

SURVEY REPORT



Government of South Australia
Department of Health

Trans fatty acid

A pilot survey of trans fatty acid content of fast food

FOOD POLICY AND PROGRAMS BRANCH, PUBLIC HEALTH

Project coordinated by

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Report compiled by

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Trans fatty acid

A pilot survey of trans fatty acid content of fast food in South Australia

Background

A recent New England Journal of Medicine review ⁽¹⁾ concluded that the consumption of trans fatty acid (TFA) from partially hydrogenated oils provides no apparent nutritional benefit and has considerable potential for harm. The potential benefits of near elimination of TFA intake in the USA was calculated to be the aversion of between 72,000 and 228,000 coronary heart disease events each year ⁽¹⁾. A daily intake of about 5g of TFA is reported as being associated with a 25 percent increase in the risk of ischemic heart disease ^(2, 3).

The US National Academy of Sciences' Institute of Medicine has suggested that the only safe level of trans fat is zero and that we should eat as little as possible consistent with a healthy balanced diet ⁽⁴⁾. Also the US Department of Agriculture has made the limited intake of TFAs a key recommendation of its new food-pyramid guidelines ⁽⁵⁾ subsequent to the recommendations of the Dietary Guidelines Advisory Committee that the consumption of TFAs be kept below 1% of total energy intake ⁽⁶⁾. The New York City Department of Health and Mental Hygiene has asked 20,000 restaurants and 14,000 food suppliers to eliminate partially hydrogenated oils from kitchens and to provide foods and food products that are free of industrially produced TFAs ⁽⁷⁾.

The advice of the Dieticians Association of Australia is that eating large amounts of TFAs can increase your total and bad (LDL cholesterol) cholesterol levels and decrease the good cholesterol (HDL cholesterol), therefore increasing your overall risk of developing heart disease. Like saturated fat, trans fats should be limited in the diet. TFAs are found in deep-fried fast foods and processed foods like cakes and biscuits made with margarine and shortening ⁽⁸⁾.

The regulation of TFA content of food or a requirement to label the TFA content of food occurs overseas. Denmark introduced legislation effective from 1 January 2004, restricting the use of TFA to a maximum of 2% of the fat in any food product. An alternative approach has been taken in the USA where the Food and Drug Administration (FDA) ruled that effective 1 January 2006 nutrition labels for all conventional foods and supplements must indicate the content of TFA. The UK Food Standards Agency is currently pressing for revision of the European Directive that regulates nutrition labels on foods for TFA to be labelled ⁽⁹⁾.

Currently in Australia there is no regulation of either TFA content of foods or inclusion of TFA content on food labels unless a nutrition claim is made about cholesterol, saturated, unsaturated or TFAs. Food Standards Australia New Zealand (FSANZ) is currently reviewing the issue of the regulation of TFA in foods.

The content of industrially produced TFA in 43 serves of fast food purchased from McDonalds and KFC from 20 countries was analysed in 2004-2005 ⁽²⁾. The TFA content of 171g of French fries and 160g of chicken nuggets varied from less than 1g in Denmark and Germany to 10g in New York (McDonalds) and 24g in Hungary (KFC). Fifty percent of the serves contained more than 5g TFA which is the amount of daily intake associated with a 25% increase in the risk of ischemic heart disease ^(2, 3).

In April 2005 the Australian Consumers Association reported in CHOICE magazine the results of a survey of the TFA content of 55 foods ⁽¹⁰⁾. Foods targeted were those which were likely to be produced using partially hydrogenated vegetable oils and at the same time contribute significant amounts of fat to the diet such as pies, cakes, biscuits, confectionery and deep-fried fast food from Hungry Jacks, KFC and McDonalds. CHOICE reports that 18 of the 55 foods tested would not be permitted in Denmark because TFA made up more than 2% of their total fat. The survey also demonstrated that a number of the products that were lower in TFA are higher in saturated fat. The CHOICE report also demonstrates that there are large differences between the trans fat in comparable products of different brands, which indicates that some manufacturers have successfully reduced dependence on trans fat ⁽¹⁰⁾.

