

Soy Lecithin: How It Negatively Affects Your Health And Why You Need To Avoid It

Soy Lecithin has been lingering around our food supply for over a century. It is an ingredient in literally hundreds of processed foods, and also sold as an over the counter health food supplement. Scientists claim it benefits our cardiovascular health, metabolism, memory, cognitive function, liver function, and even physical and athletic performance. However, most people don't realize what soy lecithin actually is, and why the dangers of ingesting this additive far exceed its benefits.

Lecithin is an emulsifying substance that is found in the cells of all living organisms. The French scientist Maurice Gobley discovered lecithin in 1805 and named it "lekithos" after the Greek word for "egg yolk." Until it was recovered from the waste products of soybean processing in the 1930s, eggs were the primary source of commercial lecithin. Today lecithin is the generic name given to a whole class of fat-and-water soluble compounds called phospholipids. Levels of phospholipids in soybean oils range from 1.48 to 3.08 percent, which is considerably higher than the 0.5 percent typically found in vegetable oils, but far less than the 30 percent found in egg yolks.

Out of the Dumps

[Soybean](#) lecithin comes from sludge left after crude soy oil goes through a "degumming" process. It is a waste product containing solvents and pesticides and has a consistency ranging from a gummy fluid to a plastic solid. Before being bleached to a more appealing light yellow, the color of lecithin ranges from a dirty tan to reddish brown. The hexane extraction process commonly used in soybean oil manufacture today yields less lecithin than the older ethanol-benzol process, but produces a more marketable lecithin with better color, reduced odor and less bitter flavor.

Historian William Shurtleff reports that the expansion of the soybean crushing and soy oil refining industries in Europe after 1908 led to a problem disposing the increasing amounts of fermenting, foul-smelling sludge. German companies then decided to vacuum dry the sludge, patent the process and sell it as "soybean lecithin." Scientists hired to find some use for the substance cooked up more than a thousand new uses by 1939.

Today lecithin is ubiquitous in the processed food supply. It is most commonly used as an emulsifier to keep water and fats from separating in foods such as margarine, peanut butter, chocolate candies, ice cream, coffee creamers and infant formulas. Lecithin also helps prevent product spoilage, extending shelf life in the marketplace. In industry kitchens, it is used to improve mixing, speed crystallization, prevent "weeping," and stop spattering, lumping and sticking. Used in cosmetics, lecithin softens the skin and helps other ingredients penetrate the skin barrier. A more water-loving version known as "deoiled lecithin" reduces the time required to shut down and clean the extruders used in the manufacture of textured vegetable protein and other [soy](#) products.

In theory, lecithin manufacture eliminates all soy proteins, making it hypoallergenic. In reality, minute amounts of soy protein always remain in lecithin as well as in soy oil. Three components of soy protein have been identified in soy lecithin, including the Kunitz [trypsin inhibitor](#), which has a track record of triggering severe allergic reactions even in the most minuscule quantities. The presence of lecithin in so many food and cosmetic products poses a special danger for people with soy [allergies](#).

The Making of a Wonder Food

Lecithin has been touted for years as a wonder food capable of combating atherosclerosis, multiple sclerosis, liver cirrhosis, gall stones, psoriasis, eczema, scleroderma, anxiety, tremors and brain aging. Because it is well known that the human body uses phospholipids to build strong, flexible cell membranes and to facilitate nerve transmission, health claims have been made for soy lecithin since the 1920s. Dr. A. A. Horvath, a leading purveyor of soybean health claims at the time, thought it could be used in "nerve tonics" or to help alcoholics reduce the effects of intoxication and withdrawal. In 1934, an article

entitled "A Comfortable and Spontaneous Cure for the Opium Habit by Means of Lecithin" was written by Chinese researchers and published in an English language medical journal.

Lecithin, though, did not capture the popular imagination until the 1960s and 1970s when the bestselling health authors Adelle Davis, Linda Clark and Mary Ann Crenshaw hyped lecithin in their many books, including Let's Get Well, Secrets of Health and Beauty and The Natural Way to Super Beauty: Featuring the Amazing Lecithin, Apple Cider Vinegar, B-6 and Kelp Diet.

Lecithin did not become a star of the health food circuit by accident. Research took off during the early 1930s, right when lecithin production became commercially viable. In 1939, the American Lecithin Company began sponsoring research studies, and published the most promising in a 23-page booklet entitled Soybean Lecithin in 1944. The company, not coincidentally introduced a health food cookie with a lecithin filling known as the "Lexo Wafer" and a lecithin/wheat germ supplement called Granulestin. In the mid 1970s, Natterman, a lecithin marketing company based in Germany, hired scientists at various health clinics to experiment with lecithin and to write scientific articles about it. These "check book" scientists coined the term "essential phospholipids" an inaccurate term since a healthy body can produce its own phospholipids from phosphorous and lipids.

