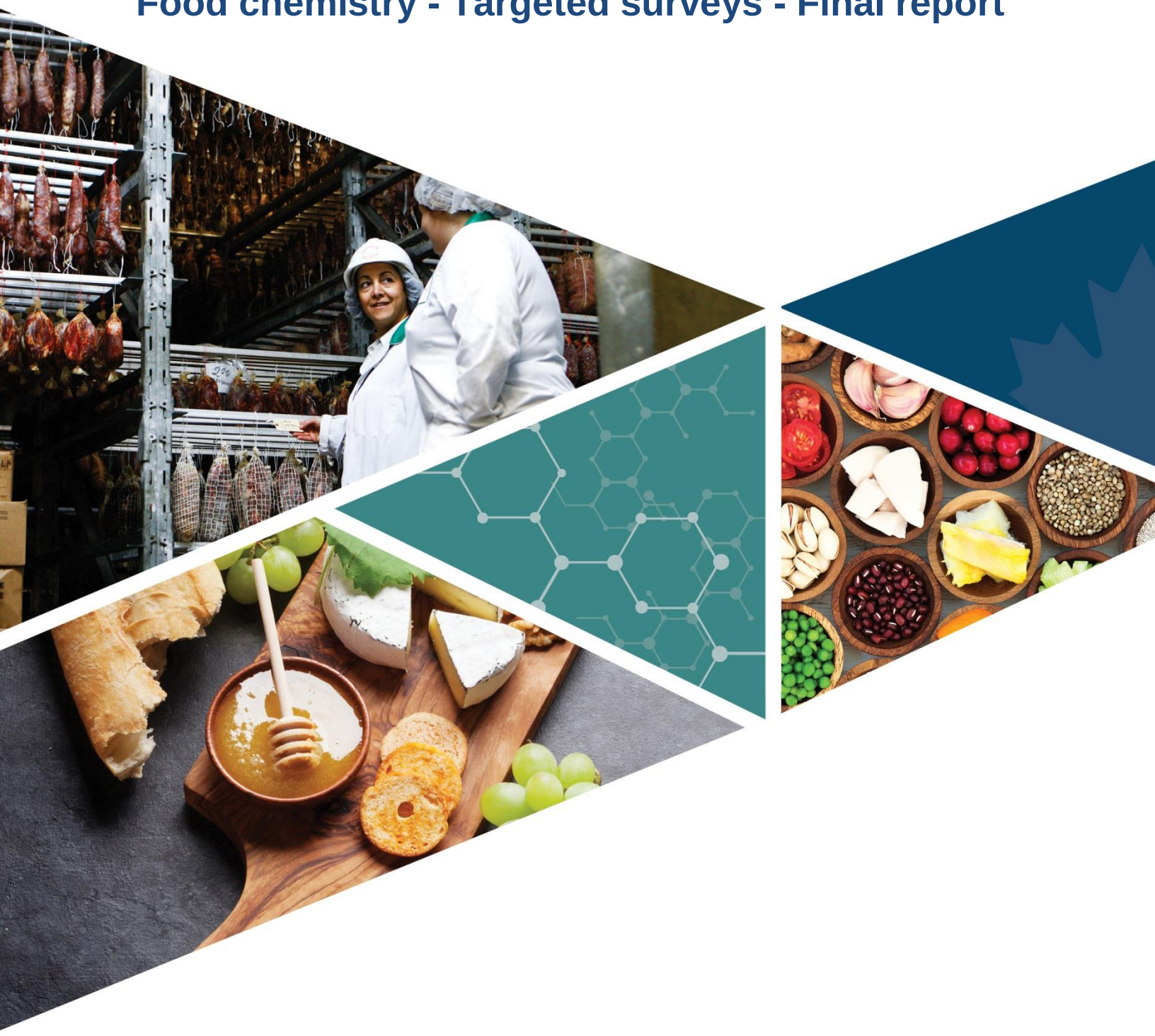
Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

Furan, 2-methylfuran and 3-methylfuran in Selected Foods - April 1, 2013 to March 31, 2018

Food chemistry - Targeted surveys - Final report



Canada

Summary

Targeted surveys provide information on potential food hazards and enhance the Canadian Food Inspection Agency's (CFIA's) routine monitoring programs. These surveys provide evidence regarding the safety of the food supply, identify potential emerging hazards, and contribute new information and data to food categories where it may be limited or non-existent. They are often used by the CFIA to focus surveillance on potential areas of higher risk. Surveys can also help to identify trends and provide information about how industry complies with Canadian regulations.

