

Trans Fats

Fats are used for energy, energy storage, organ insulation, proper growth, and for transporting the fat-soluble vitamins A, D, E, and K. Fats also provide flavor and texture in foods and give us a feeling of satiety or fullness after eating. But ongoing research indicates that dietary saturated fat is linked to an increased risk for coronary heart disease, some cancers, diabetes, and obesity. Recently however, scientists and the media have begun to explore another harmful fat ~ trans fatty acids, commonly known as trans fats.

Fats

Fats consist of two basic components ~ glycerol and fatty acids. These fatty acids are typically a long chain of carbon atoms linked to hydrogen. Saturated fats have the maximum number of hydrogen atoms attached to each carbon atom. So if all the links (chemical bonds) between the carbon atoms are single connections, a fat is said to be “saturated” with hydrogen atoms. Saturated fats are solid at room temperature and are commonly found in animal products such as cheese, cow’s milk, butter, and meat. Plant oils like coconut or palm kernel are also high in saturated fat.

Unsaturated fatty acids have a pair of hydrogen atoms in the middle of the chain missing so that the carbon atoms are connected by a double bond rather than a single bond. Because there are fewer hydrogen atoms, the fat is considered “unsaturated”. Plants are the predominant source of unsaturated fats.

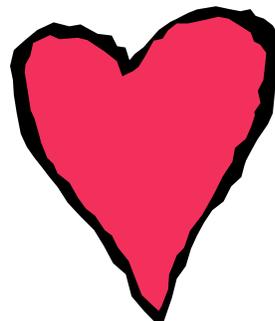
Trans fats occur naturally in small amounts in meat and dairy products like butter and milk, but can be created by a process that forces hydrogen atoms into liquid oils. This

process changes naturally occurring unsaturated fats into trans fat so that they are solid at room temperature and have a longer shelf life.

Trans fats are found in a variety of products that Americans consume daily including hard margarine, crackers, potato chips, chocolate bars, cereals, biscuits, muffins, doughnuts, low-fat cookies, dark breads, and pastries. The fast food industry uses hydrogenated oil to fry many foods, including French fries, because it is inexpensive and the same oil can be reused.

Health Recommendations

Trans fats have been linked to increased risk of heart disease, obesity, and childhood asthma. Trans fats behave like saturated fat by raising levels of low-density lipoprotein (LDL) and lowering levels of high-density lipoprotein (HDL).



Labeling

Currently, it is hard for consumers to determine how much trans fat is in a product because it is not included on Nutrition Facts Labels. Recently, the Food and Drug Administration (FDA) passed regulations requiring food manufacturers to add the amount of trans fatty acid in a food product to the label. Some products have already made the change. Can you find the listing of trans fat in the product on the Nutrition Facts Label below.

Nutrition Facts	
Serving Size 1 cup (228g)	
Servings Per Container 2	
Amount Per Serving	
Calories 260	Calories from Fat 120
% Daily Value*	
Total Fat 13g	20%
Saturated Fat 5g	25%
Trans Fat 2g	
Cholesterol 30mg	10%
Sodium 660mg	28%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A 4%	Vitamin C 2%
Calcium 15%	Iron 4%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 Protein 4

The regulation stipulates that manufacturers must include trans fat on their labels by 2006. Until then, the best way to figure out if trans fat is in the food you are eating is to look at the ingredient list. Ingredients are listed in order based

upon the amount of the ingredient included, from highest to lowest. Hydrogenated vegetable oil, partially hydrogenated oil, or a similar term in the ingredients list indicates the presence of trans fat. Use naturally occurring, unhydrogenated products such as canola or olive oil. Look for processed foods made with unhydrogenated oil rather than hydrogenated OR saturated fat. Use margarine with no more than 2 grams of saturated fat per tablespoon as a substitute for butter. Choose soft margarine (liquid or tub varieties) over harder, stick forms.

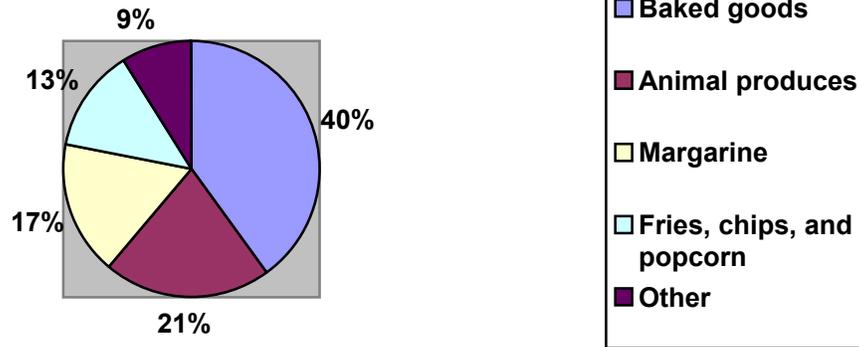
The regulation does not apply to the fast food industry. Limiting the amount of fried fast food in your diet will help limit your trans fat intake. Also limit donuts, cookies, and crackers. These foods are high in trans fatty acids. Limit daily intake of fats and oils to about 5-8 teaspoons. If you do so, it is unlikely that you will consume an excess of trans fat.

One easy way to reduce the amount of trans fat in your diet is to substitute canola oil for melted hard fat. Use the following guidelines when cooking.

Solid fat	Canola oil
1 cup	13 Tbsp.
¾ cup	10 Tbsp.
½ cup	6½ Tbsp.
¼ cup	3 Tbsp.

Major Sources of Trans Fat

According to FDA, the average adult consumes 5.8 grams of trans fat or 26% of their daily calories.



Sources

1. Bots, M. & M. Katan. **Trans fat harder on arteries than saturated fat.** *Atherosclerosis, Thrombosis and Vascular Biology: Journal of the American Heart Association.* 12 July 2001. Accessed March 2004. www.americanheart.org
2. Canola Council of Canada. **Trans Fatty Acids and Coronary Heart Disease.** Accessed March 2004. www.canola-council.org
3. Food & Drug Administration. **Trans Fatty Acids in Nutrition Labeling, Nutrient Content Claims, and Health Claims,** July 2003.
4. United States Food and Drug Administration: CFSAN Office of Nutritional Products, Labeling and Dietary Supplements. **Questions and Answers about Trans Fat Nutrition Labeling.** Accessed March 2004. <http://vm.cfsan.fda.gov/~dms/quatrans2.html> or www.fda.gov/oc/initiatives/transfat

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