In September 2001, lecithin got a boost when the U.S. Food and Drug Administration (FDA) authorized products containing enough of it to bear labels such as "A good source of choline." Producers of soy lecithin hope to find ways to help the new health claim lift demand for lecithin and increase prices in what has been a soft market. Eggs, milk and soy products are the leading dietary sources of choline, according to recent research conducted at the University of North Carolina at Chapel Hill and at Duke University.

Genetically Modified

One of the biggest problems associated with soy lecithin comes from the origin of the soy itself. The majority of soy sources in the world are now [genetically modified](#) (GM). Researchers have clearly identified GM foods as a threat to the environment, pollution of soils and a long-term threat to human health with links to of the world with unnatural genetic material that may have unknown long-term consequences with links to decreased fertility, immunological alterations in the gut and the exacerbation and creation of allergies.

Genetically engineered soy contains high concentrations of plant toxicants. The presence of high levels of toxicants in the GM soy represent thousands of plant biochemicals many of which have been shown to have toxic effects on animals.

Unfermented Soy Sources

The manufacture of soy lecithin is also typically confined to unfermented sources because it is quicker and cheaper to make. [Unfermented soy](#) products are rich in enzyme inhibitors. Enzymes such as amylase lipase and protease are secreted into the digestive tract to help break down food and free nutrients for assimilation into the body. The high content of enzyme inhibitors in unfermented soybeans interferes with this process and makes carbohydrates and proteins from soybeans impossible to completely digest.

Unfermented soy has been linked to digestive distress, immune system breakdown, PMS, endometriosis, reproductive problems for men and women, allergies, ADD and ADHD, higher risk of heart disease and cancer, malnutrition, and loss of libido.

It is now widely recognized that the only soy fit for human consumption is [fermented soy](#).

Phosphatidyl Choline (PC)

Because many lecithin products sold in health food stores contain less than 30 percent choline, many clinicians prefer to use the more potent Phosphatidylcholine (PC) or its even more powerful derivative drug Glyceryl-phosphorylcholine (GPC). Both are being used to prevent and reverse

dementia, improve cognitive function, increase human growth hormone (hGH) release, and to treat brain disorders such as damage from stroke. PC and GPC may help build nerve cell membranes, facilitate electrical transmission in the brain, hold membrane proteins in place, and produce the neurotransmitter acetylcholine. However, studies on soy lecithin, PC, and brain aging have been inconsistent and contradictory ever since the 1920s. Generally, lecithin is regarded as safe except for people who are highly allergic to soy. However, the late Robert Atkins, MD, advised patients not to take large doses of supplemental lecithin without extra vitamin C to protect them from the nitrosamines formed from choline metabolism. Trimethylamine and dimethylamine, which are metabolized by bacteria in the intestines from choline, are important precursors to N-nitrosodimethylamine, a potent carcinogen in a wide variety of animal species.

Phosphatidyl Serine (PS)

Phosphatidyl serine (PS) -- another popular phospholipid that improves brain function and mental acuity -- nearly always comes from soy oil. Most of the scientific studies proving its efficacy, however, come from bovine sources, which also contain DHA as part of the structure. Plant oils never contain readymade DHA. Indeed, the entire fatty acid structure is different; bovine derived PS is rich in stearic and oleic acids, while soy PS is rich in linoleic and palmitic acids. Complicating matters further, the PS naturally formed in the human body consists of 37.5 percent stearic acid and 24.2 percent arachidonic acid. Yet soy-derived PS seems to help many people.

Russell Blaylock, MD, author of *Excitotoxins, the Taste that Kills*, explains that the probable reason PS works is because its chemical structure is similar to that of L-glutamate, the trouble-making neurotransmitter, amino acid and excitotoxin that exists in high concentration in [MSG](#) (monosodium glutamate), HVP ([hydrolyzed vegetable protein](#)) and "[natural flavorings](#)" and foods containing these soy derivatives. (See Chapter 11.) Because PS competes with glutamate, it may protect us from glutamate toxicity. Ironically, the expensive soy-derived supplement PS is being used to undo damage that may be caused in part by the cheap soy in processed foods

Lysophosphatidyl-ethanolamine (LPE)

The Environmental Protection Agency (EPA) has approved lysophosphatidyl-ethanolamine (LPE), another phosphatidyl substance commercially extracted from soybeans, for use as a fruit ripener and shelf-life extender. LPE -- once called cephalin -- is now being used to treat grapes, cranberries, strawberries, blueberries, apples, tomatoes, and cut flowers.

When applied to fruits that are nearly ripe -- going into puberty, so to speak -- LPE promotes ripening. When applied to picked fruit or cut flowers that are already ripe or blooming, however, it will "reduce senescence by inhibiting some of the enzymes involved in membrane breakdown." This can dramatically extend shelf life. Whether the substance could also keep human bodies fresh for funeral home viewings has not yet been investigated.

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