Experience in countries other than the USA indicates that TFA can be largely replaced by unsaturated fats without increasing the cost or reducing the quality or availability of foods⁽¹⁾.

Introduction

The Department of Health compared the TFA content of fast food sold by McDonalds and KFC in Adelaide with 43 serves sold in 20 other countries as reported in the New England Journal of Medicine in April 2006 ⁽²⁾. Fries and chicken nuggets were purchased from 8 outlets of McDonalds and 8 outlets of KFC in Adelaide.

Methodology

Analysis of fat content was performed by the National Measurement Institute using the methodology reported in the New England Journal of Medicine ⁽²⁾.

Results

The results for fat, saturated fat and TFA content are provided in Attachment 1, and the full fat content results are provided in Attachment 2. A summary of results is provided in Table 1 below.

TABLE 1: Summary of TFA, saturated fat and total fat content of products

Serves	Fat profile	
	8 McDonalds outlets	8 KFC outlets
171g of fries and 160g chicken nuggets	Total TFA content is on average 4.8g with a range of 4.0g - 5.1g	Total TFA content is on average <0.4g with a range of <0.4 - <0.5g
171g fries	9% TFA as % of total fat (average 8 outlets)	<2% TFA as % of total fat (average 8 outlets)
160g chicken nuggets	7% TFA as % of total fat (average 8 outlets)	<1% TFA as % of total fat (average 8 outlets)
100g of fries	17g fat and 1.7g saturated fat (average 8 outlets)	11.1g fat and 5.7g saturated fat (average 8 outlets)
100g of chicken nuggets	20g fat and 3.2g saturated fat (average 8 outlets)	15.5g fat and 6.5g saturated fat (average 8 outlets)

Discussion of results

In comparison to 43 serves of 171g fries and 160g chicken nuggets from 20 countries as reported in the New England Journal of Medicine ⁽²⁾, Adelaide serves of KFC ranked as well as the best and McDonald serves ranked 10th, see Table 2 and Figure 1.

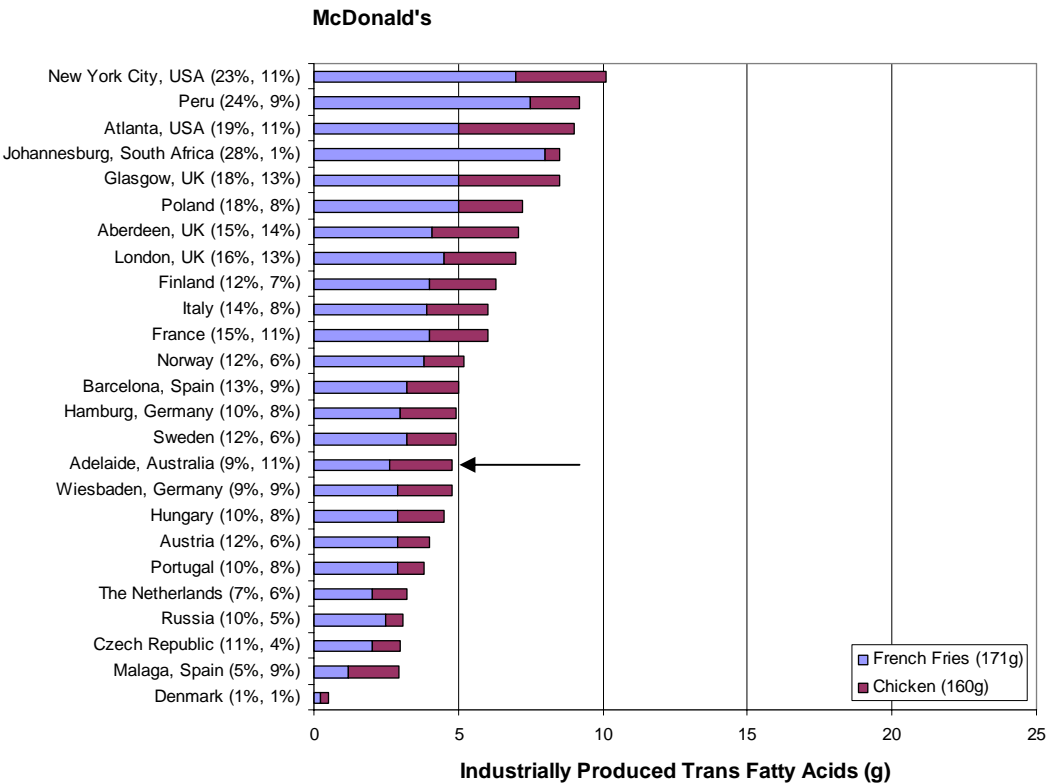
TABLE 2: Comparison of Adelaide serves with serves from other countries

