

平成 1 5 年度 内分泌攪乱化学物質における食事調査結果について

平成 1 6 年 1 2 月

環境省総合環境政策局環境保健部環境安全課

1. 目的

家庭内食事を対象として、食事経路におけるアルキルフェノール類の存在量の調査を行う。

2. 調査内容

2.1. 調査対象物質

以下の10物質について調査分析を実施した。

4-t-ブチルフェノール, 4-n-ブチルフェノール, 4-t-ペンチルフェノール, 4-n-ペンチルフェノール, 4-n-ヘキシルフェノール, 4-t-オクチルフェノール, 4-n-ヘプチルフェノール, 4-n-オクチルフェノール, 4-ノニルフェノール, 2,4-ジクロロフェノール

2.2. 調査媒体と調査時期

調査媒体;家庭内食事を対象とする。なお、参考として外食・インスタント食品等も実施する。

調査時期;平成15年12月～平成16年3月

2.3. 調査検体数

家庭内食事調査 50検体(50調査地点(家庭),陰膳方式により採取する3日間の食事を1検体とする)

その他(参考) 外食50検体,インスタント食品等50検体

2.4. 調査地点(家庭)及び調査食品(外食,インスタント食品等)の選定

本調査のために設置した検討会委員*の助言等を尊重し、全国のアルキルフェノール類の暴露量を知るための基礎資料を得るためにもっとも適した調査地点(家庭)及び参考としての調査食品を選定した。

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3. 試料の収集

3.1. 家庭内食事調査(陰膳調査)

全国を10ブロック(北海道,東北,関東,甲信越,中部,北陸,関西,中国・四国,九州,沖縄県)として,各ブロックから5家庭を選定し,連続3日間の食事を1日分毎に,陰膳方式により集めた。1日分の食事試料は,毎食(朝,昼,夜及び間食)ごとにステンレス缶に入れて各家庭の冷蔵庫で保管し,翌日に宅配便(冷凍)で分析機関に発送された。

3.2. 参考とした食品(外食, インスタント食品等)

外食は, 全国展開をしているチェーン店を中心に東京地区で入手可能な食事を収集した。それぞれ異なるファーストフード店5店, 和風ファーストフード店5店, ファミリーレストラン5店, ステーキレストラン・焼肉店5店, すし店5店, ラーメン・そば・うどん・パスタ店5店, 中華料理店5店, その他の食堂5店, コンビニエンスストア・弁当店5店より持ち出し可能な食事を各1食購入した。食事内容は定食及びその店舗での定番メニューを優先的に選定し, 合計45点の食事試料, これに加えてパン類5品目を収集した。

インスタント食品等は, 東京地区のスーパーマーケットで入手可能な冷凍食品10種(冷凍ピラフ, 冷凍うどん, 冷凍麺類, 点心類, その他の冷凍食品), レトルト食品10種(レトルトカレー, レトルトスパゲッティ, ソース類, ベビーフード, その他のレトルト食品), インスタント食品10種(カップラーメン, カップうどん, カップ焼きそば, インスタントスープ, フリーズドライベビーフード, その他のインスタント食品), 缶詰・瓶詰食品10種および総菜10種の合計50点の試料を購入した。これらのインスタント食品等は必要に応じてパッケージ等に記載された方法に従って簡単な調理を行ったものを, 混合均一化し試料とした。

4. 試料の分析

4.1. 試料の調製

家庭内食事試料(陰膳試料)は, 1世帯3日分の食事試料を1検体とし, 到着後速やかに汚染に細心の注意を払いながら, 破碎混合し調製した。

外食・インスタント食品は, 入手後または調理後速やかに, 汚染に細心の注意を払いながら破碎混合し, 調製した。

調製にはステンレス製ミキサーを用い, 破碎混合し, 均一化した。

4.2. 試料の保管

試料調製後, 直ちに, 調査対象物質の分析に着手した。ただし, 分析法開発の進行上, 保管の必要がある場合には, 分析直前まで-20℃で冷凍保存した。

4.3. 分析法の概要

試料 100 g を用い, ヘキサンを加えて精油定量器を用い連続蒸留抽出, ヘキサン層を分取し, シリカゲルカラムクロマトグラフィーで精製した後 TMS 化, ガスクロマトグラフ - 質量分析法 (GC/MS) で定量した。

