

Humens
Novabion

Laundry & automatic Dishwashing detergents

Nabion® 15 & Nabion® 26



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

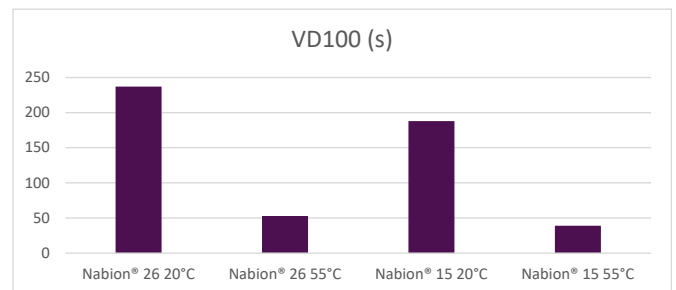
- White granules
- Bulk density from 0.8 to 1 g/cm³
- Mean diameter 800-1000µm
- Dust free granules (< 200µm: < 4%)
- Resistant to attrition
- Good flowability
- No caking and no segregation
- Insolubles < 1%
- Labelling: Nabion® 15 - Nabion® 26



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.

Dissolution rate

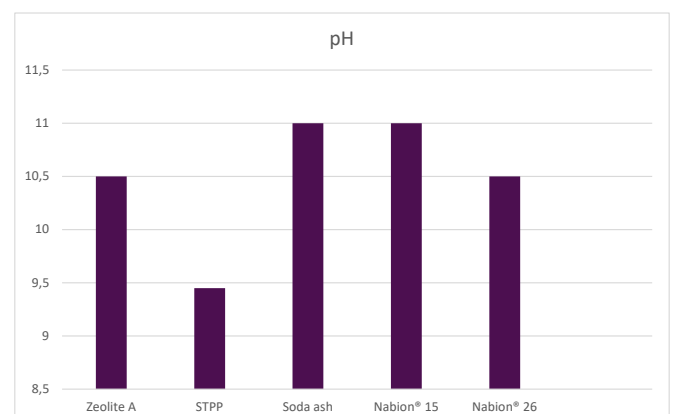


Test conditions: 1g/L in 0°TH water hardness, stirring rate 500rpm, measured by conductivity