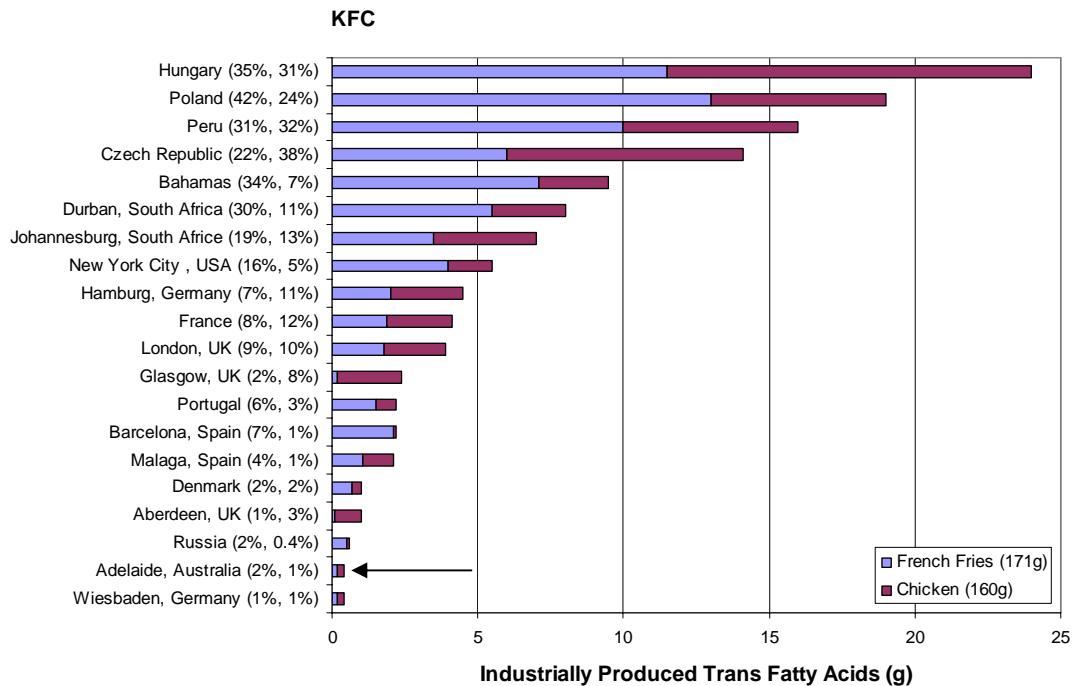
McDonalds	KFC
Average Total TFA content of 4.8g is comparable to the 10 th best of 24 serves from 19 countries (see Figure 1 for details of 19 countries)	Average Total TFA content of <0.4g is comparable to the best of 19 serves from 15 countries (see Figure 1 for details of 15 countries)

McDonalds products contain the daily intake of TFA associated with a 25% increase in the risk of ischemic heart disease.

While KFC products have less TFA and less total fat/100g compared to those from McDonalds, KFC products have higher levels of saturated fats. The CHOICE survey also found that some products that are lower in trans fat are higher in saturated fat.

FIGURE 1. A comparison of the amounts of industrially produced TFAs in fast food from two outlets in various countries, adapted from Stender et al ⁽²⁾. Arrows indicate ranking of fast food purchased in Adelaide.





