>HENKO STAIN CARE</p> <p>Value For Money</p> <p>Fena Impact Wash</p>	<p>Economy /Lower Price Category</p> <p>RIN</p> <p>Value For Money</p> <p>Active Wheel 2 in 1</p>
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Key Findings

- Henko Stain Care and Rin are top performers and thus ranked No 1 in the medium and economy price categories of detergent powder respectively.
- Value for money brands in Medium price Category is Fena Impact Wash and in Economy /Lower Price category it is Active Wheel 2 in 1.
- In detergency (washing performance) test, Henko Stain care is top performer followed by Fena Impact wash and Surf Excel easy wash in medium price category.
- In detergency (washing performance) test of the economy price category, Rin performed the highest followed by Fena super and Tide Natural.
- Active ingredients were the highest in Henko
- Stain care followed by Fena Impact Wash and Surf Excel Easy Wash in the medium price category. In the economy price category, active ingredients were highest in Rin followed by Fena Super Wash and Active Wheel 2 in 1.
- The test findings reveal that the costliest detergents were found to be the better cleaners too.
- From a consumer's viewpoint, stain cleaning, mildness on hands, goodness for coloured clothes, fragrance, affordability, biodegradability and usability in washing machines are the most important factors.
- The Indian standard has defined three quality grades for detergent powder. None of the brands tested declared their grade on the labels, as Indian standard is voluntary.

Comparative Performance Score

		Medium Price category (Rs.55- 72)						Economy/Lower Price category(Rs.30-39)						
Brands Parameters	Weight-age %	Henko Stain Care	Fena Impact wash	Surf Excel Easy wash	Tide Plus Double Power	Ariel Perfect Wash	Nirma Blue	Rin	Fena Super Wash	Active Wheel 2 in 1	Patanjali Herbal Wash	Mr. White Ultimate	Tide Natural	Ghari
Active ingredients	20	19.56	19.54	19.22	17.81	15.38	17.16	17.96	16.26	16.21	15.87	15.95	13.42	12.15
Detergency	40	36.92	34.48	33.12	31.98	31.64	30.49	36.07	29.58	26.83	27.86	26.84	27.87	22.26
Ash built-up	10	8.00	9.50	9.55	10.00	9.30	10.00	8.75	9.15	8.00	6.45	7.70	6.05	6.75
Total phosphates	6	4.74	4.56	4.56	4.20	4.92	4.92	3.66	5.82	4.92	6.00	6.00	4.56	6.00
STPP	6	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Active Alkalinity	6	5.02	4.76	5.14	5.66	5.58	4.44	5.26	4.85	5.44	4.98	5.05	5.93	5.34
Physical observations	7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Packing	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Marking	3	2.5	2.5	2.5	3	3	2.5	3	2	2.5	2.5	2.0	3	2.5
Overall Score (Rounded off)	100	92	90	89	88	85	85	90	83	79	79	79	76	70

Rating: >90 – Excellent *****, 71-90- Very Good ****, 51-70- Good ***, 31-50- Average **, upto 30 – Poor*



Test Parameters and Results

Active Ingredients

The active ingredients used in the formulation of synthetic detergent powders shall comprise one or more of the surface active agents, namely, linear alkyl benzene sulfonate, secondary alcohol sulphate, fatty alcohol sulphate, fatty alcohol ethoxylate, salts of sulphated fatty alcohol ethoxylate, sodium alpha sulfo fatty acid esters, alpha olefin sulfonate, soap, sugar esters and other non-ionic detergents. Detergents have certain ingredients (known as 'active ingredients') that comprise one or more of the surface-active agents and are responsible for ensuring their cleaning performance. The national standard have specified different minimum active ingredient levels for the three grades of detergents:

Requirement:	Grade 1:19% min
	Grade 2:16 %min
	Grade 3:10% min

In the low price category, Rin had the highest active ingredients and Ghari had the lowest level of active in-

gredients. In the medium price category, highest active ingredients were found in Henko Stain Care followed by Fena Impact Wash and Surf Excel Easy Wash.

Percent Detergency Test

Detergency is the ability to clean or remove soil, generally associated with the action of a cleaning agent such as soap, detergent, alkaline salt. Detergency is the main performance test for detergent powder. As per the Indian standard, the percent of detergency is specified for detergent powders as below.

Requirement-	Grade 1- 65 min
	Grade 2 -55 min
	Grade 3-45 min

All the brands performed well in detergency test. In the medium price range, Henko Stain Care had the highest detergency followed by Fena Impact Wash and Surf Excel Easy Wash. In the low price category, Rin had highest detergency followed by Fena Super Wash and Tide Natural. Ghari had the lowest detergency among all the brands.

Ash Built-up

Sodium tripolyphosphate (STPP) is used in detergents as a 'builder' to soften the water. It prevents dirt particles from redepositing in the garment. However, the use of STPP is also associated with environmental hazards. We have considered a lower amount as better.

This test determines the built-up of ash on a fabric. Minimum the ash built-up/deposited on the washed fabric, the better powder. The Indian Standard has set the requirement as: 1 per cent maximum for Grade 1, 5 per cent for Grade 2, and 10 per cent for Grade 3.

Less ash built-up/deposited on the washed fabric, better the detergent powder is. Lowest ash built up was found in Nirma Blue followed by Tide Plus double power. It was highest in Tide Natural followed by Patanjali and Ghari.

