Mühlenchemie
Understanding Flour

Boosting the Cake Flour Performance

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Cake Flour

- Milled from soft wheat, patent flour or straight grade.
- Low ash, low protein wheat flour (about 7-8.5% crude protein)
- Can be bleached with benzoyl peroxide and/or chlorinated.
- Gives a fine, soft and good structure final product.
- Used in various type of cakes such as:

  chiffon cake, sponge cake, butter cake, muffins, brownies, cupcakes and festive cakes

Enzymes for Cake Flour:

- Alphamalt Cake Booster
- Alphamalt Fresh Cake Plus 24052
- Alphamalt PLP 21159

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Alphamalt Cake Booster

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Alphamalt Cake Booster

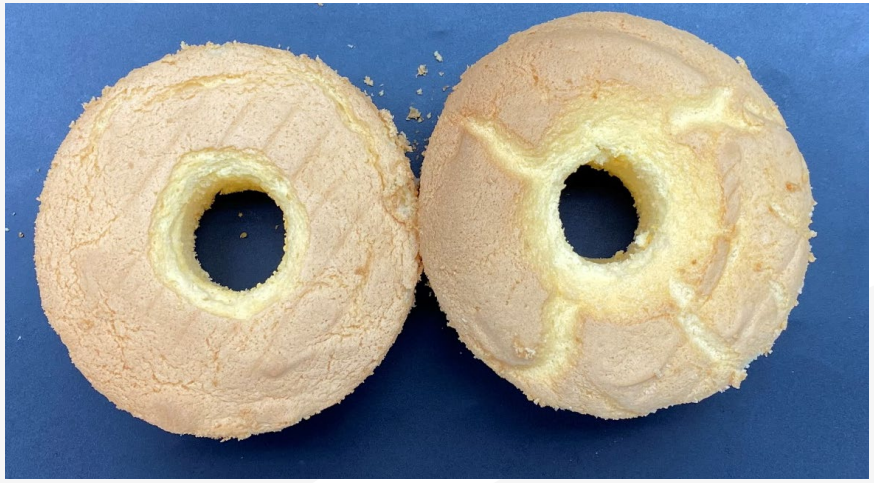
- Alternative for chlorinated cake flour.
  - Suitable for cake made from low to medium protein flour, achieving the quality comparable to low protein chlorinated cake flour.
  - Helps increase the volume, batter stability, crumb structure and eating quality.
  - Gives a softer crumb texture with improved melt-in-the-mouth property.
  - Clean-label.
- It is a compound that consist of enzymes and reducing agent.
- Recommended dosage: 100-150ppm based on flour weight