Furan is a chemical that can unintentionally form in foods that undergo thermal treatment such as canning[1]. Precursors to furan that are often present in food include ascorbic acid, polyunsaturated fatty acids, amino acids and sugars[1,2,3]. This compound occasionally coexists with 2-methylfuran and 3-methylfuran. In this report, the term 'furans' refers to the sum of furan, 2-methylfuran and 3-methylfuran, whereas 'furan' refers only to the furan compound. The term "analogue" refers to compounds which have similar but slightly different structures; it is sometimes used in this report to refer to the 3 forms of furan. It should be noted that the furans in this survey are not related to chlorinated dibenzofurans, the environmental contaminants which are often also referred to as "furans".

Furan may pose a health risk to the consumer, as the International Agency for Research on Cancer (IARC) has classified it as 'possibly carcinogenic to humans'[4]. Additionally, 2-methylfuran and 3-methylfuran have been shown to have a similar toxicity to furan[5]. Although preliminary estimates for consumer exposure are well below what would cause harmful effects, limited information is available concerning furan levels in food. Therefore, the goal of this survey was to generate further baseline surveillance data on the presence and levels of furan, 2-methylfuran and 3-methylfuran in selected heat treated foods available on the Canadian retail market.

A total of 945 samples were collected from retail stores in 6 cities across Canada. The samples collected included alcoholic beverages, beer, breakfast cereals, potato chips, coffee, infant foods, processed fruits and vegetables, sauces and soup. Furans were detected in 83% of the survey samples and levels ranged from 0.55 ppb (parts per billion) to nearly 284000 ppb. The highest average concentrations of furans were found in coffee. Of the samples studied, 19% (184) contained only 1 of the 3; 2 of the 3 were present in 29% (273 samples) and all 3 furans were detected in 329 samples (35%). The results from this survey were comparable to those found in international surveys and a variety of scientific studies.

The levels of furans observed in this survey were evaluated by Health Canada who determined that none of the samples would pose an unacceptable human health concern, therefore there were no recalls resulting from this survey.

What are targeted surveys

Targeted surveys are used by the CFIA to focus its surveillance activities on areas of highest health risk. The information gained from these surveys provides support for the allocation and prioritization of the agency's activities to areas of greater concern. Originally started as a project under the Food Safety Action Plan (FSAP), targeted surveys have been embedded in the CFIA's regular surveillance activities since 2013. Targeted surveys are a valuable tool for generating information on certain hazards in foods, identifying and characterizing new and emerging hazards, informing trend analysis, prompting and refining health risk assessments, highlighting potential contamination issues, as well as assessing and promoting compliance with Canadian regulations.

Food safety is a shared responsibility. The CFIA works with federal, provincial, territorial and municipal governments and provides regulatory oversight of the food industry to promote safe handling of foods throughout the food production chain. The food industry and retail sectors in Canada are responsible for the food they produce and sell, while individual consumers are responsible for the safe handling of the food they have in their possession.

Why did we conduct this survey

The main objectives of this targeted survey were to generate further baseline surveillance data on the level of furan, 2-methylfuran and 3-methylfuran in domestic and imported products on the Canadian retail market, and to compare the prevalence of furans in foods targeted in this survey with that of similar products in international surveys and to the scientific literature.

Furan may pose a health risk to consumers since the IARC has classified it as 'possibly carcinogenic to humans'[4]. Furan can sometimes form in foods that undergo heat treatments, particularly in foods that contain its precursors such as ascorbic acid, polyunsaturated fatty acids, amino acids and sugars[1,2,3]. In some foods, 2-methylfuran and 3-methylfuran can also form, which have a similar toxicity to furan[5]. Because thermal treatments are widely used for manufacturing shelf-stable food, it is important to establish data on the prevalence of furan, 2-methylfuran and 3-methylfuran in food available on the Canadian retail market.