Total Phosphates

Detergent powder shall contain 2.5% maximum phosphates as an ingredient. Alongside, as per the Ecomark criteria for detergent powders, material shall not contain any phosphate. Any substitute used for phosphate shall be environment-friendly but should be of sufficient quantity to ensure similar performance of the product as compared to a detergent with phosphate. The use of Zeolite, which is a non-phosphate based builder and use of co builders enzymes (bio-based actives) for detergent has been recommended as an alternative to phosphate based builder. Tri-sodium citrate has also been incorporated in list of conventional builders and additives since it has the potential to replace phosphates and is more environment friendly than the phosphates.



As per international practices, the level/quantity of phosphate has been drastically reduced and alternate substitutes have been found for satisfactory performance. BIS requirement for phosphate, for three grades, has been modified as 2.5 % maximum. All the brands were found to contain total phosphate within the specified limit (2.5% maximum). Phosphate was found between 'not detected to 0.14 %'. It was not detected in Ghari, Mr White and Patanjali brands and marginal in Fena Super Wash.

STPP (Sodium Tripolyphosphate)

In household cleaning products, sodium tripolyphosphate is used most widely as builder. In conjunction with surfactants, it allows detergents to perform efficiently in all washing conditions. Sodium Tripolyphosphate (STPP) was not detected in any brands tested.

Active Alkalinity

Alkalinity is added to many detergents in order to improve their cleaning efficacy. Since most dirt is acid, the alkalinity in the detergent makes it a good cleaner for common dirt. As per the Indian standard the Active alkalinity of detergent powder of Grade 1, 2, 3 should be as below:



Requirement: Grade 1-15 max
Grade 2 -20 max
Grade 3-30 max

Alkalinity was found between 5.6 to 18 ml, thus meeting the requirement of Indian standard.

Physical Observations

The material should be in the form of a free flowing powder, free from any unpleasant odour, and shall possess good lathering and cleaning properties. The synthetic detergent powders shall not cause any damage to the fabrics during wash. All the samples were free-flowing and odour was acceptable.

Net Weight/Quantity

Net weight should be as per declared quantity. Legal Metrology has prescribed limits/tolerance as per pack size. All the brands were found to have the declared quantity of detergent powder.

Packing

The packing should be capable of preventing any moisture absorption. For ECO Mark, the product should be packed in such packages which are made from recyclable/reusable or biodegradable materials

and declared by the manufacturer and may be accompanied with detailed instructions for proper use of product. All the brands were suitably packed in Thermo-plastic polypack.

Marking

Each package should be securely closed and marked with the following information:

- a) Name and grade of the material
- b) Indication of the source of manufacture
- c) Net mass of the material when packed
- d) Batch number or lot number in code or otherwise
- e) Month and year of manufacture
- f) MRP
- g) Standard mark
- h) Critical ingredients in descending order of quantity (Active ingredients, Builders, Soda ash, Fillers and Enzymes)
- i) Instructions for use
- j) A cautionary notice: Detergent solutions can be skin irritants. Avoid prolonged contact. Rinse garments and hands thoroughly.
- k) Direction for use

The products under test were checked against the marking requirements of Indian standard. It was found that ‘Best before’ use was not marked by nine brands. A cautionary notice: “Detergent solutions can be skin irritants. Avoid prolonged contact. Rinse garments and hands thoroughly” was not marked by any brand.

Conclusion

Indian households use different brands of laundry detergent powder or liquid detergents. There are premium/high priced detergent powders for washing machine uses and medium and economy/lower priced detergent powders for machine/hand washing. Consumer VOICE tested 13 brands of detergent powder and rated them not just according to their washing performances but also according to how environment-friendly they were, and how much value for money they gave.

The test parameters were adopted from relevant Indian standard of Bureau of Indian Standards (BIS), the na-

tional standards-setting body. Detergent powders costs between 45 to 245 rupees for a kilogram therefore we categorized them according to their price in three categories. The comparative testing of all the brands was based on the requirements of Indian standard IS: 4955: 2020. The Indian standard has categorized laundry detergent powder in three grades Grade 1, 2 and 3 according to their performance, quality and environmental friendliness but none of the tested brand marked grade. The performance test (Detergency) is the ultimate requirement from the customer’s point of view where Henko Stain Care was the top performer in the medium price category and Rin in the lower price category.

If we consider how well detergents wash dirt or clean stains, test findings reveal that the costliest detergent powders were the better cleaners. The ‘detergency’ test established how well detergents can remove dirt from soiled fabrics.

Some Useful Tips for Users

Is powder or liquid laundry detergent better?

This really depends on the type of stain you are dealing with, the characteristics of your washing machine and personal preference.

Detergent Powder

Powders are for general soil and stain-removal performance. We found that powders perform best on fresher stains, which are what you will usually be dealing with in your own laundry, but they generally worked very well on the tough, ground-in stains of our test materials.

Which kind of laundry detergent is best for sensitive skin?

If you suffer from sensitive skin, then using the wrong laundry detergent can leave you feeling very itchy indeed. Perfumes and colourings in regular detergents don’t make a difference to cleaning.

Should I wash my clothes in warm or hot water?

Generally, there’s an overall benefit to washing in warm water, but it really depends on the type of stains you are trying to remove. Some detergents are also designed for and perform better in cold water.

Cold wash benefits

Washing in cold water is a great way to reduce your energy consumption and save yourself some cash. Periodically selecting a warm or hot wash instead of cold can help keep your machine’s internals at their clean and shiny best.