

# ONE, TWO... EIGHT ENZYMES IN ONE DETERGENT

Two proteases, two amylases, two cellulases, one lipase, one mannanase, all in one detergent formulation – Danlind’s Total is the world’s first detergent with eight different enzymes. Danish consumers can now pick up Total as a powder, liquid, or laundry tablet for both whites and colors from the shelves of a Dansk Supermarked store.



## TOTAL – LET ENZYMES DO THE WORK

### THE ENZYMES INCLUDED IN TOTAL ARE:

- Polarzyme® A protease for efficient stain removal and cleanliness at low temperatures.
- Ovozyme® A protease specifically engineered to resist protease inhibitors in eggs. Highly efficient at low dosages.
- Termamyl® An amylase for robust starch removal and whiteness and high performance at medium to high temperatures.
- Stainzyme® A third-generation amylase for high-performance removal of the most challenging starch-based stains. Efficient at low temperatures and short cycles.
- Lipex® A lipase for effective fatty stain removal during the first wash, ensuring in-depth cleaning by removing fatty soils lodged between textile fibers.
- Celluzyme® A robust cellulase under demanding wash conditions, delivering general cleaning and fabric care.
- Celluclean® A cellulase that provides superior whitening maintenance and anti-graying effects while preserving brightness in colored and contrasts in striped clothes.
- Mannaway® A mannanase for removal of mannan stains, offering in-depth cleaning.

Total is on the verge of being a success story like Danlind’s cold-wash product CARE®, which entered the market as a cold-wash detergent a few years ago. Based on the same formulation as CARE, Total kicks it up a notch and goes from containing four enzymes to eight.

“The reason for using so many enzymes was to boost performance. When we came out with CARE, all our claims were green and now we have mechanical claims that have to do with giving consumers the best cleaning, smell, and whiteness,” says Dorthe Lund, Sales Manager at Danlind.

### Bioinnovate the old detergent

The formulation base used to develop Total was reformulated to contain no phosphates, new surfactant and builder systems, and enzymes to ensure satisfactory wash performance at low wash temperatures.

“We’re setting a world record here,” says Claus Ladefoged, Senior Account Manager at Novozymes. “Total confirms that you can replace chemical ingredients with a multienzyme solution

without compromising performance. I believe Total will show other detergent manufacturers that adding more enzymes to their formulations is the way forward for the detergent industry.”

### Stains are complex

The stains that keep consumers up at night today are different from the stains that plagued us 20 or even 10 years ago. Stains are less motor oil based and more food based as consumers are eating more partially or fully manufactured foods that usually contain thickeners.

“With Total we wanted to boost the overall performance and also show effect on new types of stains that can be removed by enzymes,” says Henrik Jørgensen, Laboratory Manager at Danlind and the brains and brawn behind Total.

“Mannaway® is of interest here as it takes care of stains from chocolate ice cream, baby food, desserts, thickeners, and other such food products. Celluclean® is part of the formulation because it prevents backstaining, especially on polyester fabrics, and improves overall whiteness.”

### Totally impressive

Total is advertised by Dansk Supermarked to be tough on stains and easy on the nose. Danlind and Dansk Supermarked have been candid about the source of the high performance of Total by listing all eight enzymes and their benefits on the packaging itself.

“We appreciate the value of the Novozymes brand in ensuring consumers that Total is an efficient detergent, containing what we believe are the best enzymes on the market,” says Ilse Corneliussen Skannerup, Product Manager for Washing and Cleaning, Dansk Supermarked. “The mix of eight enzymes is a perfect match to what Total stands for – the idea that whatever the washing problem might be, Total is expected to solve it.” ■

### FOR MORE INFORMATION

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