Chiffon cake application

Cake Flour

Control
Chlorinated cake flour

Alphamalt Cake Booster
Unchlorinated cake Flour



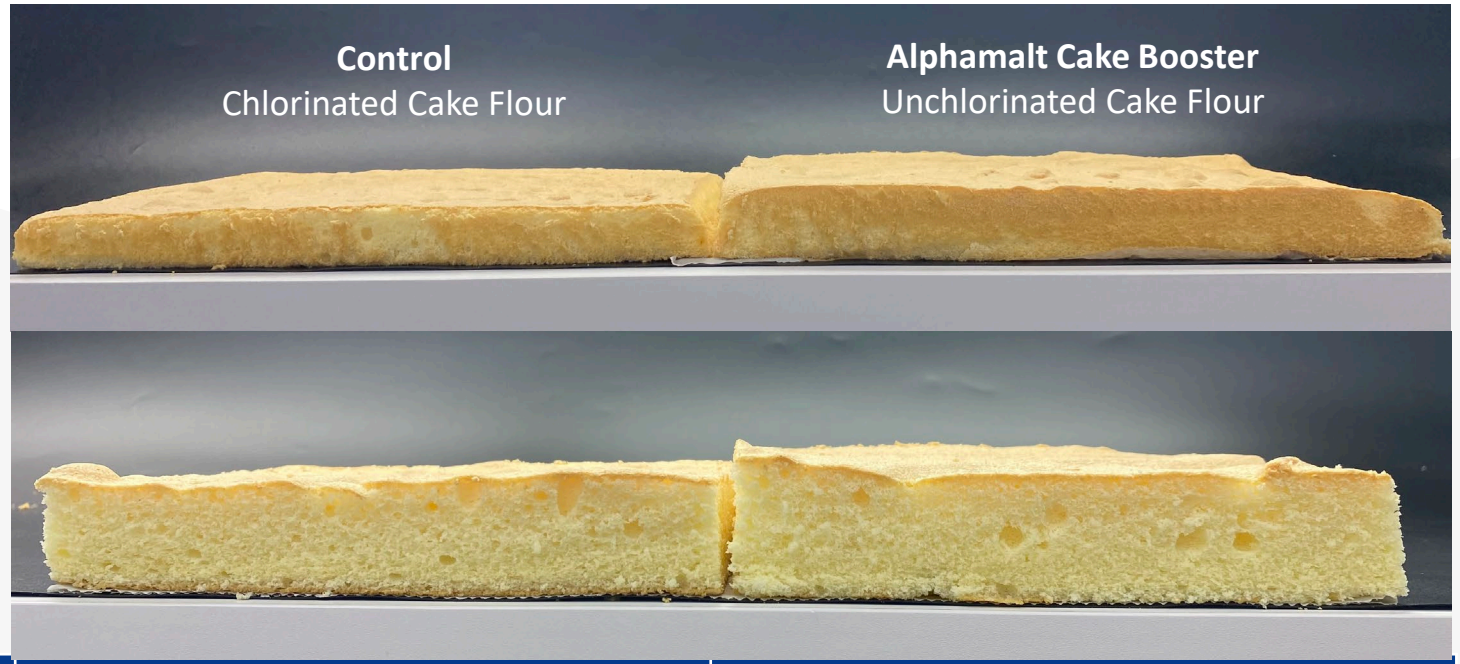
	Control	Alphamalt Cake Booster
Cake Flour	Chlorinated	Unchlorinated
Specific Gravity	0.39	0.37
Cake Height	6.6	7.6
Appearance	Yellow crumb color	Bright yellow crumb color
Mouthfeel/Softness	Soft	Soft and fluffy

Control
Chlorinated Cake Flour

Alphamalt Cake Booster
Unchlorinated Cake Flour

Chiffon cake application

Cake Flour



	Control	Alphamalt Cake Booster
Cake Flour	Chlorinated	Unchlorinated
Specific Gravity	0.40	0.38
Cake Height, cm	2.72	3.31
Appearance	Yellow crumb color	Bright yellow crumb color
Mouthfeel/Softness Day 3 evaluation	Slightly crumbly	Soft and fluffy

