

**Humens**  
Novabion

## Laundry & automatic Dishwashing detergents

Nabion® 15 & Nabion® 26



[www.humens.com](http://www.humens.com)

# Nabion® 15 & Nabion® 26, builders for detergents

- Laundry & automatic dishwashing

At Humens, we focus on quality to gain your satisfaction.

## Dust free white granules for post addition and dry mixing processes

- White granules
- Bulk density from 0.8 to 1 g/cm<sup>3</sup>
- Mean diameter 800-1000µm
- Dust free granules (< 200µm: < 4%)
- Resistant to attrition
- Good flowability
- No caking and no segregation
- Insolubles < 1%
- Labelling: Nabion® 15 - Nabion® 26



## Fast dissolving builder

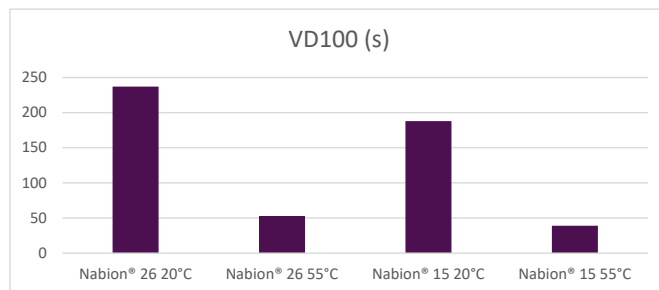
Because Nabion® is readily and totally soluble in water at low washing temperatures, Nabion® is designed for the formulation of short wash cycle detergents. Nabion® has no negative impact on the environment and does not generate sludge in waste water due to its high solubility.

## High alkalinity

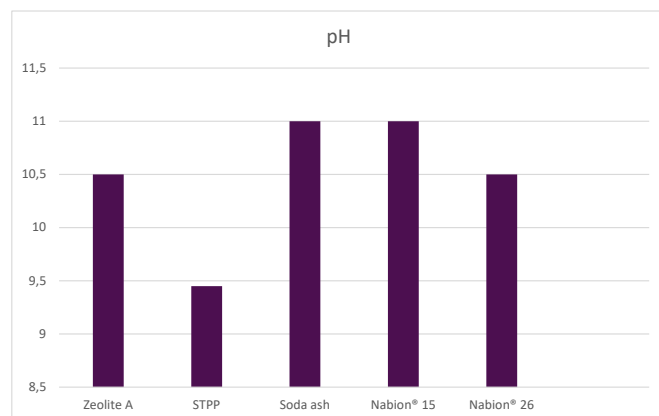
The high alkalinity of Nabion® enhances soil removal in automatic dishwashing and laundry detergents. Thanks to its labelling, Nabion® 26, as a non corrosive builder, offers more flexibility in the formulation in respect of consumers safety.

*Test conditions: Concentration= 1,75g/L  
Water hardness 30°TH*

## Dissolution rate



*Test conditions: 1g/L in 0°TH water hardness, stirring rate 500rpm, measured by conductivity*

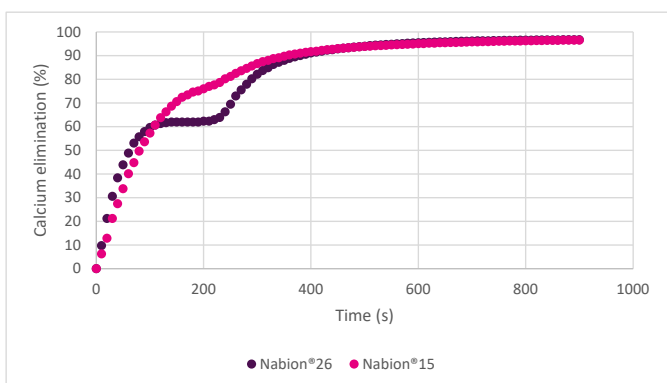




## Fast and complete calcium elimination

A fast and high calcium elimination sets Nabion® as a performing alternative to phosphate and/or zeolite builders. Thanks to its dispersing power, Nabion® does not lead to calcium carbonate precipitate, responsible for mineral incrustation.