The values in parenthesis on the Y axis are TFAs as a percentage of the total fat found in 43 servings of french fries and chicken nuggets purchased at McDonalds or KFC.

Conclusions

A spokesperson of McDonalds Australia has recently advised the Minister for Health that later this year (2006) McDonalds intends to change its oil to reduce the level of trans fats in its food. The impact on chronic disease will depend on whether this change will result in an increase in the saturated fat content of the food; this study and the CHOICE study identified that fast foods with lower trans fat content had higher levels of saturated fat.

Experience in countries other than the USA indicates that TFA can be largely replaced by unsaturated fats without increasing the cost or reducing the quality or availability of foods⁽¹⁾. Some other countries are providing consumers with information about the TFA content of food through a mandatory requirement for labelling.

The results of this pilot survey will be provided to FSANZ to inform its review of the regulation of TFA in foods. In line with regulation overseas, regulation in Australia could involve labelling of the TFA content of foods (as in the USA) or the establishment of a maximum allowable TFA content of foods (as in Denmark).

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ATTACHMENT 1 – Summary of fat, saturated fat and trans fatty acid content

McDonalds

	Fat g/100g fries	Fat g/100g chicken	Saturated g/100g fries	Saturated g/100g chicken	Trans fats g/100g fries	Trans fats g/100g chicken	Trans fats in 171g of french fries g/171g serve	Trans fats in 160g of chicken g/160g serve	Total trans fats in fries and chicken combined g/331g (fries + chicken)	Trans fat as % of total fat (fries)	Trans fat as % of total fat (chicken)
Fries	17.8		1.7		1.5		2.6		5.2		
Nuggets		23		3.1		1.6		2.6			
Fries	17.3		1.7		1.5		2.6		4.8		
Nuggets		22.2		3.4		1.4		2.2			
Fries	15.1		1.5		1.3		2.2		4.6		
Nuggets		19.7		3		1.5		2.4			
Fries	19.8		2		1.8		3.1		5.2		
Nuggets		19.8		3.1		1.3		2.1			
Fries	15.8		1.6		1.3		2.2		4.3		
Nuggets		19.6		3.1		1.3		2.1			
Fries	18.1		1.8		1.5		2.6		5.0		
Nuggets		22.5		3.4		1.5		2.4			
Fries	16.4		1.6		1.4		2.4		4.6		
Nuggets		21.2		3.3		1.4		2.2			
Fries	16.2		1.6		1.4		2.4		4.0		
Nuggets		17.7		3		1		1.6			
MEAN	17	20	1.7	3.2	1.5	1.4	2.6	2.2	4.8	9%	7%

ATTACHMENT 1 – Summary of fat, saturated fat and trans fatty acid content

KFC

	Fat g/100g fries	Fat g/100g chicken	Saturated g/100g fries	Saturated g/100g chicken	Trans fats g/100g fries	Trans fats g/100g chicken	Trans fats in 171g of french fries g/171g serve	Trans fats in 160g of chicken g/160g serve	Total trans fats in fries and chicken combined g/331g (fries + chicken)	Trans fat as % of total fat (fries)	Trans fat as % of total fat (chicken)
Fries	10.8		5.6		<0.1		<0.2		<0.4		
Nuggets		15.2		6.6		<0.1		<0.2			
Fries	12.2		6.4		<0.1		<0.2		<0.4		
Nuggets		17.9		7.8		0.1		0.2			
Fries	11		5.6		0.2		0.3		<0.5		
Nuggets		15.4		6.1		<0.1		<0.2			
Fries	10.8		5.5		0.1		0.2		<0.4		
Nuggets		14.6		5.8		<0.1		<0.2			
Fries	11.2		5.6		0.2		0.3		<0.5		
Nuggets		15		6		<0.1		<0.2			
Fries	11.2		5.8		0.1		0.2		<0.4		
Nuggets		15.3		6.2		<0.1		<0.2			
Fries	10.6		5.5		<0.1		<0.2		<0.4		
Nuggets		14.7		6.3		<0.1		<0.2			
Fries	10.8		5.5		0.1		0.2		<0.4		
Nuggets		16		7		<0.1		<0.2			
MEAN	11.1	15.5	5.7	6.5	0.1	<0.1	0.2	<0.2	<0.4	<2%	<1%