Maximum Residue Limits (MRLs) for furans levels have not yet been established, as the toxicity of furans in humans is not well known. The U.S. Food and Drug Administration (FDA) and the European Food Safety Authority (EFSA) have studied furan levels in a variety of commodities[6,7], but limited data is available concerning 2- and 3-methylfuran levels. This survey was initiated in consultation with Health Canada to establish further baseline surveillance data to compliment and expand upon the data collected by other agencies[1].

What did we sample

These products were selected as they undergo heat treatment (frying, baking, pasteurisation) which can result in the formation of furans. In this multi-year survey, a variety of domestic and imported products from the following categories were tested including: alcoholic beverages (brandy, gin, rum, tequila, vodka, whiskey, Polish liqueur, cherry brandy, ouzo, sugar cane spirits), beer, breakfast cereals, potato chips, coffee, infant foods, processed fruits and vegetables, sauces and soup. Products were sampled between April 1 and March 31st for the following survey years: 2013-14, 2014-15, 2015-16, 2016-17, and 2017-18. Samples of products were collected from local/regional retail locations located in 6 major cities across Canada. These cities encompassed 4 Canadian geographical areas:

- Atlantic (Halifax)
- Quebec (Montreal)
- Ontario (Toronto and Ottawa)
- West (Vancouver and Calgary)

The number of samples collected from these cities was in proportion to the relative population of the respective areas. The samples surveyed originated from 46 countries and included domestic products.

Table 1. Distribution of samples based on product type and origin

Product type	Number of domestic samples	Number of imported samples	Number of samples of unspecified[a] origin	Total number of samples
Alcoholic beverages	65	79	6	150
Beers	14	31	0	45
Breakfast Cereals	51	89	50	190
Coffees	39	43	27	109
Infant Foods	20	53	26	99
Potato Chips	44	25	26	95
Processed fruits and vegetables	47	106	11	164
Sauces	15	16	12	43
Soups	33	10	7	50
Total	**328**	**452**	**165**	**945**

[a] Unspecified refers to those samples for which the country of origin could not be assigned from the product label or available sample information

How were samples analyzed and assessed

Samples were analyzed by an ISO/IEC 17025 accredited food testing laboratory under contract with the Government of Canada. The furan level reported per sample is the sum of the levels of

furan, 2-methylfuran and 3-methylfuran, where detected. The results are based on the food products as sold and not necessarily as they would be consumed.

In the absence of established tolerances or standards for furans in foods, elevated levels of in specific foods may be assessed by Health Canada on a case-by-case basis using the most current scientific data available.

What were the survey results

Of the 945 samples tested, 786 (83%) had detected levels of furans (sum of detected levels of furan, 2-methylfuran, and 3-methylfuran). Furan was detected in 755 samples, 2-methylfuran was detected in 588 samples, and 3-methylfuran was detected in 371 samples. The average concentrations decreased in the order: 2-methylfuran (2188 ppb) > furan (506 ppb) > 3-methylfuran (113 ppb). Of the samples tested, 19% (184) contained 1 of the 3 compounds; 2 of the 3 furans were present in 273 samples (29%), and all 3 compounds were found in 35% (329 samples). Table 2 shows that the detection rate of furans varied greatly between product types. Among all product types included in this survey, the average concentration was highest in coffee and lowest in beer.

Table 2. Summary of targeted survey furan results in selected foods by product type in ppb.

Product type	Number of samples	Number of samples (%) with detected levels	Minimum (ppb)	Maximum (ppb)	Average[b] (ppb)
Alcoholic beverages	150	45 (30)	0.55	9.9	3.5
Beer	45	30 (67)	0.7	9.8	1.0
Breakfast cereals	190	173 (91)	2.5	707	46
Coffee	109	109 (100)	2.0	283675	24102
Infant foods	99	97 (98)	1.5	232	51
Potato chips	95	83 (87)	2.6	341	20
Processed fruits and vegetables	164	157 (96)	0.64	204	18
Sauces	43	42 (98)	8.4	143	42
Soup	50	50 (100)	1.0	658	73
Total	**945**	**786 (83)**	**0.55**	**283675**	**3372**

[b] Only positive results were used to calculate the average levels

Alcoholic beverages and beer

There were 10 types of alcoholic beverages sampled. Furans were not detected in samples of brandy, sugar cane spirits, or Polish liqueur. Tequila was associated with the highest detection rate and the highest average concentration of furans (5.0 ppb). See Table 1 in Appendix A for a more detailed breakdown of furan levels by type of alcoholic beverage.