5. 調査結果

5.1. 家庭内食事調査

家庭内食事調査における各調査対象物質の検出状況

2,4-ジクロロフェノールは50検体中12検体から検出した(検出率24%)。中部の一家庭で1.8 µg/kg検出した。範囲はn.d. ~ 1.8 µg/kgであった。

4-t-ブチルフェノールは50検体中15検体から検出した(検出率30%)。東北の一家庭で1.6 µg/kg検出した。範囲はn.d. ~ 1.6 µg/kgであった。

4-n-ブチルフェノールは50検体中4検体から検出した(検出率8%)。範囲はn.d. ~ 0.4 µg/kgであった。

4-t-ペンチルフェノールはすべての試料から検出されなかった。

4-n-ペンチルフェノールは50検体中4検体から検出した(検出率8%)。範囲はn.d. ~ 0.4 µg/kgであった。

4-n-ヘキシルフェノールは50検体中1検体から検出した(検出率2%)。東北の一家庭で0.4 µg/kg検出した。

4-t-オクチルフェノールは50検体中2検体から検出した(検出率4%)。北海道の一家庭及び関東の一家庭でそれぞれ0.2 µg/kg検出した。

4-n-ヘプチルフェノールは50検体中2検体から検出した(検出率4%)。北海道の一家庭及び関東の一家庭でそれぞれ0.1 µg/kg検出した。

4-n-オクチルフェノールは50検体中5検体から検出した(検出率10%)。範囲はn.d. ~ 0.5 µg/kgであった。

4-ノニルフェノールは50検体中8検体から検出した(検出率16%)。沖縄の四家庭から1.7~5.8 µg/kg 検出した。範囲はn.d. ~ 5.8 µg/kg であった。

| | 検出率(%) | 平均値* µg/kg | 最大値 : µg/kg |
|---------------|--------|------------|-------------|
| 2,4-ジクロロフェノール | 24 % | 0.6 µg/kg | 1.8 µg/kg |
| 4-t-ブチルフェノール | 30 % | 0.5 µg/kg | 1.6 µg/kg |
| 4-n-ブチルフェノール | 8 % | 0.4 µg/kg | 0.4 µg/kg |
| 4-t-ペンチルフェノール | 0 % | - | - |
| 4-n-ペンチルフェノール | 8 % | 0.3 µg/kg | 0.4 µg/kg |
| 4-n-ヘキシルフェノール | 2 % | 0.4 µg/kg | 0.4 µg/kg |
| 4-t-オクチルフェノール | 4 % | 0.2 µg/kg | 0.2 µg/kg |
| 4-n-ヘプチルフェノール | 4 % | 0.1 µg/kg | 0.1 µg/kg |
| 4-n-オクチルフェノール | 10 % | 0.4 µg/kg | 0.5 µg/kg |
| 4-ノニルフェノール | 16 % | 2.7 µg/kg | 5.8 µg/kg |

