

NUTRITION

MUFFINS

A muffin is a chemically-leavened bakery product characterized by its typical cup-shape form. Many variations include tasty mix-ins such as fruits, chocolates, nuts or different spices.

*The recipe of a muffin is quite similar to this of cake, though the **amount of fat and sugar is lower.***



*Muffins are produced by **mixing** the dry and wet ingredients **separately.** The total mixing time is **short** resulting in a more dense consistency.*

CHALLENGE

Although muffins are often believed to be a healthier snack option, the industry continues to strive for further reduction of sugar and fat levels in baked goods. The volatility of ingredient pricing and availability is a trigger for reformulation and cost optimization while maintaining the same quality.

WE KNOW IT'S MORE THAN MUFFINS



Increased **aeration & volume**



Uniform **air distribution**



Prolonged **softness**



Improved **batter stability**



APPLICATION TEST



Formulation (on 100% flour)

INGREDIENT	REFERENCE	TEST
Flour	100%	
Oil	57.1%	50% reduction
Eggs	28.6%	50% reduction
Water	38.6%	
Sugar	77.1%	30-50% reduction
Leavening agent	1.9%	30-50% reduction
Salt	1.4%	
Activated emulsifier	3%	5-8%

Contains 26% emulsifier
(60% Radiamuls MG 2918K & 40% Radiamuls Poly 2247K)

Results



Conclusion

Increasing the amount of activated emulsifiers allows to reduce either the eggs or the oil by 50% and the leavening agent by 30%. Reducing sugar seems more challenging and results in a muffin with a lower height.

OUR SOLUTIONS

- » **Mono- and diglycerides**
Radiamuls MG 2918K, 2910K, 2903K
- » **Polyglycerol esters**
Radiamuls Poly 2247K
- » **Sodium stearoyl lactylate**
Radiamuls SL 2990K

