

# **NUTRI-SPEC**



THROUGH  
SPECIFIC NUTRITION

89 Swamp Road  
Mifflintown, PA 17059

800-736-4320

717-436-8988

Fax: 717-436-8551

[nutrispec@embarqmail.com](mailto:nutrispec@embarqmail.com)

[www.nutri-spec.net](http://www.nutri-spec.net)

## **THE NUTRI-SPEC LETTER**

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From:  
Guy R. Schenker D.C.  
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Dear Doctor,

It all began in October of 2005 with one seemingly innocuous question. A NUTRI-SPEC practitioner reported hearing that magnesium stearate, one of the excipients NUTRI-SPEC uses in its products, was toxic. My response was as follows:

“Think of the essential fat that comprises much of the brain; think of the essential fat in the membrane of every human cell; think of the essential fat used to produce hormones. All these essential fats are largely stearic acid.

“I cannot conceive of any way that magnesium stearate could be unsafe. It is used as an excipient in many Nutri-Spec tablets because it is so effective as a tablet lubricant. Magnesium stearate is essentially nothing more than two stearic acid molecules hooked together with a magnesium. (In addition to its common use as a tablet excipient, its other commercial use is in baby powder.)

“I do not know what specifically you heard about magnesium stearate that concerns you, so I will just give you some general background information. First of all, consider stearic acid. It is a saturated fatty acid (18 carbons), which, along with palmitic acid (16 carbons), makes up more than a third of the fats in a natural human diet. In fact, about a third of the fat naturally occurring in the human body is stearic and palmitic acid. Clearly, there is nothing unnatural or unsafe about stearic acid.

“It seems you heard that stearic acid is a hydrogenated fat. It is not; stearic acid is a saturated fatty acid, and thus has no double bond that can be subjected to hydrogenation. (Hydrogenation is the addition of hydrogen to the double bonds of an unsaturated fatty acid, changing that double bond to a single (saturated) bond.)

“I suspect your information source was led astray when he saw the word “hydrogenation” used in association with stearic acid. Let me explain. Anyone who has spent more than 2 minutes in a health food store knows that hydrogenation is a nasty, nasty word. Hydrogenated vegetable oils such as margarine and vegetable shortening are among the deadliest of foods. What most health-conscious people do not realize, however, is that there is absolutely nothing inherently toxic or damaging about hydrogenation per se. After all, all the process does is take polyunsaturated fatty acids (which we Nutri-Spec practitioners know are the major cause of oxidative free radical damage and premature tissue aging), and makes them less unsaturated. It could actually seem to those of us in the know about the catabolic effects of PUFAs that hydrogenation is a healthful process. The problem is not the hydrogenation (saturation) of fatty acids, but the commercial process by which hydrogenation of PUFAs is achieved. That process takes already damaging PUFAs and transforms them in two ways that make them even more damaging:

1. The hydrogenation process changes the naturally occurring cis isomer of the PUFA into a completely unnatural trans isomer of that PUFA. The end-products of cis-trans isomerism are far more deadly than the already damaging PUFA with which the process began.
2. The hydrogenation process causes the double bonds in PUFA to migrate along the carbon chain, thus creating entirely unnatural PUFAs --- again, more pathological than the PUFA from which they were derived.

“Hydrogenation converts a large portion of the PUFAs in vegetable oils to trans isomers and other PUFAs that do not exist in nature, and are unrecognizable by the human body. These unnatural fatty acids have been shown to be extremely pathogenic. It is actually the partial hydrogenation of vegetable oils that creates all the problems. If hydrogenation were taken to completion, the end result would be an entirely saturated fatty acid (such as stearic acid), and there would be no unnatural or trans isomer unsaturated fatty acids. For many years I have thought of explaining the problems of hydrogenation in a Nutri-Spec Letter, but decided that as long as doctors understand that hydrogenated vegetable oils are to be avoided, that is all that counts. ---

Trying to explain to them that there is nothing wrong with the saturation of PUFAs, but only with the commercial process involved, would complicate the issue for many.