* : 検出されたものの平均値を示した。

家庭内食事調査における対象物質の検出状況を表-1 に示した。

表-1 家庭内食事調査における調査対象物質の検出状況

| | 定量下限値以上を検出した食事試料数 / 調査試料数 | | | | | | | | | |
|--------------------------------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | 2,4-ジクロロフェノール | 4-t-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ノニルフェノール | 4-n-オクチルフェノール | 4-ノニルフェノール |
| 北海道 | 3/5 (60%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) |
| 東北 | 0/5 (0%) | 2/5 (40%) | 2/5 (40%) | 0/5 (0%) | 2/5 (40%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) |
| 関東 | 0/5 (0%) | 3/5 (60%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 1/5 (20%) | 1/5 (20%) |
| 甲信越 | 1/5 (20%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) |
| 中部 | 4/5 (80%) | 2/5 (40%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) |
| 北陸 | 1/5 (20%) | 4/5 (80%) | 0/5 (0%) |
| 関西 | 1/5 (20%) | 0/5 (0%) |
| 中国・四国 | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 2/5 (40%) | 0/5 (0%) |
| 九州 | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) |
| 沖縄県 | 2/5 (40%) | 1/5 (20%) | 0/5 (0%) | 4/5 (80%) |
| 定量下限値 ($\mu\text{g}/\text{kg}$) | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| 範囲($\mu\text{g}/\text{kg}$) | n.d. ~ 1.8 | n.d. ~ 1.6 | n.d. ~ 0.4 | n.d. | n.d. ~ 0.4 | n.d. ~0.4 | n.d. ~0.2 | n.d. ~ 0.1 | n.d. ~ 0.5 | n.d. ~ 5.8 |
| 平均値* ($\mu\text{g}/\text{kg}$) | 0.6 | 0.5 | 0.4 | - | 0.3 | 0.4 | 0.2 | 0.1 | 0.4 | 2.7 |

* : 検出されたものの平均値を示した。

5.2. 参考とした食品(外食調査・インスタント食品等)調査

2,4-ジクロロフェノールは100検体中19検体から検出した(検出率19%)。缶詰・瓶詰め食品の一検体から1.6μg/kg検出した。範囲はn.d.~1.6 μg/kgであった。

4-t-ブチルフェノールは100検体中44検体から検出した(検出率44%)。弁当の一検体で17 μg/kg, ステーキレストランの一検体で2.9 μg/kg検出した。範囲はn.d.~17 μg/kgであった。

4-n-ブチルフェノールは100検体中16検体から検出した(検出率16%)。範囲はn.d.~1.2 μg/kgであった。

4-t-ペンチルフェノールはすべての試料から検出されなかった。

4-n-ペンチルフェノールは100検体中10検体から検出した(検出率10%)。レトルト食品の一検体から4.2 μg/kgが検出した。範囲はn.d.~4.2 μg/kgであった。

4-n-ヘキシルフェノールは100検体中6検体から検出した(検出率6%)。すしの一検体で1.2 μg/kg, パンの一検体で0.4 μg/kg検出した。範囲は0.2~1.2μg/kgであった。

4-t-オクチルフェノールは100検体中15検体から検出した(検出率15%)。範囲はn.d.~0.5 μg/kgであった。

4-n-ヘプチルフェノールは100検体中9検体から検出した(検出率9%)。範囲は0.1~0.4 μg/kgであった。

4-n-オクチルフェノールは100検体中13検体から検出した(検出率13%)。レトルト食品の一検体で1.7 μg/kg, ステーキレストランの一検体で1.1 μg/kg検出した。範囲はn.d.~1.7 μg/kgであった。

4-ノニルフェノールは100検体中37検体から検出した(検出率37%)。パンの一検体で73 μg/kg, すしの5検体で検出率100%で1.7~9.9 μg/kg検出した。範囲はn.d.~73 μg/kgであった。

| | 検出率(%) | 平均値* μg/kg | 最大値: μg/kg |
|---------------|--------|------------|------------|
| 2,4-ジクロロフェノール | 19 % | 0.5 μg/kg | 1.6 μg/kg |
| 4-t-ブチルフェノール | 44 % | 1.3 μg/kg | 17 μg/kg |
| 4-n-ブチルフェノール | 16 % | 0.5 μg/kg | 1.2 μg/kg |
| 4-t-ペンチルフェノール | 0 % | - | - |
| 4-n-ペンチルフェノール | 10 % | 0.7 μg/kg | 4.2 μg/kg |
| 4-n-ヘキシルフェノール | 6 % | 0.7 μg/kg | 1.2 μg/kg |
| 4-t-オクチルフェノール | 15 % | 0.2 μg/kg | 0.5 μg/kg |
| 4-n-ヘプチルフェノール | 9 % | 0.2 μg/kg | 0.4 μg/kg |
| 4-n-オクチルフェノール | 13 % | 0.5 μg/kg | 1.7 μg/kg |
| 4-ノニルフェノール | 37 % | 5.2 μg/kg | 73 μg/kg |