*Test conditions: 1g/L in 40°TH water hardness, stirring rate 300rpm, T=20°C, measured by Ca-ion specific electrode*



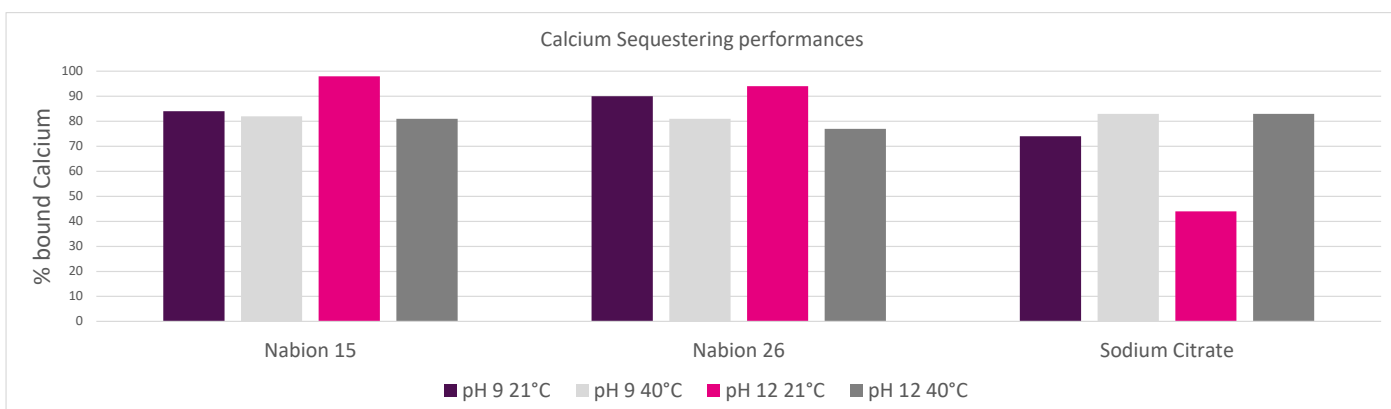
### Ca and Mg elimination

Product	Ca elimination mg Ca/g	Mg elimination mg Mg/g
Nabion® 26	220	90
Nabion® 15	220	90
STPP	110	65

Furthermore, Nabion® is an efficient alternative to sodium citrate for sequestering calcium.

*Test conditions: 1g/L in water containing 400ppm of calcium (similar to very hard water), stirring rate 300rpm, pH and temperature monitored, measured by Ca-ion specific electrode*

	pH 9		pH12	
% bound Calcium	21°C	40°C	21°C	40°C
Nabion® 15	84	82	98	81
Nabion® 26	90	81	94	77
Sodium Citrate	74	83	44	83



# Nabion® 15 & Nabion® 26, builders for detergents

## • Laundry detergents

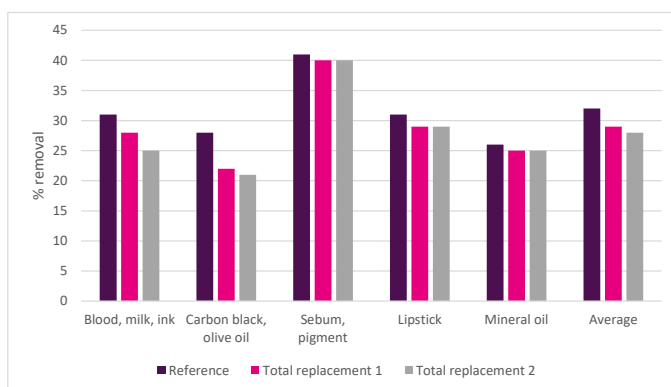
For laundry detergents, the builder system represents about 40-60% of the formulation. It has to soften the water by removing Ca and Mg ions, to provide alkalinity as the pH of the wash liquor is a crucial factor impacting the washing efficiency, and to prevent redeposition of soils on fabrics. Owing to the decrease of washing temperature and water consumption as well as shorter washing cycles, the builder system has to be totally water soluble in a short dissolution time with a high Ca and Mg sequestration capacity. The trend to more synthetic, colored and fragile fabric requires as well a good balance in alkalinity to prevent damages on fabric.

## Detergent powder formulation: partial and/or total replacement of STPP

Nabion® is a multi-functionnal builder with fast kinetics. As such, it can replace STPP inducing cost-saving without degrading the detergency performance:

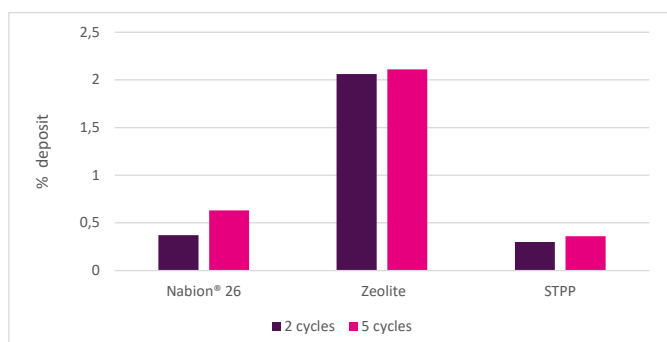
- Comparable performance with regards to color fading and washing performance
- Better performance with regards to mineral incrustation and loss of whiteness

Formulation	Ref.	Total replac. 1	Total replac. 2
STPP	20%	-	-
Nabion® 26	-	20%	20%
Phosphonate	1.5%	1.5%	-
Soda ash	5%	3%	3%
Sodium silicate	8%	2%	2%
Formulation cost variation	-	-20%	-20%