McDonalds

Fats Expressed on a per 100g of product basis										Saturated Triglycerides in Extracted Fat													
Omega 3 fats	Mono trans fats	Trans fats	Poly trans fats	Omega 6 fats	Poly-unsaturated fat	Mono-unsaturated fat	Fat (Mojonnier extraction)	Saturated Fat	C4:0 Butyric	C6:0 Caproic	C8:0 Caprylic	C10:0 Capric	C12:0 Lauric	C14:0 Myristic	C15:0 Pentadecanoic	C16:0 Palmitic	C17:0 Margaric	C18:0 Stearic	C20:0 Arachidic	C22:0 Behenic	C24:0 Lignoceric	Total Saturated	
g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
1	0.84	0.7	1.5	0.8	3	3.9	12.1	17.8	1.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.9	<0.1	4.2	0.2	0.3	<0.1	9.6	
2	0.92	0.7	1.6	0.9	4	4.9	14.9	23	3.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	8.5	<0.1	4.2	0.2	0.3	<0.1	13.4
3	0.78	0.7	1.5	0.8	3	3.8	11.8	17.3	1.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.7	<0.1	4.3	0.3	0.3	<0.1	9.6	
4	0.75	0.7	1.4	0.7	3.9	4.7	14	22.2	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	10	<0.1	4.5	0.2	0.2	<0.1	15.2
5	0.68	0.6	1.3	0.7	2.5	3.1	10.4	15.1	1.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.9	<0.1	4.5	0.3	0.3	<0.1	10	
6	0.97	0.6	1.5	0.9	3.2	4.2	12.5	19.7	3	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	9.7	<0.1	4.6	0.2	0.3	<0.1	15
7	0.85	0.8	1.8	1	3.3	4.2	13.5	19.8	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.8	<0.1	4.5	0.3	0.3	<0.1	9.9	
8	0.61	0.7	1.3	0.6	3.2	3.8	12.8	19.8	3.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	9.9	<0.1	4.8	0.2	0.3	<0.1	15.6
9	0.68	0.6	1.3	0.7	2.6	3.2	10.9	15.8	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	4.9	<0.1	4.7	0.3	0.3	<0.1	10.3
10	0.67	0.6	1.3	0.7	3.3	4	12.4	19.6	3.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	10.4	<0.1	4.6	0.2	0.2	<0.1	15.7
11	0.81	0.7	1.5	0.8	2.9	3.7	12.5	18.1	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.8	<0.1	4.6	0.3	0.3	<0.1	10	
12	0.74	0.7	1.5	0.8	3.8	4.5	14.5	22.5	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	9.7	<0.1	4.6	0.2	0.3	<0.1	15
13	0.74	0.7	1.4	0.7	2.7	3.5	11.2	16.4	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.9	<0.1	4.5	0.3	0.3	<0.1	10	
14	0.74	0.7	1.4	0.7	4	4.8	13.1	21.2	3.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	10.1	<0.1	4.6	0.2	0.2	<0.1	15.4
15	0.71	0.7	1.4	0.7	2.6	3.3	11.1	16.2	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.9	<0.1	4.6	0.3	0.3	<0.1	10.1	
16	0.55	0.5	1	0.5	2.8	3.4	11.3	17.7	3	<0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	11.2	0.1	4.8	0.2	0.2	<0.1	16.9