* : 検出されたものの平均値を示した。

参考とした食品(外食・インスタント食品等)における調査対象物質の検出状況を表-2 に示した。

表-2 参考とした食品(外食・インスタント食品等)における調査対象物質の検出状況

| | 定量下限値以上を検出した食事試料数 / 調査試料数 | | | | | | | | | |
|-----------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|
| | 2,4-ジクロロフェノール | 4-t-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ノニルフェノール | 4-n-オクタールフェノール | 4-ノニルフェノール |
| ファーストフード | 3/5 (60%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 2/5 (40%) | 1/5 (20%) | 2/5 (40%) | 2/5 (40%) |
| 和風ファーストフード | 0/5 (0%) | 2/5 (40%) | 0/5 (0%) | 3/5 (60%) |
| ファミリーレストラン | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 2/5 (40%) |
| ステーキレストラン・焼肉店 | 0/5 (0%) | 1/5 (20%) | 2/5 (40%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 1/5 (20%) | 1/5 (20%) |
| すし | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 2/5 (40%) | 1/5 (20%) | 2/5 (40%) | 5/5 (100%) |
| ラーメン・そば・うどん・パスタ | 1/5 (20%) | 2/5 (40%) | 0/5 (0%) | 1/5 (20%) |
| 中華料理 | 3/5 (60%) | 3/5 (60%) | 2/5 (40%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 0/5 (0%) | 3/5 (60%) |
| 食堂 | 0/5 (0%) | 2/5 (40%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 0/5 (0%) | 2/5 (20%) | 1/5 (20%) | 1/5 (20%) | 0/5 (0%) |
| 弁当 | 1/5 (20%) | 3/5 (60%) | 0/5 (0%) | 0/5 (0%) | 3/5 (60%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 3/5 (60%) |
| パン | 4/5 (80%) | 4/5 (80%) | 0/5 (0%) | 0/5 (0%) | 0/5 (0%) | 1/5 (20%) | 1/5 (20%) | 1/5 (20%) | 0/5 (0%) | 1/5 (20%) |
| 冷凍食品 | 1/10 (10%) | 6/10 (60%) | 0/10 (0%) | 0/10 (0%) | 0/10 (0%) | 0/10 (0%) | 0/10 (0%) | 0/10 (0%) | 2/10 (20%) | 3/10 (30%) |
| レトルト食品 | 1/10 (10%) | 5/10 (50%) | 2/10 (20%) | 0/10 (0%) | 1/10 (10%) | 2/10 (20%) | 2/10 (20%) | 0/10 (0%) | 1/10 (10%) | 6/10 (60%) |
| インスタント食品 | 0/10 (0%) | 6/10 (60%) | 1/10 (10%) | 0/10 (0%) | 1/10 (10%) | 0/10 (0%) | 1/10 (10%) | 0/10 (0%) | 0/10 (0%) | 1/10 (10%) |
| 缶詰・瓶詰食品 | 2/10 (20%) | 4/10 (40%) | 3/10 (30%) | 0/10 (0%) | 2/10 (20%) | 2/10 (20%) | 0/10 (0%) | 2/10 (20%) | 1/10 (10%) | 2/10 (20%) |
| 惣菜 | 1/10 (10%) | 6/10 (60%) | 4/10 (40%) | 0/10 (0%) | 0/10 (0%) | 0/10 (0%) | 3/10 (30%) | 0/10 (0%) | 1/10 (10%) | 4/10 (40%) |
| 定量下限値 (µg/kg) | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| 範囲(µg/kg) | n.d. ~ 1.6 | n.d. ~ 17 | n.d. ~ 1.2 | n.d. | n.d. ~ 4.2 | n.d. ~ 1.2 | n.d. ~ 0.5 | n.d. ~ 0.4 | n.d. ~ 1.7 | n.d. ~ 73 |
| 平均値* (µg/kg) | 0.5 | 1.3 | 0.5 | - | 0.7 | 0.7 | 0.2 | 0.2 | 0.5 | 5.2 |
| 最大値の食品群 | 缶詰・瓶詰食品 | 弁当 | 缶詰・瓶詰食品 | - | レトルト食品 | すし | 食堂 | 中華料理, パン | レトルト食品 | パン |