Furans were detected in 30 out of 45 beer samples (67%) tested. There was no trend between type of beer and furan levels.

Breakfast cereals

Most (91%) of breakfast cereals had detectable levels of furans. The detection rate was 86% (83 out of 96 samples) in cereals targeted to adults and 96% (90 out of 94 samples) in cereals targeted at children. Levels of furans ranged from 2.5 ppb to 192 ppb in cereals for adults and from 3.6 ppb to 707 ppb in cereals for children. The average furan levels were 31 ppb and 59 ppb for cereals for adults and for children, respectively.

Detection rates were highest in corn and rice cereals (100%) and lowest in oat-based cereals (87%). Average furan levels were highest in corn-based cereals (63 ppb) and lowest in oat-based cereals (30 ppb). See Table 2 in Appendix A for a more detailed breakdown of furan levels by grain type.

Coffee

All samples of coffee (ready-to-drink shelf-stable beverages, coffee beans, ground coffee and instant coffee) contained detectable levels of furans. Coffee products were associated with the highest detection rates, the highest observed levels, and the highest average level of furans for the products tested in this survey. The highest average level was observed in coffee beans (38 812 ppb) and the lowest in beverages (111 ppb). See Table 3 in Appendix A for a more detailed breakdown of furan levels by type of coffee product.

Infant foods

Infant foods tested in this survey included: fruit purees, fruit and vegetable purees, vegetable purees and meals for infants/toddlers. Of the 99 infant food products tested, all but 2 samples contained furans. The average level of furans was highest in vegetable purees (89 ppb) and lowest in fruit purees (11 ppb). See Table 4 in Appendix A for a more detailed breakdown of furan levels by type of infant food.

Potato chips and Processed fruits and vegetables (PFV)

Most samples of potato chips (83 out of 95 or 87%) contained detectable levels of furans. The detection rate and furan levels were similar to other processed fruits and vegetables.

There were 22 different fruits and vegetables captured in this product type, with mixed fruits, mixed vegetables, beans and peaches making up 67% of the samples. The detection rate was 100% for 17/22 types of fruits and vegetables; the detection rate decreased in the order: mixed fruits (97%) > mixed vegetables (94%) > peach (91%) > pineapple (88%) > pear (80%). The average furan level was highest in sweet potato (137 ppb) and lowest in lychee (1.0 ppb). See Table 5 in Appendix A for a more detailed breakdown of furan levels by type of fruit or vegetable.

Sauces

Only Barbeque (BBQ) and steak sauces were examined as these undergo heat treatment during production. Furans were detected in 42 out of 43 samples The lowest (8.4 ppb) and highest furan levels were detected in BBQ sauces.

Soups

All 50 soup (including broths, vegetable soups, meat-containing soups, poultry-containing soups) samples had detectable levels of furans. The lowest furan level was detected in chicken broth (1.02 ppb) and the highest level was detected in rib + vegetable soup (658 ppb).

What do the survey results mean

For all product types, furan levels found in this survey were comparable to the data in the scientific literature[6,7,8,9,10,11,12,13,14,15,16,17,18]. Table 3 focuses on the levels for furan found, as limited data is available concerning 2- and 3-methylfuran levels in foods and therefore no comparison on the presence of 2- and 3-methylfuran could be made. Where feasible, total furan levels are reported.

The detection rates in the CFIA surveys were within the range of those reported for the scientific literature, except for alcoholic beverages. There is little data available on the furan levels in gin, tequila, and vodka. The maximum furan levels in the CFIA surveys were within the range reported for the literature, except for alcoholic beverages, potato chips, coffee and PFV where the levels are higher in the CFIA surveys. The average furan levels in the CFIA surveys fall within the range reported in other studies, except for coffee, infant food, PFV and soup where the average level in the CFIA surveys are higher. In most of the cases, this may be due to larger sample size and more targeted product selection.

