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Partial Hydrogenation & Trans Fats

Trans-fats are primarily formed when vegetable oils are “hydrogenated” or “partially hydrogenated”. The oils are heated at such high temperatures, that the structure of the fat molecules change so that they are more stable at room temperature and are changed from being liquid to solid.

What is Partial Hydrogenation?

Oils such as soybean and canola that are going to be used for deep-frying in restaurants need to be stabilized by partial hydrogenation to prevent problems such as oxidation, polymerization, or heat damage. This process of changing liquid oils into solid fats through is known as partial hydrogenation. The resulting man-made fats are firmer in texture and have much higher melting points than the original oil. Trans-fats are found in most processed foods such as baked goods, cookies, crackers, soup mixes, frozen foods, and fried foods such as french fries, doughnuts and chips. This explains why crackers can be crispy, and cookies aren't overly greasy. Hydrogenation is a random and uncontrolled process, which leaves many unnatural unsaturated and conjugated fats in the end products, which manufacturers are not required to state. Oils which are most likely partially hydrogenated and therefore contain trans-fats include canola oil, and often corn, cottonseed, soybean, safflower, and sunflower oils.

Trans-Fats: Beware of Partially Hydrogenated Vegetable Oils

Partial hydrogenation increases the degree of “saturation” in unsaturated fats.

A whole new class of fats is created in this process known as **trans-fats**. “Trans” refers to the chemical structure of the fat in that the hydrogen atoms attached to one or more of the unsaturated bonds are on opposite sides of the molecule.

Trans-fatty acids have been shown to increase cholesterol in part by decreasing the amounts of HDL (the good cholesterol), as well as interfering with our liver's detoxification system and essential fatty acid function, thereby worsening an Essential Fatty Acid deficiency.

Trans-fats also:

- Raise lipoprotein (a) which is strongly correlated with atherosclerosis
- Have a negative effect on immune function, and potentiates free-radical formation
- Decrease insulin response, therefore especially undesirable for diabetics
- Alter cell membranes, causing problems in membrane fluidity and transport
- Interact negatively with fish oils and tissue omega-3 fatty acids

The medical information provided is of a general nature and cannot substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your Naturopathic Doctor or other qualified health provider with any questions you may have regarding a medical condition.



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