“Returning now to the specific subject of stearic acid, I can tell you exactly how your information source got confused. While stearic acid is ubiquitous in natural foods, it is easier and less expensive to produce commercially by the hydrogenation of vegetable oils. Your hydrogenation-phobic information source read this, and naturally assumed that anything that was hydrogenated had to be harmful. As explained above, stearic acid, whether it is consumed when eating an egg, when eating a chicken breast, or when swallowing a tablet that contains magnesium stearate, is still 100% pure, safe, and natural stearic acid.

“So --- continue to recommend to all your patients that they strictly avoid all hydrogenated (which actually means partially hydrogenated) vegetable oil products such as shortening, mayonnaise, margarine, salad dressing etc., etc. But in the case of commercially prepared stearic acid, even though prepared by a hydrogenation process, you are safely consuming a completely saturated and all natural fatty acid.”

A year and a half passed. I had long since forgotten about my reply to that doctor's question when another NUTRI-SPEC practitioner called with the comment that one of his patients expressed concern about the magnesium stearate in our products. The patient said that the company whose supplements he was taking before starting NUTRI-SPEC would not use magnesium stearate in its products because it was toxic. I gave that doctor essentially the same reply you just read above, explaining that anyone who says that magnesium stearate is a poison is showing his ignorance. Stearic acid is, next to oleic acid, the most common fatty acid in our foods (meat, eggs, and cheese), and, the most common fatty acid in our own bodies.

Another year passed without a word about magnesium stearate. Then, this Spring, we saw the unmistakable smoke of a health food industry firestorm --- a blaze of irrational emotionalism. Perhaps you are one of the NUTRI-SPEC practitioners who has been challenged by a patient concerned about the magnesium stearate in your products. So, to quell the storm before it rages out of control, we thought we had better find the source of the emotionally charged misinformation about magnesium stearate. A thorough internet search uncovered two sparks that are igniting the magnesium stearate fire. One of the sources is a quite reputable supplement supplier and the other is a probably well-meaning but hopelessly ignorant naturopathic doctor. Following are the

claims made by the confused naturopath, and the NUTRI-SPEC responses to those claims:

Claim: Magnesium stearate is added to supplements so that production machinery will run at maximum speeds. This ensures that production schedules will meet profit targets.

Response: "This ensures that production schedules will meet profit targets" ---- Ah yes, the EVIL PROFIT MOTIVE of greedy capitalists. --- The truly honest way to report the benefits of lubricants is that they increase the quality and decrease the cost of the product to you and your patients.

Claim: The cottonseed oil from which magnesium stearate is derived has the highest content of pesticide residues of all commercial oils.

Response: If that claim is true, then we have one more reason to avoid eating the polyunsaturated cottonseed oil. However, the pesticide residues in the source oil are irrelevant as far as the magnesium stearate is concerned.

Claim: Hydrogenated vegetable fats contain altered molecules derived from fatty acids that may be toxic.

Response: Absolutely true! Nowhere will you find a stronger stand against ingestion of toxic PUFAs (whether hydrogenated or not) than from NUTRI-SPEC. But, as explained to the first doctor who inquired about magnesium stearate 2½ years ago, the dangers to health from consuming hydrogenated vegetable oils --- migration of the double bonds along the carbon chain, and the formation of trans isomers --- are no longer a factor when hydrogenation is taken to completion, i.e., when the fatty acid is made completely saturated, having no double bonds, as is the case with stearic acid.

Claim: The metal catalyst used in the hydrogenation process may also contaminate the stearates.

Response: The metal catalyst that "may" contaminate the stearic acid (but no evidence is provided that it does) is generally either copper or nickel --- essential nutrients.

Claim: In a study published in the journal, Pharmaceutical Technology, the percent dissolution for capsules after 20 minutes in solution went from 90% without stearates to 25% with stearates, which will decrease absorption of the nutrients.