Table 3. Minimum, maximum and average concentration of furan in selected foods in ppb

Product type	Study	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Alcoholic beverages	***CFIA, 2017***	***50***	***14 (28)***	***0.55***	***9.9***	***3.5***[c]
Alcoholic beverages	***CFIA, 2016***	***50***	***20 (40)***	***0.7***	***9.8***	***1.0***[c]
Alcoholic beverages	***CFIA, 2015***	***50***	***11 (22)***	***0.55***	***9.9***	***3.5***[c]
Alcoholic beverages	Canada, Goldberg et al., 1999	8	not specified	1.50	4.44	2.97[c] Whisky, not detected in rum
Beer	***CFIA, 2017***	***15***	***8 (53)***	***1.8***	***9.8***	***4.8***[c]
Beer	***CFIA, 2016***	***15***	***13 (87)***	***0.70***	***6.5***	***2.0***[c]
Beer	EFSA, 2011	102	Not specified	Not specified	28	3.3[c]
Beer	Taiwan, Liu et al., 2010	5	5 (100)	3.0	20.0	11.5[c]
Beer	EFSA, 2009	5	Not specified	<2.4	2.9	Not specified
Beer	US FDA, 2009	8	4 (50)	0.8	4.4	1.9[c]
Breakfast cereals	***CFIA, 2017***	***50***	***9 (60)***	***1.5***	***5.2***	***2.9***[c]
Breakfast cereals	***CFIA, 2016***	***50***	***47 (94)***	***6.6***	***160***	***41***[c]
Breakfast cereals	***CFIA, 2015***	***50***	***49 (98)***	***2.5***	***192***	***36***[c]
Breakfast cereals	***CFIA, 2014***	***20***	***43 (86)***	***3.1***	***707***	***66***[c]
Breakfast cereals	***CFIA, 2013***	***20***	***16 (80)***	***3.7***	***158***	***36***[c]
Breakfast cereals	Czech, Fromberg et al., 2014	11	Not specified	< 2.4	387	57.4
Breakfast cereals	Brazil, Arisseto et al., 2012	6	6 (100)	11.8	23.9	18.8
Breakfast cereals	Taiwan, Liu, 2010	8	8 (100)	12.7	65.3	34.3
Breakfast cereals	EFSA, 2009	11	8 (73)	<2.4	387	79
Breakfast cereals	US FDA, 2009	25	16 (64)	2.3	47.5	18.4
Chips - Potato	***CFIA, 2017***	***25***	***18 (72)***	***5.0***	***31***	***17***[c]
Chips - Potato	***CFIA, 2016***	***25***	***25 (100)***	***2.8***	***29***	***11***[c]
Chips - Potato	***CFIA, 2015***	***25***	***21 (84)***	***2.6***	***341***	***37***[c]
Chips - Potato	***CFIA, 2014***	***10***	***9 (90)***	***2.6***	***24***	***14***[c]