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

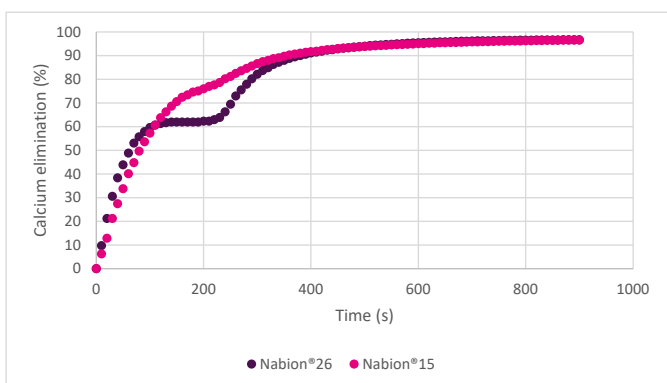




Fast and complete calcium elimination

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



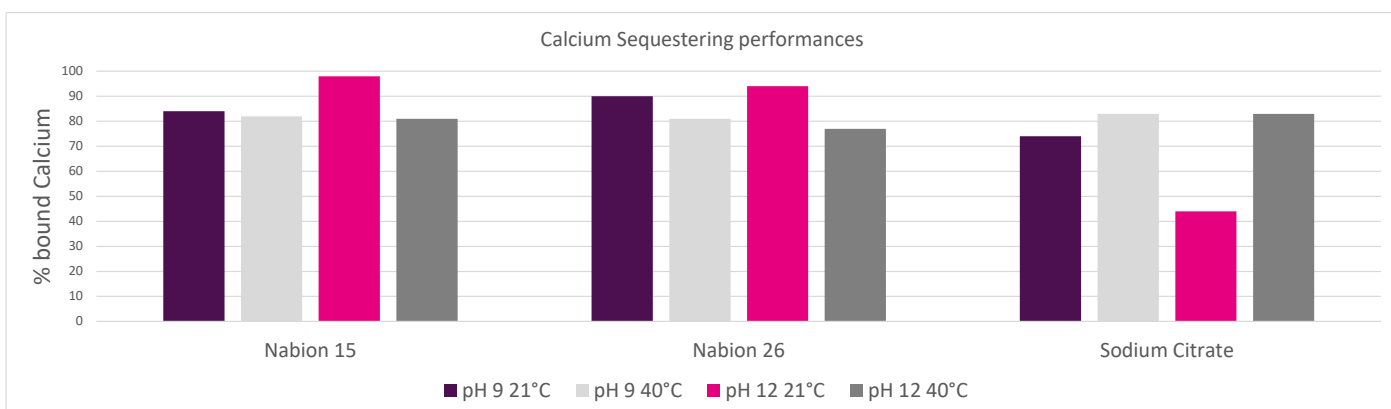
Ca and Mg elimination

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

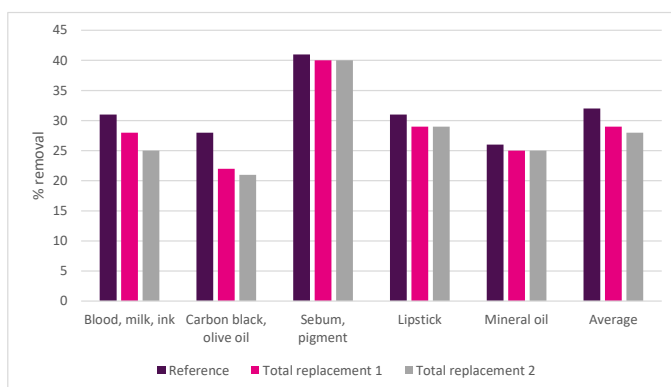
For laundry detergents, the builder system represents about 40-60% of the formulation. It has to soften the water by removing Ca and Mg ions, to provide alkalinity as the pH of the wash liquor is a crucial factor impacting the washing efficiency, and to prevent redeposition of soils on fabrics. Owing 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:

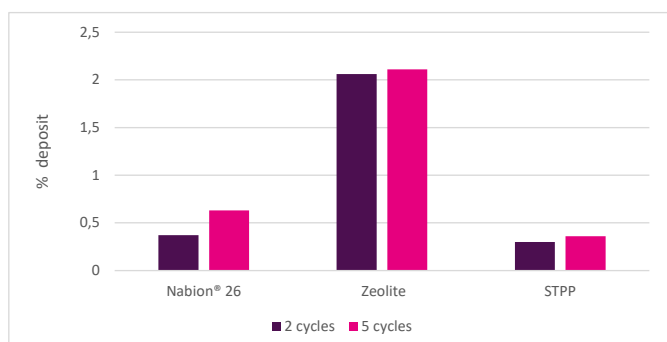
- Comparable performance with regards to color fading and washing performance
- Better performance with regards to mineral incrustation and loss of whiteness

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

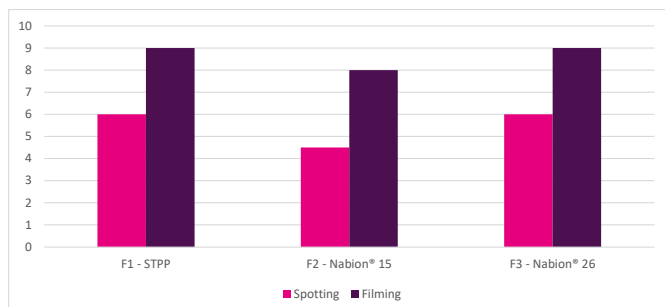
Optimum efficiency

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.

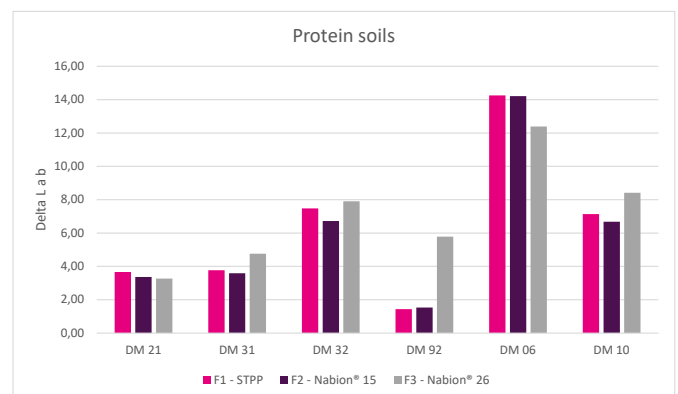
Score: the higher the better (spotting: 7=no spot, filming: 10=no film)



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



Système de management
ISO 9001:2015
ISO 14001:2015
www.tuv.com
ID 9105061011



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



Our company

About Humens

The Humens Group, which includes Novabay, Novabion and Novacarb, produces sodium-based mineral additives such as sodium carbonate, sodium bicarbonate, sodium silicate, and Nabion®. As a leader in this industry, we serve pharmaceutical, health, food, animal feed, environment, industries, homecare and personal care markets around the world. 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.

About Novabion

Based on more than 50 years of experience with alkali silicates and co-granulation processes for the detergent industry, we offer partnership and close cooperation to our customers' projects. Our lab is dedicated to the laundry and automatic dishwashing detergents and provides technical support in chemical and physical analyses, granulation, formulation and washing performance evaluation. Novabion is the right partner to fulfill your expectations and to go along with your development.

Humens

21 Quai Antoine Riboud
69002 Lyon - France

Novabion

13 rue du crochet,
02310 Nogent l'Artaud - France



Contact us

www.humens.com

contact@humens.com