Key: Numbers 1 ,3 ,5 ,7 ,9 ,11 ,13 ,15 = Fries

Numbers 2, 4, 6, 8, 10, 12, 14, 16 = Chicken Nuggets

McDonalds

	Mono-unsaturated Triglycerides in Extracted Fat								Poly-unsaturated Triglycerides in Extracted Fat														Totals			
	C14:1 Myristoleic	C16:1 Palmitoleic	C17:1 Heptadecenoic	C18:1 Oleic	C20:1 Eicosenic	C22:1 Docosenoic	C24:1 Nervonic	Total Mono-unsaturated	Omega 6 Fatty Acids	Omega 3 Fatty Acids	C18:2w6 Linoleic	C18:3w6 gamma-Linolenic	C18:3w3 alpha-Linolenic	C20:2w6 Eicosadienoic	C20:3w6 Eicosatrienoic	C20:3w3 Eicosatrienoic	C20:4w6 Arachidonic	C20:5w3 Eicosapentaenoic	C22:2w6 Docosadienoic	C22:4w6 Docosatetraenoic	C22:5w3 Docosapentaenoic	C22:6w3 Docosahexaenoic	Total Poly-unsaturated	Total Mono Trans Fatty Acids	Total Poly Trans Fatty Acids	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	<0.1	0.2	<0.1	66.5	1.3	0.1	<0.1	68.1	17	4.7	17	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	21.7	4	4.2	
2	<0.1	1.5	0.1	61.9	1.1	<0.1	0.1	64.7	17.3	4	17.3	<0.1	3.9	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	21.3	3.1	3.7	
3	<0.1	0.2	<0.1	66.5	1.1	0.1	0.1	68	17.5	4.5	17.5	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	22	3.8	4.8	
4	<0.1	1.8	<0.1	60.3	0.9	0.1	0.1	63.2	17.6	3.4	17.6	<0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21	3	3.3	
5	<0.1	0.3	<0.1	67.1	1.1	0.1	0.1	68.7	16.3	4.5	16.3	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.8	4.1	4.4	
6	<0.1	1.8	<0.1	61.3	<0.1	<0.1	0.1	63.2	16.4	4.9	16.4	<0.1	4.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.3	3.2	4.7	
7	<0.1	0.2	<0.1	66.9	1.1	0.1	0.1	68.4	16.8	4.3	16.8	<0.1	4.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.1	4.1	4.8	
8	<0.1	1.7	<0.1	62	0.9	0.1	0.1	64.8	16	3.1	15.9	<0.1	3.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.1	3.4	3.2	
9	<0.1	0.2	<0.1	67.2	1.1	0.1	0.1	68.7	16.2	4.3	16.1	<0.1	4.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	4.1	4.4	
10	<0.1	1.9	<0.1	60.3	0.9	0.1	0.1	63.3	17	3.4	17	<0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	3.1	3.6	
11	<0.1	0.2	<0.1	67.3	1.1	0.1	0.1	68.8	16.2	4.5	16.2	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.7	4	4.4	
12	<0.1	1.6	<0.1	61.6	1	0.1	0.1	64.4	16.7	3.3	16.7	<0.1	3.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20	3.2	3.5	
13	<0.1	0.2	<0.1	66.9	1.1	0.1	0.1	68.4	16.6	4.5	16.6	<0.1	4.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.1	4	4.4	
14	<0.1	1.5	<0.1	59.1	0.8	0.1	0.1	61.6	19	3.5	19	<0.1	3.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	22.5	3.1	3.4	
15	<0.1	0.2	<0.1	67.3	1	0.1	0.1	68.7	16.1	4.4	16.1	<0.1	4.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	4	4.4	
16	<0.1	2.1	<0.1	60.5	0.9	<0.1	0.1	63.6	15.9	3.1	15.8	<0.1	3.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19	3	2.7	

