

# GMS® Hydrated Emulsifiers

An ENSEMBLE™ non-PHO Solution



- ▶ Best solution for no-time dough systems
- ▶ Drop-in functionality
- ▶ Improves crumb grain
- ▶ Enhances softness

When it comes to removing partially hydrogenated oils from formulations, it's not enough to just substitute a non-PHO option. You deserve more. That's why Corbion created ENSEMBLE - the full line of non-PHO emulsifiers that knows how to play together, right from the first note.

### Drop it in. Move on.

Corbion experts have re-engineered our popular emulsifier portfolio with one goal in mind: provide non-PHO options that deliver drop-in ease while maintaining flavor, texture, quality, ease of handling and shelf stability.

The result? ENSEMBLE non-PHO emulsifier solutions minimize reformulation hurdles and operational disruptions, allowing you to simplify and streamline formulation efforts.

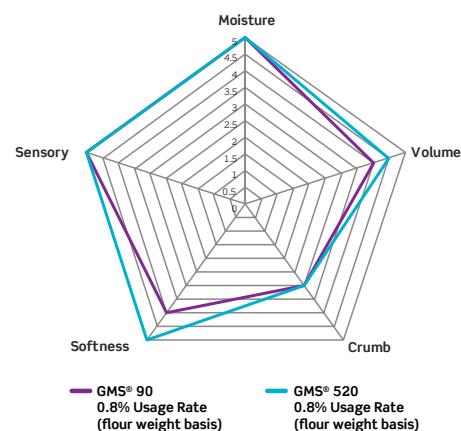
### Short mixing time? Quick Solution.

When a powdered monoglyceride isn't fast enough, try Corbion's GMS product line. These hydrated monoglycerides deliver the power of a powder, in a fraction of the time. Provided in an easy-to-disperse, pumpable paste, they are ideal for no-time dough processes. GMS can eliminate the time-consuming sponge stage, or applications with short mixing times.

Want more advantages? GMS® 520 and GMS® 540 offer the same handling and quality as their PHO counterparts (figure 1 and 2). As demonstrated in figure 2, GMS® 540 can even outperform its PHO counterpart at a 20% reduced usage rate, saving you time and reducing your cost in use. Lower usage rates. Lower costs. Better results!

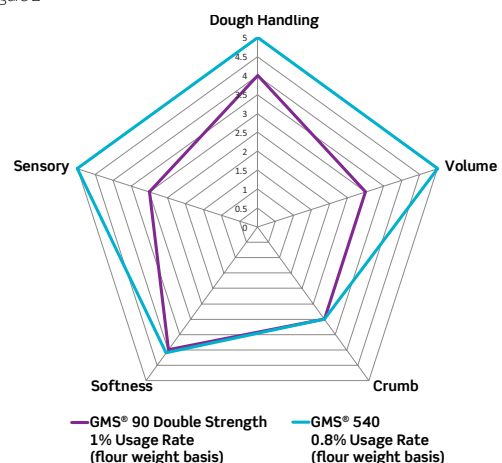
### Functionality assessment of GMS® 520 No-time dough

Figure 1



### Functionality assessment of GMS® 540 No-Time Dough

Figure 2



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## Double the options. Double the strength.

GMS products utilize a hydration process that creates a monoglyceride with a higher surface area than powdered versions. This results in a faster acting emulsifier that provides superior functionality to no-time dough systems and applications requiring short mixing times. To best meet your needs, we offer both GMS® 520 and GMS® 540. The difference? GMS® 520 provides a 21% minimum monoglyceride content, while the 540 version offers 38.5% monoglyceride.

### GMS® 520 Applications

	Category	Function	Usage Rate	Comments
Bakery	Breads & rolls	Shelf life extension	0.5%-1.25% flour basis	Hydrated softeners for yeast-raised breads and rolls
Processed Foods	Pasta/Noodles	Starch complexing	0.5%-1.0% dry wt	Improves freeze-thaw stability, prevents sticking, gives resistance to overcooking and adds stability and firmness

### GMS® 540 Applications

	Category	Function	Usage Rate	Comments
Bakery	Breads & rolls	Shelf life extension	0.5%-1.25% flour basis	Hydrated softeners for yeast-raised breads and rolls



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