



WHICH FAT?

Fat molecules are composed of carbon, hydrogen, and oxygen atoms with very distinct structures. In saturated fats, all the carbon atoms are attached (or "saturated") by hydrogen and oxygen, which leads to rigid cell membranes.

An unsaturated fat has one or more of its bonding sites unoccupied, making the cell membranes more fluid when these fats are ingested. These liquid fats are more available for use in the body. There are two types of unsaturated oils:

- monounsaturated (fat molecules with one double bond)
- polyunsaturated (fat molecules with more than one double bond).

Depending upon the location of the first double bond, unsaturated fats are classified as omega 3, omega 6, or omega 9. Use this chart to see which fats are in which oils.

THE SKINNY ON SOME OILS

OIL	FAT CONTENT (BY TYPE)			
Oils with low smoke point (These should never be heated. Store in refrigerator. Available as dietary supplements. Flaxseed oil may be drizzled over food.)				
Borage oil	0%	60% (22% GLA)	26%	14%
Evening primrose oil	0%	81% (9% GLA)	9%	10%
Fish oil	75%	0%	0%	25%
Flaxseed oil	57%	16%	18%	9%
Oils with medium smoke point (Use for light sauteing, low-heat cooking, or pressure cooking.)				
Olive oil	1%	12%	72%	15%
Peanut oil	0%	34%	48%	18%
Safflower oil	0%	78%	14%	8%
Sesame oil	0%	45%	40%	15%
Sunflower oil	0%	69%	19%	12%
Oil with high smoke point (Use for most baking purposes and for sauteing and stir-frying.)				
Canola oil	10%	24%	54%	12%
Oils with ultra-high smoke point (Use for searing, browning, deep-frying, making tempura and breaded foods, and high-temperature baking.)				
Almond oil	0%	28%	65%	7%
Hazelnut oil	0%	15%	75%	10%
Macadamia nut oil	2%	2%	84%	12%

Smoke point: the temperature to which an oil can be heated before it begins to smoke.
GLA: gamma linolenic acid. Table adapted from *The Hamptons Diet* by Fred Pescatore, MD (\$24.95, Wiley, 2004)

WHY SOME FATS ARE ESSENTIAL

Essential fatty acids (EFAs)—fats that cannot be manufactured by the human body—include linoleic acid (LA), an omega-6 fat precursor or parent, and alphalinolenic acid (ALA), an omega-3 fat precursor. EFAs are critical in determining fluidity of cell membranes, which allows the transport of vital nutrients into cells, and maintaining enzyme activity. Essential fats also help

- expand blood vessel walls to reduce the workload on the heart
- improve overall organ function
- keep toxins out of the cells.

CONFUSION OVER FATS AND OILS

Consuming high levels of saturated animal fat and manufactured or trans fat, which are not essential, has been linked to a number of diseases in a variety of studies. "Since dietary fat determines cell membrane composition, such a dietary pattern leads to reduced membrane fluidity, which in turn causes reduced insulin [the hormone that regulates blood sugar] binding to receptors on cellular membranes and/or reduced insulin action," explains Michael Murray, ND.

Limit animal and trans fat. In addition, some polyunsaturated vegetable oils can

generate harmful free radicals. "Dietary LA favors oxidative modification of LDL cholesterol, increases platelet response to aggregation, and suppresses the immune system," one recent study finds. Researchers today call for a more balanced ratio of omega-6 (LA) to omega-3 (ALA) fats.

Finally, how oils are processed also plays a role in how beneficial fats will be to the body. Particularly damaging to cell membrane function are conventional margarines, vegetable oil shortening, and trans fats made with hydrogenated or partially hydrogenated (manufactured) oils. Recent research links hydrogenated soybean oil, common in