Product type	Study	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Chips - Potato	***CFIA, 2013***	***10***	***10 (100)***	***2.7***	***82***	***16*** [c]
Chips - Potato	Chile, Mariotti-Celis et al., 2017	3	3 (100)	173	234	200
Chips - Potato	Czech, Fromberg et al., 2014	9	Not specified	< 2.4	91	24.3
Chips - Potato	EFSA, 2009	1	0 (0)	<2.4	<2.4	<2.4
Coffee	***CFIA, 2017***	***25***	***25 (100)***	***14***	***57697***	***13581*** [c]
Coffee	***CFIA, 2016***	***25***	***25 (100)***	***10***	***47416***	***17564*** [c]
Coffee	***CFIA, 2015***	***25***	***25 (100)***	***26***	***283675***	***56237*** [c]
Coffee	***CFIA, 2014***	***15***	***15 (100)***	***66***	***152396***	***22536*** [c]
Coffee	***CFIA, 2013***	***19***	***19 (100)***	***52***	***21040***	***5505*** [c]
Coffee	Canada, Becalski et al., 2016	79	79 (100)	32.13	16 422	4404
Coffee	Brazil, Arisseto et al., 2012	79	73 (92)	15 400	5021	1172
Coffee	EFSA, 2011	934	Not specified	Not specified	11000	1682
Coffee (brewed)	Spain, Altaki et al., 2011	44	44 (100)	13	146	49
Coffee	Taiwan, Liu et al., 2010	10	10 (100)	35.4	150.0	66.9
Coffee	EFSA, 2009	17	14 (82)	122	1966	884
Coffee	US FDA, 2009	14	10 (71)	4.8	84.2	38.6
Infant foods	***CFIA, 2017***	***22***	***22 (100)***	***10***	***232***	***106*** [c]
Infant foods	***CFIA, 2016***	***24***	***24 (100)***	***2.1***	***138***	***31*** [c]
Infant foods	***CFIA, 2015***	***24***	***23 (96)***	***1.5***	***114***	***33*** [c]
Infant foods	***CFIA, 2014***	***20***	***19 (95)***	***1.9***	***172***	***46*** [c]
Infant foods	***CFIA, 2013***	***9***	***9 (100)***	***3.4***	***92***	***32*** [c]
Infant foods	Czech, Fromberg et al., 2014	5	Not specified	< 2.4	45	17.8
Infant foods	EFSA, 2011	1617	Not specified	Not specified	233	31
Infant foods	S. Korea, Kim et al., 2010	10	10 (100)	6.15	102.48	29.93
Infant foods	Taiwan, Liu et al., 2010	8	8 (100)	4.3	124.1	31.4

Product type	Study	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Infant foods	Germany, Lachenmeier et al., 2009	214	176 (82)	2-5	>50	24.5
Infant foods	EFSA, 2009	37	23 (62)	<2.4	83	8.0
Infant foods	US FDA, 2009	148	143 (97)	1.3	112	35.0
PFV	***CFIA, 2017***	***43***	***43 (100)***	***1.4***	***204***	***34*** [c]
PFV	***CFIA, 2016***	***41***	***41 (100)***	***0.97***	***65***	***11*** [c]
PFV	***CFIA, 2015***	***41***	***38 (93)***	***0.64***	***120***	***11*** [c]
PFV	***CFIA, 2014***	***20***	***18 (90)***	***1.1***	***55***	***15*** [c]
PFV	***CFIA, 2013***	***19***	***17 (89)***	***1.2***	***41***	***9.2*** [c]
PFV	Czech, Fromberg et al., 2014	18	Not specified	< 2.4	12	3.8
PFV	Brazil, Arisseto et al., 2012	70	42 (60)	<2.4	16.1	5.1
PFV	EFSA, 2011	391	Not specified	Not specified	80	7.3
PFV	S. Korea, Kim et al., 2010	10	10 (100)	3.08	58.30	17.50
PFV	Taiwan, Liu et al., 2010	5	5 (100)	3.4	15.2	11.7
PFV	EFSA, 2009	1	1(100)	102	102	N/A[d]
PFV	US FDA, 2009	76	73 (96)	0.5	122	21.7
Sauces	***CFIA, 2017***	***10***	***10 (100)***	***20***	***121***	***64*** [c]
Sauces	***CFIA, 2016***	***10***	***10 (100)***	***8.4***	***143***	***47*** [c]
Sauces	***CFIA, 2015***	***10***	***9 (90)***	***12***	***72***	***35*** [c]
Sauces	***CFIA, 2014***	***5***	***5 (100)***	***14***	***29***	***18*** [c]
Sauces	***CFIA, 2013***	***8***	***8 (100)***	***13***	***68***	***32*** [c]
Sauces	EFSA, 2011	270	Not specified	Not specified	175	8.3
Sauces	Taiwan, Liu et al., 2010	2	2 (100)	21.7	123	72.4
Sauces	US FDA, 2009	3	3 (100)	13.5	28	19
Soup	***CFIA, 2017***	***10***	***10 (100)***	***1.0***	***174***	***80*** [c]
Soup	***CFIA, 2016***	***10***	***10 (100)***	***2.2***	***101***	***55*** [c]
Soup	***CFIA, 2015***	***10***	***10 (100)***	***2.4***	***658***	***109***

