



## Multiple Carrier Systems Expand Applications for Powdered Oils

### Dextrin and starch-based carriers give way to creative alternatives when O2P™ is used.

#### Report to customers:

Most traditional drying technologies apply an oil, gel or other liquid directly onto the surface area of a suitable solid carrier or matrix system.

Typically, the two most commonly used carriers are either dextrin- or starch-based.

For global marketers, this can pose a problem since most dextrans and starches are genetically-modified (GM) materials. This can also negatively affect nutritional value with the addition of unwanted sugars, starches and other carbohydrates.

O2P™ provides a means to incorporate the nutritional and health benefits of many oils, pastes or gels into a dry mix, beverage and other food application where traditional liquid forms cannot be used.

Unlike other drying technologies, O2P™ also accepts a wide range of carriers, depending on the specific health application and the number and range of oil(s) used in the product formulation.

O2P™ accepts a broad range of carrier types, particle size and bulk densities. Unlike other drying technologies, the maximum loading (percent of oil in the

powder) is independent of the characteristics of the carrier. As such, O2P™ is compatible over a broad range of matrices, including:

Maltodextrin	Tri-calcium phosphate
Tapioca dextrin	Calcium carbonate
Cellulose (MCC)	Magnesium carbonate
Corn starch	Potato starch
Salt	Refined sugar
Silica	Coral calcium
Magnesium oxide	Bath salts
Dried vegetables	Calcium
Aloe flake	Mineral blends
Talc	Sucrose
Vitamin premixes	Enzyme powders
Dried food blends	Silicon dioxide
Protein powders	Egg shell powders
Probiotic powders	

O2P™ can also be loaded directly onto specific customer product, including: whey protein, milk powder, ground beef, poultry and other dry food blends, fruit powders, feed blends

The reason is the O2P™ process itself. O2P™ does not alter the molecular structure, isomeric or fatty acid profile, or the nutritional value of the base oil. There is no introduction of heat or oxygen anywhere in the conversion process.

O2P™ uses a proprietary process without the need for sprayers, blenders or other equipment that will generate heat and destabilize the oil. It operates at room temperature, retaining a nitrogen head throughout the process, thus preserving the

original oil profile and limiting potential oxidation and stability problems.

As a result, oil or other liquids are not merely deposited over the carrier's surface area, they are actually imbedded into the carrier particle itself, increasing oil load and maintaining low peroxide levels for extended shelf life.

Currently, there are more than forty O2P™ Powders in Nutri Grade (for use in tablets and capsules) or Food Grade (a water dispersible powder for use in dry mix, beverage and food applications), as well as Cosmetic, Pet Food and Animal Feed grades. Depending on the oil, powders can offer up to two year stability.

O2P™ tolling can also transform a customer's specific oil, gel or paste into a free-flowing O2P™ Powder.

For additional information on O2P, a comprehensive list of O2P™ Powders or a specific sample request, visit the O2P™ website at [www.o2pus.com](http://www.o2pus.com) or contact NPRI at 702-479-1028

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This product is not intended to diagnose, treat, prevent or cure a disease.