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The purpose of this letter is to nominate *trans* Fatty Acids for inclusion in the *National Report on Human Exposure to Environmental Chemicals*, pursuant to the Notice in the Federal Register Vol. 67, No. 194, October 7, 2002. References at the end of this submission provide information to support this nomination.

In efforts decades ago to reduce consumption of saturated fats because of their link to coronary disease, *trans* fats that are made by partially hydrogenating unsaturated fats, became a replacement for saturated fats in food processing. *Trans* fatty acids are unsaturated fatty acids with at least one double bond in the *trans* configuration, resulting in a more rigid molecule similar to a saturated fatty acid. *Trans* fats are ubiquitous in the US diet. Average consumption is about 2% of calories from partially hydrogenated fat, or about 5 grams/day (Allison, 1999). They transform vegetable oils into margarine and into other solid substances that are used in many foods such as crackers, bread, and cookies, and occur in meat. Hence nearly all Americans are exposed.

Recent data and studies indicate associations between level of *trans* fat consumed and increase in LDL cholesterol, decrease in HDL, and also an increase in coronary disease. Moreover, intake of *trans* fat (but not total fat or saturated or monounsaturated fatty acids) increased risk of women developing Type II diabetes. Eating more polyunsaturated fats that had not been hydrogenated lowered risk of Type II diabetes in the women. While there is not a consensus on the hazards of *trans* fats, evidence continues to be generated about associations with disease, and the exposure levels can be considerable. (Selection criterion 2).

Food manufacturers are now working to dilute the amounts of hydrogenated oil that is used in food, or are trying to replace *trans* fat altogether. As foods change in their content, the potential for human exposure will decline, and blood measurements over time will be valuable (Selection criterion 1).

A growing number of epidemiological studies have reported associations between higher intake of *trans* fatty acids and disease, including Type 2 diabetes (Salmerón, 2001), breast cancer (Voorips, 2002; and colon cancer (Slattery, 2001) . Additionally, a variety of adverse metabolic effects of *trans* fatty acids have been observed, including on lipoprotein metabolism and insulin sensitivity (Ascherio, 1999; Christiansen, 1997).

Best regards,

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