Product type	Study	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Soup	***CFIA, 2014***	***10***	***10 (100)***	***12***	***187***	***72*** [c]
Soup	***CFIA, 2013***	***10***	***10 (100)***	***2.2***	***101***	***47*** [c]
Soup	EFSA, 2011	270	Not specified	Not specified	225	23
Soup	S. Korea, Kim et al., 2010	5	5 (100)	8.99	36.20	18.54
Soup	EFSA, 2009	12	11 (92)	<2.4	47	29.4
Soup	US FDA, 2009	36	36 (100)	6.7	125	36.6

[c] Only positive results were used to calculate the average (hazard) levels
[d] Average levels are not available as only one sample contained furan

Health Canada's Bureau of Chemical Safety determined the levels of furan, 2-methylfuran and 3-methylfuran in food observed in this survey are not expected to pose a concern to human health; therefore no follow-up actions were required.

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Appendix A

Table 1. Breakdown of furan levels by type of alcoholic beverage

Type	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Brandy	4	0 (0)	N/A	N/A	N/A
Gin	20	16 (80)	0.55	5.6	3.1
Rum	41	16 (39)	0.57	9.9	3.6
Tequila	6	5 (83)	3.8	7.1	5.0
Vodka	57	1 (2)	N/A	0.94	N/A
Whisky	18	5 (28)	0.86	9.6	3.9
Other	4	2 (50)	1.4	2.7	2.0

Other includes sugar cane spirits, Polish liqueur, cherry brandy and ouzo

Table 2. Breakdown of furan levels in breakfast cereals by type of grain

Type	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Corn	31	31 (100)	8.9	207	63
Multigrain	79	71 (90)	2.5	286	45
Oat	23	20 (87)	3.6	151	30
Rice	6	6 (100)	20	48	31
Wheat	51	45 (88)	3.1	707	45

Table 3. Breakdown of furan levels by coffee product

Type	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Beans	23	23 (100)	3092	169480	38812
Beverage	31	31 (100)	2.0	448	111
Ground	51	51 (100)	4872	283675	33093
Instant	4	4 (100)	182	1174	493

Table 4. Breakdown of furan levels by type of infant food

Type	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Fruit	37	35 (94)	1.5	138	11
Fruit & vegetable	13	13 (100)	2.6	92	23
Meal	16	16 (100)	31	162	86
Vegetable	33	33 (100)	3.9	232	89

Table 5. Breakdown of furan levels by type of fruit/vegetable

Type	Number of samples	Number (%) positive samples	Minimum (ppb)	Maximum (ppb)	Average (ppb)
Artichoke	3	3(100)	1.4	6.8	4.0
Bean	13	13 (100)	3.5	33	14
Carrot	5	5 (100)	3.2	20	9.9
Corn	7	7 (100)	12	80	44
Hearts of palm	1	1 (100)	N/A	4.2	N/A
Jackfruit	1	1 (100)	N/A	3.7	N/A
Lychee	1	1 (100)	N/A	1.0	N/A
Mango	1	1 (100)	N/A	14	N/A
Mixed fruit	39	38 (97)	0.86	26	6.8
Mixed Fruit and Vegetables	2	2 (100)	12	54	33
Mixed Vegetable	35	33 (94)	0.64	69	21
Orange	4	4 (100)	1.7	6.1	4.2
Pea	7	7 (100)	13	72	35
Peach	23	21 (91)	0.97	22	6.4
Pear	5	4 (80)	2.9	9.9	7.2
Pie Filling - Cherry	1	1 (100)	N/A	3.1	N/A
Pineapple	8	7 (88)	1.1	6.3	2.6
Potato	1	1 (100)	N/A	41	N/A
Spinach	1	1 (100)	N/A	9.7	N/A
Sweet Potato	3	3 (100)	41	204	137
Tomato	2	2 (100)	120	140	130
Water chestnut	1	1 (100)	N/A	1.1	N/A