* : 検出されたものの平均値を示した。

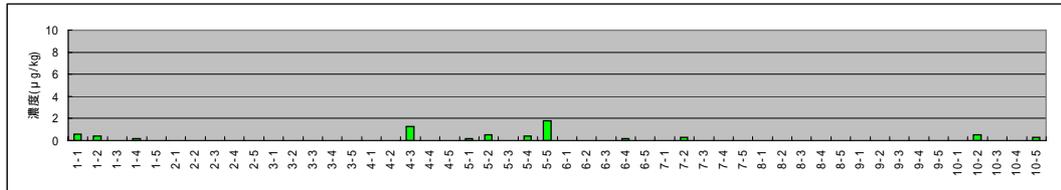
参考

アルキルフェノール類の食事調査の報告例はあまり無く、東京都が平成14年度の調査でノニルフェノールについて実施している。その結果は以下のとおりである。「幼児食、成人食とも魚介類および肉類・卵類のみから検出された。ノニルフェノールの一日摂取量は幼児 140.91 ng/kgbw/day, 成人 74.14 ng/kgbw/dayであった。」

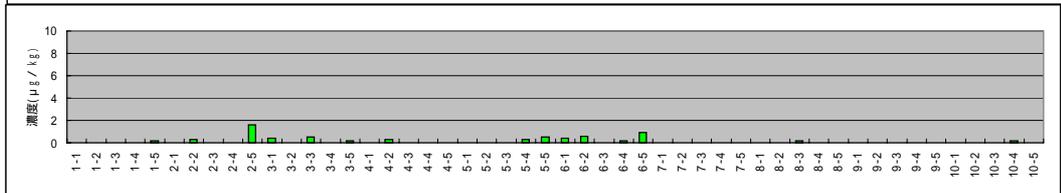
家庭内食事調査における4-ノニルフェノールの最大値は 5.8 $\mu\text{g}/\text{kg}$, これから体重50kgの成人が1日に摂取する食事量を 2,000 gと仮定すると、一日摂取量は 232 ng/kgbw/day と計算される。