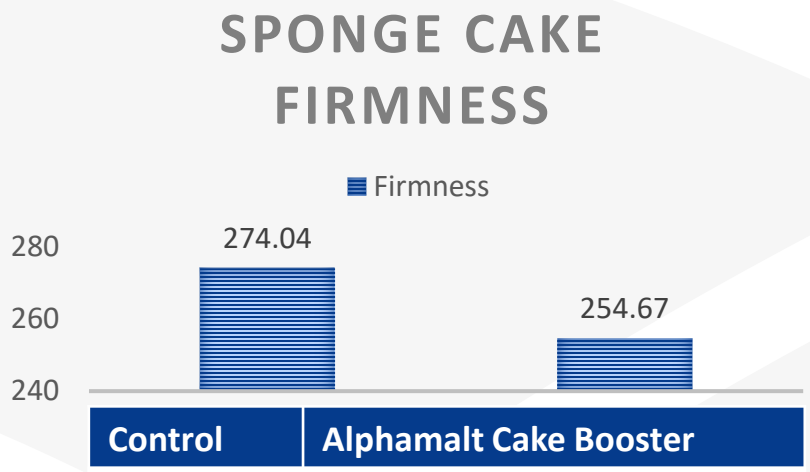
Sponge cake application

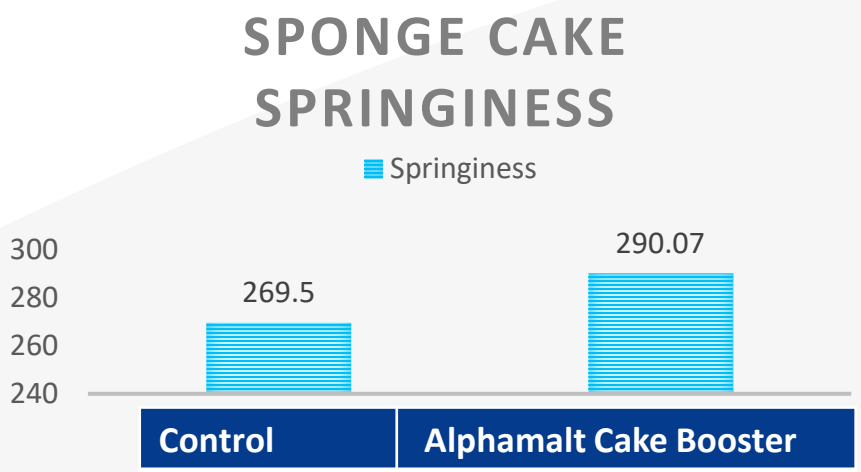
100% Soft Wheat Flour

	Control	Alphamalt Cake Booster
Appearance	Even grain structure Symmetrical Flat surface	Fine and even grain structure Symmetrical Dome shaped
Eating Quality after 3 days evaluation	Slightly crumbly	Soft and better melt-in-the-mouth texture

Sponge cake application

100% Soft Wheat Flour





- Texture analysis done on Day 3

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Alphamalt Fresh Cake Plus 24052

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Alphamalt Fresh Cake Plus 24052

- Fresh keeping enzyme/ anti-staling enzyme for cake.
  - The cake structure is less crumbly.
  - Keeps the softness and moistness of cake over a longer period.
  - Keeps the quality of packed cakes during shelf-life.
- No effect on mold growth/functionality of preservative.
- Alpha-amylase with moderate heat stability and increased tolerance to a high fat and sugar content, supplemented with lipase side activity.

Alphamalt Fresh Cake Plus 24052

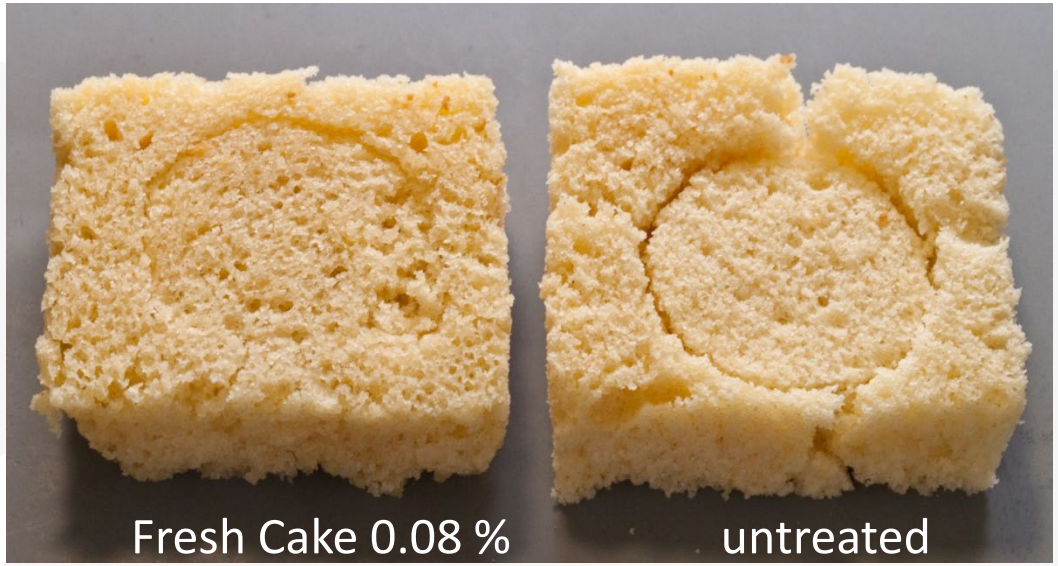
- Suitable for industrial cake applications.
- Recommended dosage:
  - Chiffon: 150-200 ppm
  - Sponge cake, pound cake, brownies, muffins: 350-450ppm
  - Butter cake: 450-550ppm

