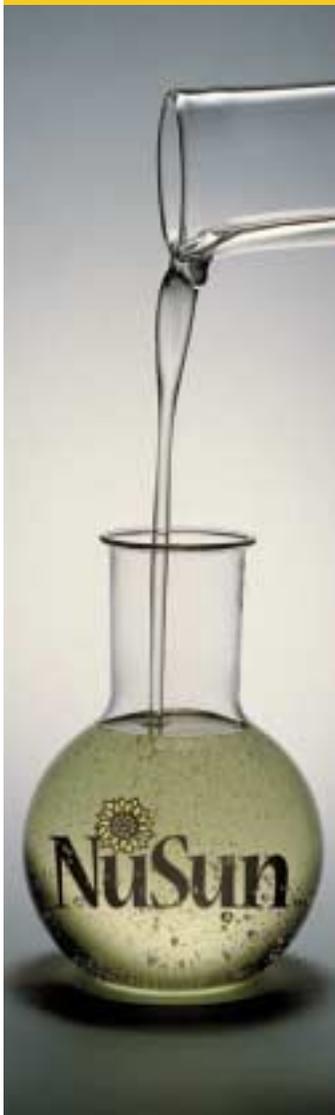


Nutritional Power of **SUNFLOWER OIL**

VOLUME 1.2

NuSun™ sunflower oil
is a natural
trans-free alternative
to hydrogenated oils
and shortenings.



FACTS ABOUT TRANS FAT

A major new report issued by the National Academies of Science's (NAS) Institute of Medicine (IOM) says there is no safe level of trans fatty acids and recommends consuming as few trans fatty acids as possible while still consuming a nutritionally adequate diet.⁽¹⁾ The newly released report concludes that trans fatty acid intake is associated with elevated total and "bad" low density lipoprotein (LDL) cholesterol, and therefore increased risk of coronary heart disease (CHD). Since low levels of trans fatty acids are found naturally in some nutrient-rich animal products, it is recommended that consumption of the trans fatty acids found in fried or processed foods be minimized as much as possible.

Update on Trans Fat Labeling

In 1999, the Food and Drug Administration (FDA) proposed regulations that would change the Nutrition Facts label to allow consumers to identify the amount of trans fat in a food by listing the grams of trans fat. Currently, trans fat is included in the "total fat" values, creating some confusion about the health implications of trans fat. In response, some groups have advocated that, since saturated fat and trans fat have similar adverse health effects – they raise both your total and "bad" low density lipoprotein (LDL) cholesterol – they be combined on one line. To date, however, the FDA supports the position that the saturated fat and trans fat values be listed separately.

Now that the National Academies of Science report has been released, FDA will issue final regulations in early 2003 that require trans fat to be listed on labels. The labeling regulations and subsequent educational activities will heighten interest in alternative "healthful fats" to improve the nutritional quality of baked and fried foods.

Trans Fatty Acids in Foods: History of Hydrogenation

Some of the foods in the Western diet that currently contribute trans fatty acids include some margarines, cookies, crackers, pastries, fried foods, dairy products and meats. In addition, many oils have been hydrogenated when used commercially to increase shelf life and heat stability, especially when used for frying. This processing adds harmful trans fat to the oil.

Trans fatty acids are created in the food supply by the process called hydrogenation, which dates back to the 1900s. Hydrogenation is the heating of liquid oils in the presence of metal catalysts and hydrogen that hardens the oils into margarine and shortening.⁽²⁾ The resultant hydrogenated fat has become widely used in foods over the past 20 years, mostly because it was viewed as a healthier alternative to animal fats, which contain saturated fat and cholesterol. Trans fat increased in the food supply as industry responded to the health community's call to reduce saturated fat in processed foods, while consumers still demanded a tasty alternative.

References:

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Without hydrogenation, manufacturers found that the healthier liquid oils spoiled more quickly than saturated fats, couldn't withstand the high heat used in deep fryers, and made baked goods runny. Hydrogenated fats solve these technical problems and are pleasing to the consumer since they provide food attributes that many consumers prefer, such as good taste, better texture and increased shelf life. Currently, FDA estimates that 42,700 products found on grocery store shelves contain either full- or partially-hydrogenated oils, which indicates the possible presence of trans fatty acids.

The Research on Trans Fat

More recently, research is revealing cause for concern about the negative health effects of trans fatty acids. The scientific evidence has been mounting over the past few years and now supports the need for trans fat labeling regulations. As is the case with saturated fat, trans fatty acids have consistently been reported to raise total and "bad" LDL cholesterol levels.⁽³⁻⁵⁾ In addition, evidence is showing that trans fats lower the "good" high density lipoprotein (HDL) cholesterol, whereas saturated fats may not.⁽¹⁾ The effects of trans fatty acids on blood lipids and lipoprotein concentrations are viewed as strong risk factors for the development of cardiovascular disease.⁽⁷⁾

Dietary Recommendations for Trans Fat

Although there is no established daily value (DV) for trans fat, the new report from the National Academies of Science says that trans fat should be as limited as possible in the diet. Currently, trans fatty acids make up about two to two and a half percent of total energy in the American diet.⁽⁸⁾ The current DV for saturated fat is less than 10 percent of total calories, yet it currently accounts for between 12 to 14 percent of total energy. Together, saturated fat and

trans fat currently make up an average of 15 percent of total calories in the American diet, much higher than the latest reports and guidelines recommend. Public education and providing trans fatty acid content on food labels will help consumers lower intakes of these harmful fats and switch to "good fats" in their diet.

Go Ahead and Make the *Trans*-ition: Choose NuSun™ Sunflower Oil, a Naturally Trans Fat-Free Oil

By making the *trans*-ition to NuSun™ sunflower oil now, it is possible to choose a natural oil that fits a healthful fat profile and provides the desired commercial cooking capabilities needed to produce tasty, high-quality food products. NuSun™ sunflower oil is a mid-level oleic sunflower oil, and its fat profile is predominantly monounsaturated, with oleic acid accounting for the majority of fat (65 percent). It also is low in saturated fat (less than 10 percent). NuSun™ is a source of linoleic acid, (26 percent), an essential polyunsaturated fatty acid which the NAS report says people must consume from the foods they eat because it cannot be synthesized by the body.

NuSun™ sunflower oil was developed by standard breeding techniques and therefore is a natural, non-transgenic cooking oil. It does not require hydrogenation like many other commercial-use oils and is naturally trans fat-free. NuSun™ sunflower oil works extremely well in commercial cooking and frying with a smoke point of 450° and has a clean light taste. In addition, the natural stability of NuSun™ sunflower oil provides excellent shelf-life characteristics.

For more information on NuSun™ sunflower oil or sunflower seeds, contact:



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