Key: Numbers 1 ,3 ,5 ,7 ,9 ,11 ,13 ,15 = Fries

Numbers 2, 4, 6, 8, 10, 12, 14, 16 = Chicken Nuggets

KFC

	Fats Expressed on a per 100g of product basis									Saturated Triglycerides in Extracted Fat													
	Omega 3 fats	Mono trans fats	Trans fats	Poly trans fats	Omega 6 fats	Poly-unsaturated fat	Mono-unsaturated fat	Fat (Mojonnier extraction)	Saturated Fat	C:4:0 Butyric	C:6:0 Caproic	C:8:0 Caprylic	C:10:0 Capric	C:12:0 Lauric	C:14:0 Myristic	C:15:0 Pentadecanoic	C:16:0 Palmitic	C:17:0 Margaric	C:18:0 Stearic	C:20:0 Arachidic	C:22:0 Behenic	C:24:0 Lignoceric	Total Saturated
	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	g/100g	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	<0.1	<0.1	<0.1	<0.1	0.9	0.9	4.2	10.8	5.6	<0.1	<0.1	<0.1	<0.1	0.3	1.7	0.2	41.1	0.4	8.1	0.1	<0.1	<0.1	51.9
2	0.1	<0.1	<0.1	<0.1	2.3	2.4	6.1	15.2	6.6	<0.1	<0.1	<0.1	<0.1	0.1	1	<0.1	36.6	0.2	5.2	<0.1	<0.1	<0.1	43.1
3	<0.1	<0.1	<0.1	<0.1	1	1.1	4.6	12.2	6.4	<0.1	<0.1	<0.1	<0.1	0.2	1.5	0.1	43.3	0.3	6.9	0.1	<0.1	<0.1	52.4
4	0.2	0.1	0.1	<0.1	2.2	2.4	7.7	17.9	7.8	<0.1	<0.1	<0.1	<0.1	0.2	1.3	0.2	34.1	0.3	7.2	<0.1	<0.1	<0.1	43.3
5	<0.1	0.2	0.2	<0.1	0.7	0.8	4.5	11	5.6	<0.1	<0.1	<0.1	<0.1	0.3	2.1	0.3	36.3	0.7	11.1	0.1	<0.1	<0.1	50.9
6	0.1	<0.1	<0.1	<0.1	3	3.2	6.1	15.4	6.1	<0.1	<0.1	<0.1	<0.1	0.1	1.2	0.1	32	0.2	5.9	<0.1	<0.1	<0.1	39.5
7	<0.1	0.1	0.1	<0.1	0.8	0.9	4.3	10.8	5.5	<0.1	<0.1	<0.1	<0.1	0.3	1.9	0.2	38.7	0.5	9.5	0.1	<0.1	<0.1	51.2
8	0.1	<0.1	<0.1	<0.1	3	3.1	5.6	14.6	5.8	<0.1	<0.1	<0.1	<0.1	0.1	1.1	<0.1	33.1	0.2	5.3	<0.1	<0.1	<0.1	39.8
9	<0.1	0.2	0.2	<0.1	1	1.1	4.5	11.2	5.6	<0.1	<0.1	<0.1	<0.1	0.3	2.1	0.3	35.8	0.7	11	<0.1	<0.1	<0.1	50.2
10	0.1	<0.1	<0.1	<0.1	2.9	3.1	5.8	15	6	<0.1	<0.1	<0.1	<0.1	0.1	1.1	0.1	33.4	0.2	5.4	<0.1	<0.1	<0.1	40.3
11	<0.1	0.1	0.1	<0.1	0.9	0.9	4.4	11.2	5.8	<0.1	<0.1	<0.1	<0.1	0.3	1.8	0.2	39.7	0.5	9.2	0.1	<0.1	<0.1	51.8
12	0.1	<0.1	<0.1	<0.1	2.8	2.9	6.1	15.3	6.2	<0.1	<0.1	<0.1	<0.1	0.1	1	<0.1	34	0.2	5.1	<0.1	<0.1	<0.1	40.4
13	<0.1	<0.1	<0.1	<0.1	0.9	1	4	10.6	5.5	<0.1	<0.1	<0.1	<0.1	0.2	1.4	0.1	43.6	0.3	6.5	0.1	<0.1	<0.1	52.2
14	0.1	<0.1	<0.1	<0.1	2.1	2.2	6	14.7	6.3	<0.1	<0.1	<0.1	<0.1	0.1	1	<0.1	36.9	0.1	4.9	<0.1	<0.1	<0.1	43
15	<0.1	0.1	0.1	<0.1	1	1	4.3	10.8	5.5	<0.1	<0.1	<0.1	<0.1	0.3	1.9	0.3	37.4	0.6	10	<0.1	<0.1	<0.1	50.5
16	0.1	<0.1	<0.1	<0.1	2.3	2.4	6.5	16	7	<0.1	<0.1	<0.1	<0.1	0.1	1.1	<0.1	36.6	0.2	5.5	<0.1	<0.1	<0.1	43.5