** Long shelf-life cakes may require higher dosage.

Sponge cake application

Cake Flour

Pound cake application



Texture analysis after 2 weeks storage resulted in a broken crumb for pound cake without enzymes whereas the crumb of cake with **Alphamalt Fresh Cake Plus 24052** remained elastic

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Alphamalt PLP 21159

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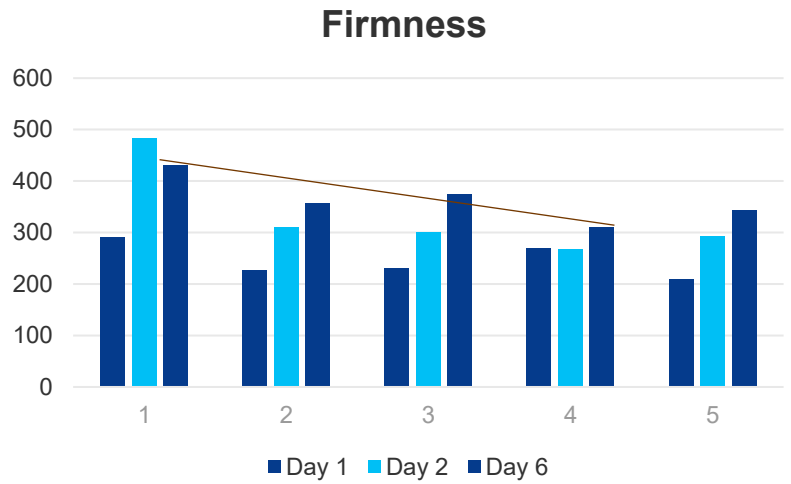
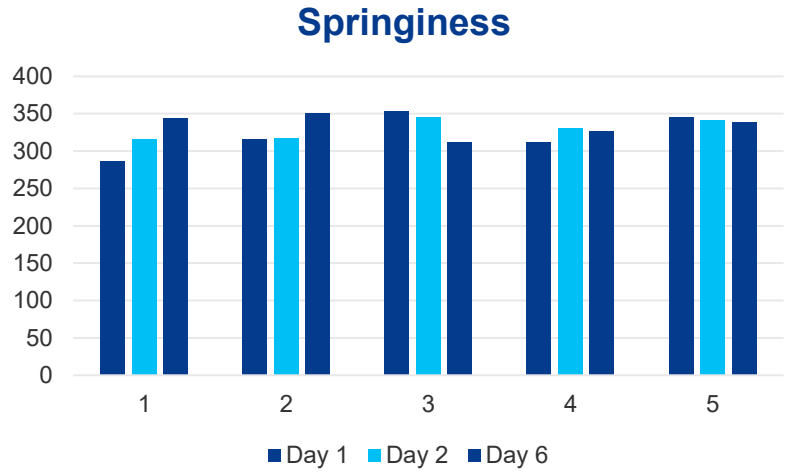
Alphamalt PLP 21159

- Lipase catalyses the partial hydrolysis of polar lipids. This results in more polar lipids with improve emulsifying properties.
- Improves the cake volume and batter stability.
- Suitable in industrial cake applications.
- Recommended dosage: 10 ppm based on flour weight.

