Trans-Fat Replacement: Interesterified Fats

Interesterified fats have rearranged fat molecules, making them solid at room temperature and lowering their melting point. This allows for high-temperature cooking methods and prevents spoiling. Usually a solid fat is blended with a liquid oil, and then the molecules are interchanged to achieve satisfactory texture, mouthfeel, and structure.

A study published in *Nutrition and Metabolism* followed 30 subjects as they rotated through three diets, each for 4 weeks—one containing naturally saturated palm fat, another containing the *trans* fat containing partially hydrogenated soybean oil, and the third containing an interesterified fat. The *trans* fat and interesterified fat raised low-density lipoprotein (LDL) cholesterol and decreased high-density lipoprotein (HDL) cholesterol. The interesterified fats also increased blood glucose levels by 20% and decreased insulin levels by 22% in 1 month.

It is important to note that the interesterified fat used in the study contained an unusually high amount of saturated fat (59%), much higher than what is typically used in food products. The recommendation is to repeat the study with a more typical formulation of interesterified fats in realistic amounts. Other studies have shown that when interesterified fat is compared to *trans* fat, LDL levels are either decreased or unaffected, and that glucose or insulin levels also are unaffected. Further research is definitely warranted.

**Foods most likely to contain interesterified fats**

The following foods are most likely to contain interesterified fats:

- Margarines
- Margarine spreads
- Shortenings
- Confections
- Baked goods

**Labeling rules for interesterified fats**

Food manufacturers can label foods as *trans*-fat free and saturated-fat free, making it very
difficult for the average consumer to decipher whether or not a particular food product contains interesterified fats. Companies may list “interesterified oil” on the label, but are not obligated to do so. The terms “fully hydrogenated,” “palm oil,” or “palm kernel oil” also indicate that interesterified fats are in manufacturing.

**The bottom line**

As always, it is smart to choose less-processed foods to make up the bulk of your diet. Liquid oils remain the best fat to use, whenever possible.

**References and recommended readings**


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Fractionated Oils

**Question:** Is fractionated oil harmful like trans fats?

_I saw the definition of a fractionated oil, which I had never heard of, however how does it compare to a trans fat? Is it in foods we eat or just massage oils? Is it harmful like trans fats?_

_Annette - About.com User_

**Answer:** Fractionated oils are used in some foods such as chocolate coatings. Since partially hydrogenated oils create unhealthy trans fats, food companies want to use different methods of changing liquid oils into thicker fats. Fractionated oil is heated, then cooled and this process separates the oil into separate fractions, the lower melting liquid fractions and the higher melting liquid fractions. The fractions with the higher melting points are thicker at room temperature than the lower melting point fractions. The thicker fractions may be used in margarine, shortenings and is commonly used in confections to keep chocolate coatings from melting at room temperature. Palm oil and palm kernel oil are two oils that are commonly fractionated.

Fresh palm oil is considered by some experts to be a healthy oil, but does fractionating the palm oil change that? Fractionating palm oil doesn't create any trans fats, but the thicker fractionated oil will have a higher concentration of saturated fats. Saturated fats from animal products have been linked to cardiovascular disease. A quick search for articles about fractionated palm oil on [Pub Med](http://pubmed.ncbi.nlm.nih.gov) only brings four results, so I am not sure how healthy fractionated palm oil will be.

**More About Fractionated Oil:**