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KFC

	Mono-unsaturated Triglycerides in Extracted Fat								Poly-unsaturated Triglycerides in Extracted Fat														Totals			
	C14:1 Myristoleic	C16:1 Palmitoleic	C17:1 Heptadecenoic	C18:1 Oleic	C20:1 Eicosenic	C22:1 Docosenoic	C24:1 Nervonic	Total Mono-unsaturated	Omega 6 Fatty Acids	Omega 3 Fatty Acids	C18:2w6 Linoleic	C18:3w6 gamma-Linolenic	C18:3w3 alpha-Linolenic	C20:2w6 Eicosadienoic	C20:3w6 Eicosatrienoic	C20:3w3 Eicosatrienoic	C20:4w6 Arachidonic	C20:5w3 Eicosapentaenoic	C22:2w6 Docosadienoic	C22:4w6 Docosatetraenoic	C22:5w3 Docosapentaenoic	C22:6w3 Docosahexaenoic	Total Poly-unsaturated	Total Mono Trans Fatty Acids	Total Poly Trans Fatty Acids	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	0.1	1	<0.1	37.9	0.2	<0.1	<0.1	39.2	8.1	0.6	8.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.7	0.8	0.6
2	<0.1	2.5	<0.1	37.5	0.2	<0.1	<0.1	40.2	15.2	0.8	15.2	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	16	0.3	0.3
3	<0.1	0.7	<0.1	37.2	0.2	<0.1	<0.1	38.1	8.4	0.5	8.4	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.9	0.6	0.6
4	0.2	3.3	<0.1	39.2	0.3	<0.1	<0.1	43	12.4	0.9	12.4	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	13.3	0.7	0.3
5	0.2	1.8	<0.1	38.9	0.3	<0.1	<0.1	41.2	6.8	0.7	6.8	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	7.5	1.5	0.4
6	0.1	3	<0.1	35.9	0.3	<0.1	<0.1	39.3	19.6	0.9	19.6	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	0.5	0.4
7	0.2	1.3	<0.1	38.5	0.2	<0.1	<0.1	40.2	7.7	0.7	7.7	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.4	1.2	0.5
8	0.1	2.7	<0.1	35.3	0.2	<0.1	<0.1	38.3	20.5	0.8	20.5	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.3	0.4	0.4
9	0.2	1.7	<0.1	37.9	0.2	<0.1	<0.1	40	8.6	0.8	8.6	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.4	1.5	0.5
10	0.1	2.8	<0.1	35.8	0.2	<0.1	<0.1	38.9	19.5	0.9	19.5	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	0.4	0.5
11	0.2	1.3	<0.1	37.9	0.2	<0.1	<0.1	39.6	7.6	0.7	7.6	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	8.3	1.1	0.5
12	0.1	3.1	<0.1	36.3	0.2	<0.1	<0.1	39.7	18.3	0.9	18.3	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.2	0.4	0.5
13	<0.1	0.7	<0.1	37	0.1	<0.1	<0.1	37.8	8.8	0.7	8.8	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.5	0.5	0.5
14	<0.1	2.9	<0.1	38	0.2	<0.1	<0.1	41.1	14.2	0.9	14.2	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	15.1	0.3	0.4
15	0.2	1.5	<0.1	37.7	0.2	<0.1	<0.1	39.6	8.8	0.8	8.8	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	9.6	1.3	0.6
16	0.1	2.8	<0.1	37.8	0.2	<0.1	<0.1	40.9	14.1	0.9	14.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	15	0.4	0.3

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