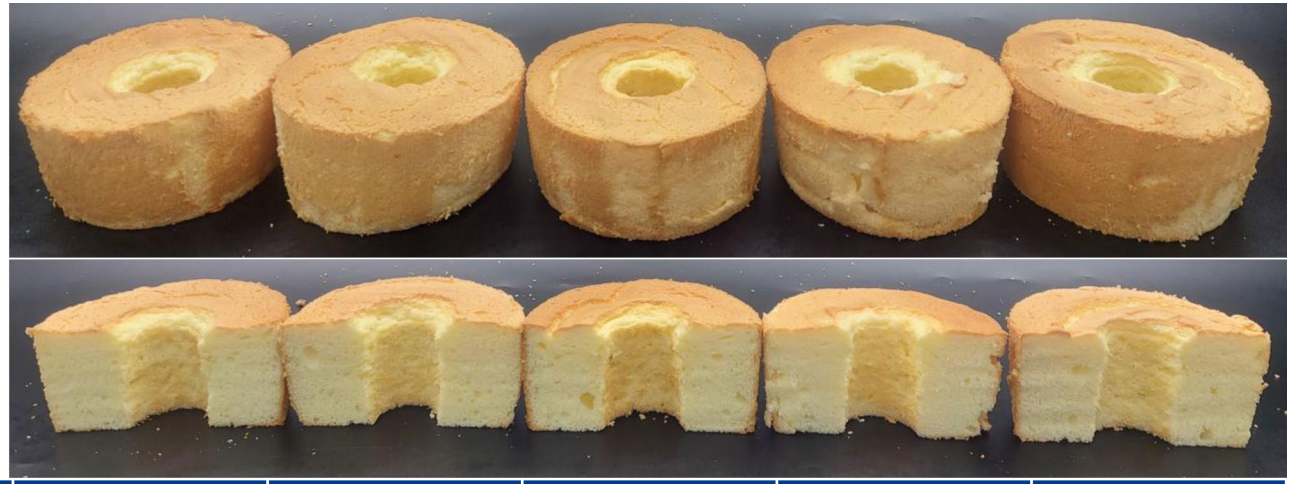
Sponge cake application

ppm/cm	1	2	3	4	5
Fresh Cake	-	200	300	700	200
PLP 21159	-	-	-	-	10
Center height	7.1	6.4	6.0	5.6	7.0
Edge height	5.8	5.1	5.3	5.5	5.8

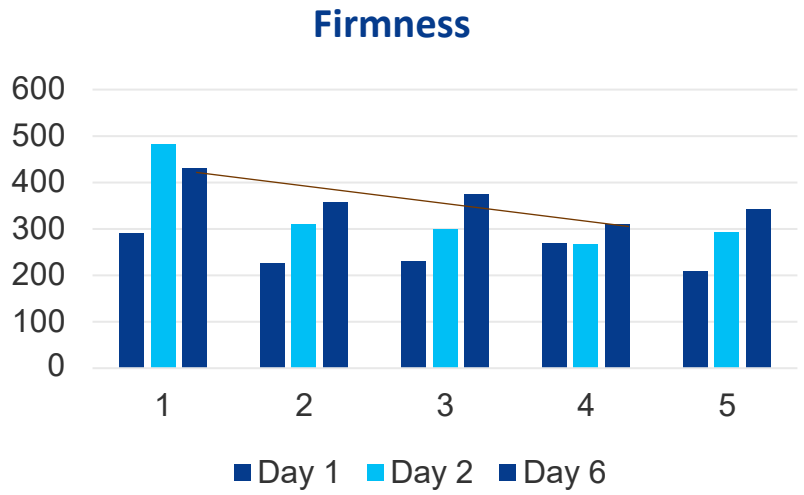


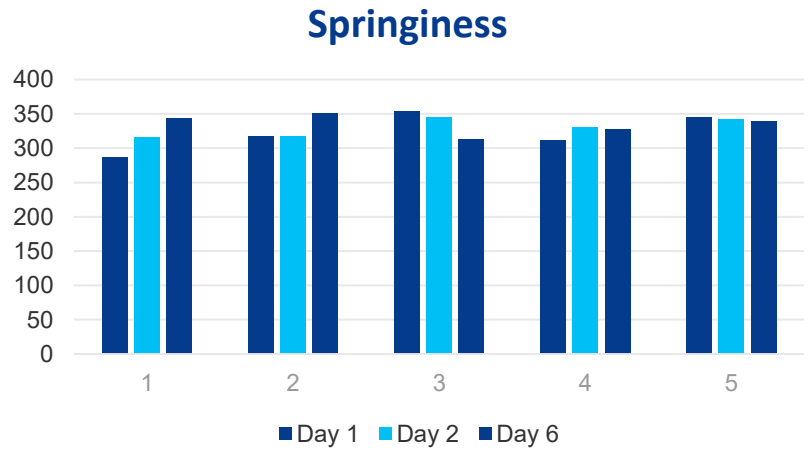


Chiffon cake application



ppm/cm	1	2	3	4	5
Fresh Cake	-	100	200	400	200
PLP 21159	-	-	-	-	10
Center height	6.4	6.7	6.4	6.7	7.1
Edge height	6.1	6.7	6.7	6.7	7.1





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Thank you for your attention!

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