## Mineral incrustation test

- The lower the amount of ashes (%), the better the results
- Nabion® 26 and STPP show similar values of mineral incrustation



Test conditions: 3 formulations with 20% w:w builder

### W12A (Terry cotton) - % ashes or % mineral deposit

Product	2 cycles	5 cycles
Nabion® 26	0.37	0.63
Zeolite	2.06	2.11
STPP	0.30	0.36

### CN11N (Flat cotton) - % ashes or % mineral deposit

Product	2 cycles	5 cycles
Nabion® 26	0.17	0.41
Zeolite	0.55	0.78
STPP	0.16	0.19

# Nabion® 15 & Nabion® 26, builders for detergents

• ADW Detergents

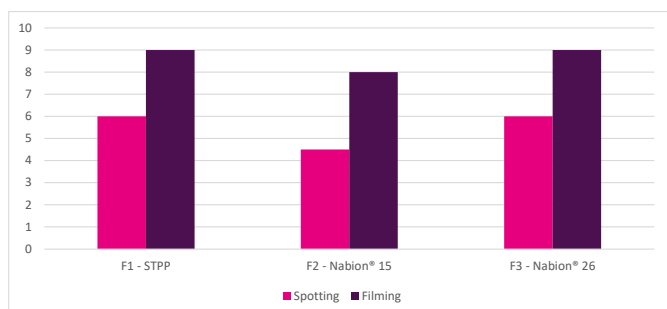
## Optimum efficiency

A dishwashing detergent has to remove soil from the items such as glassware and dishes. It has to reduce water hardness by binding ions such as calcium and magnesium. But, to get an optimum efficiency, it must prevent corrosion, the most important being glass corrosion. The Nabion product range can be powerful in dishwashing formulation. It has excellent washing properties due to its alkalinity. It can bind an important level of calcium and magnesium to reduce lime deposit and glass corrosion or damage on decorated porcelain.

## Filming/spotting

Test conditions: 50g of soil (egg, mustard, ketchup, butter, milk), detergent dosage: 20g, 10 complete washing cycles.

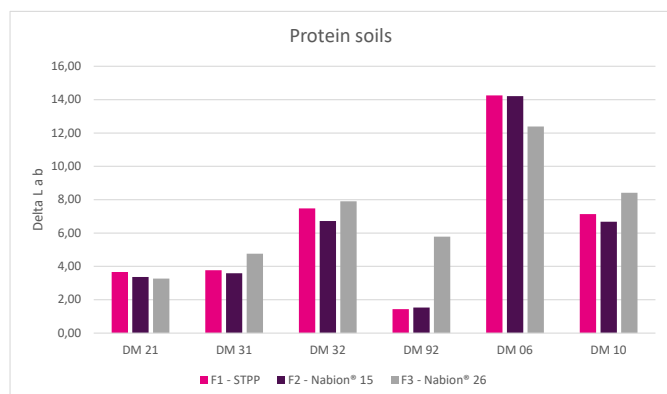
Score: the higher the better (spotting: 7=no spot, filming: 10=no film)



Builder formation (weight %)	F1	F2	F3
STPP	50	0	0
Nabion® 15	0	50	0
Nabion® 26	0	0	50
Soda ash	15	10	10
Acrylic/maleic polymer	3	6	6
Phosphonate	0	2	2
Sodium sulfate	10	10	10
% in the ADW formulation	78	78	78

## Cleaning

Test conditions detergent dosage: 20g/cycle  
1 complete washing cycles (55°C)



DM21 : Egg/Yolk

DM31 : Egg Yolk /M

DM32 : id DM 31 (double load)

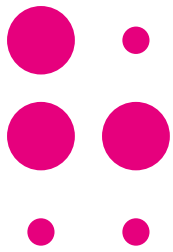
DM92 : Minc. Meat (2x)

DM 06 : B/O Cheese

DM 10 : Crème brûlée



Raw material verified by ECOCERT  
GREENLIFE, conform to the "NATURAL  
DETERGENTS AND NATURAL  
DETERGENTS MADE WITH ORGANIC"  
Standard



**Humens**  
the purity makers



## Our company

### Historical know-how

Humens produces sodium-based mineral compounds. Our company has a production history that goes back more than 160 years at our La Madeleine plant in Laneuveville-devant-Nancy, France. Our products are made from two high purity natural mineral raw materials extracted in the Lorraine region: limestone from our Pagny-sur-Meuse quarry and salt from our Lenoncourt salt field. From local to global player, Humens set up a greenfield sodium bicarbonate unit in Singapore in 2016.

### Shared goal for product quality

Humens is a state-of-the-art company with 400 skilled and committed employees. We have been passionate about products purity and satisfying our customers' needs since our industrial activities were launched in 1855.



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