Response: Yes, the dissolution of capsules decreases with magnesium stearate, but the decrease is not clinically significant. The excipients used by other supplement suppliers have a far greater effect. NUTRI-SPEC products exceed the industry standard for dissolution by far. Even more so when mixed in the stomach with food as NUTRI-SPEC supplements are intended to be, the effect of magnesium stearate becomes insignificant. Furthermore, the slight decrease in dissolution does not necessarily decrease absorption, and can actually increase it. (More on the relationship between dissolution and absorption, and the study from Pharmaceutical Technology below.)

Claim: Concentrated doses of stearic acid suppress the action of T-cells, a key component of the immune system.

Response: Wow! --- talk about quoting a study out of context. Suppression of T-cell lymphocytes is not a problem with stearic acid. The study cited in the Journal of Immunology was a study of cell cultures in vitro that were flooded with stearic acid. The study has nothing to do with the stearic acid contained in our food --- including the stearic acid contained in NUTRI-SPEC supplements. Again, stearic acid is the second most common fat in a natural diet.

Claim: Up to 5% of the average 1000 milligram capsule or tablet is magnesium stearate. That's 50 milligrams!

Response: Up to 50 milligrams of stearic acid in a capsule? Ha!! A natural, healthy diet supplies 100,000 milligrams of stearic acid daily!!!

Claim: Individuals with impaired digestion may have particular difficulty absorbing nutrients coated with stearates.

Response: Again --- a natural, healthy diet supplies 100,000 milligrams of stearic acid every day --- and --- "individuals with impaired digestion" have no trouble digesting and absorbing it.

So --- if you have any patients being whipped into an emotional frenzy by this nutty naturopath, you can now put them at ease. What about the very fine nutrition supplement supplier that makes a point of not using magnesium stearate as an excipient? I have absolutely no quarrel with this quite reputable company. They, like NUTRI-SPEC, rightly make a big deal about the extraordinary effort taken to guarantee good dissolution and absorption qualities of their products, and to eliminate any potentially toxic substances. Magnesium stearate is one of the excipients that company has chosen not to use. However, I could make a strong case against several of the ingredients they do include in their products. But again, I have no desire to quarrel with this company ---

they are probably one of the more conscientious suppliers out there. The problem we face regarding this company's decision not to use magnesium stearate is that magnesium stearate is the one excipient of all those they make a point of not using for which they include a nice little schematic drawing in their ads.

So --- magnesium stearate is the one excipient that everyone remembers as being "bad" per this company's advertising. This company also quotes the same study from Pharmaceutical Technology as did the nutty naturopath, purporting to show that magnesium stearate dramatically decreases dissolution. Actually, that study showed just the opposite. The drug being tested used magnesium stearate in combination with a starch based excipient, plus lactose, and indeed, dissolution was decreased. However, the study also demonstrated that in the absence of lactose and starch, "interaction between drug and excipients were essentially absent." So, since magnesium stearate is used in NUTRI-SPEC products but without the accompanying starch and lactose, the magnesium stearate is absent any negative effect on dissolution.

In summary, there are very few nutrients with the physical properties to run through the encapsulation process without excipients. While NUTRI-SPEC uses the absolute minimum number of excipients, those excipients are essential to assist nutrient flow such that nutrients do not clump together, and that each capsule or tablet contains exactly the number of milligrams of every nutrient listed on the label. The judicious use of excipients increases the quality of your products while decreasing the costs. There are many excipients used in the nutrition industry that are toxic, and there are many others that inhibit nutrient absorption. NUTRI-SPEC carefully avoids all of those.

Those who campaign against magnesium stearate as a marketing technique are taking a stance that is somewhat irresponsible and definitely unsupportable by scientific data. Their stand may represent either ignorance or dishonesty --- neither of which is excusable. Honesty and objectivity are qualities that distinguish NUTRI-SPEC products and procedures. Add in the biological activity of our products and an objective testing system by which that biological activity can be quantified, and you have the unique essence of your NUTRI-SPEC system. --- Deliver that objectivity and biological activity to all the patients you can --- they will find such quality of service nowhere else.

Sincerely,  
Guy R. Schenker, D.C.