図1 家庭内食事調査(陰膳調査)結果

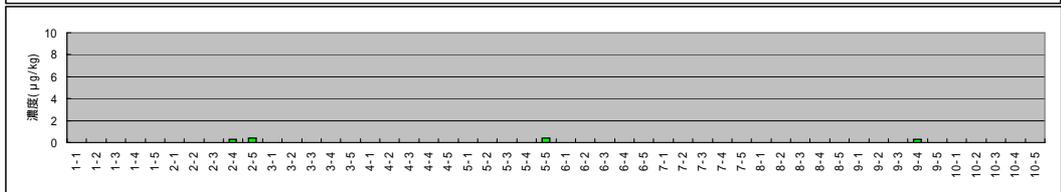
2,4-ジクロロフェノール



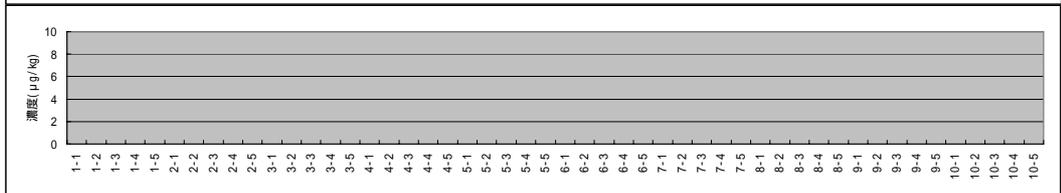
4-t-ブチルフェノール



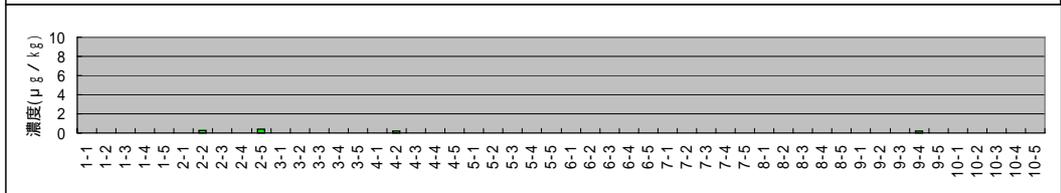
4-n-ブチルフェノール



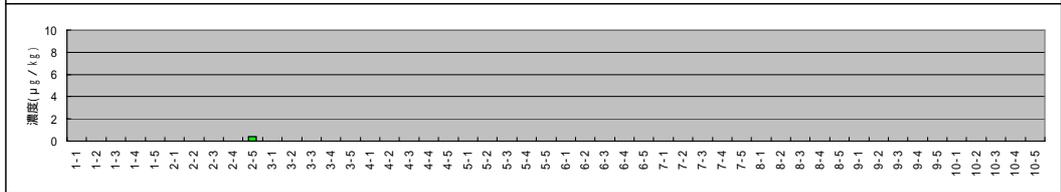
4-t-ペンチルフェノール



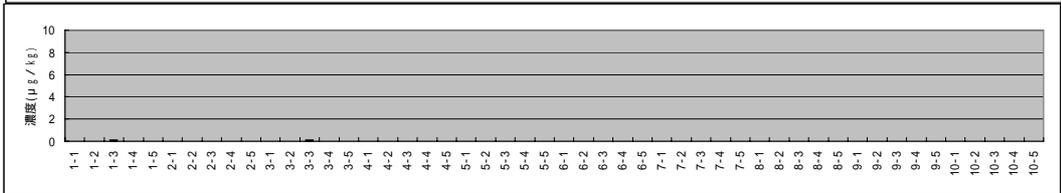
4-n-ペンチルフェノール



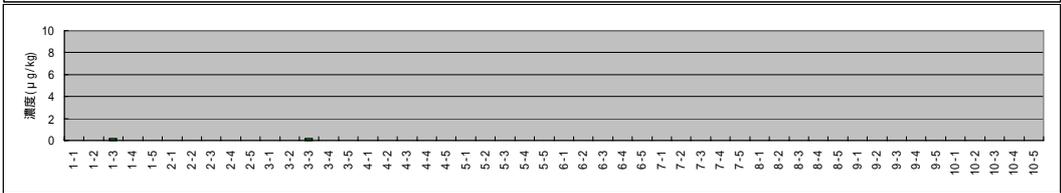
4-n-ヘキシルフェノール



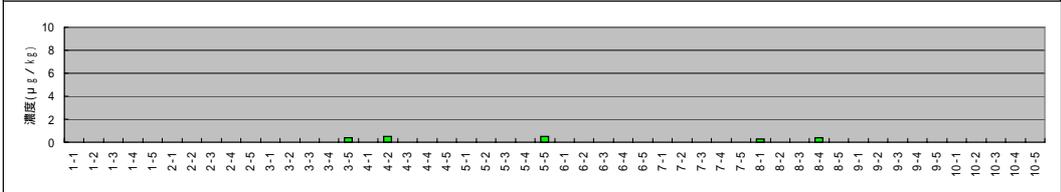
4-t-オクチルフェノール



4-n-ヘプチルフェノール



4-n-オクチルフェノール



4-ニルフェノール

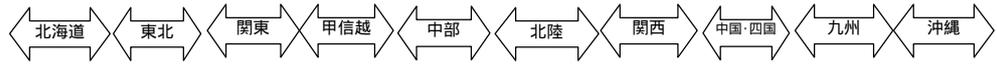
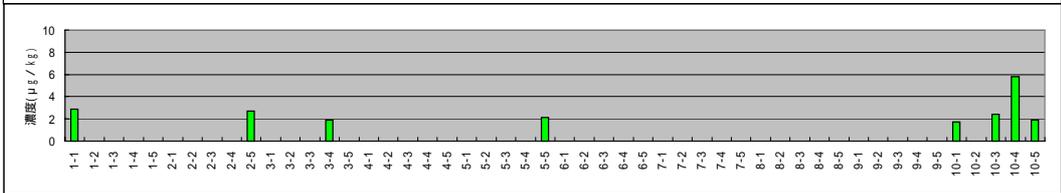
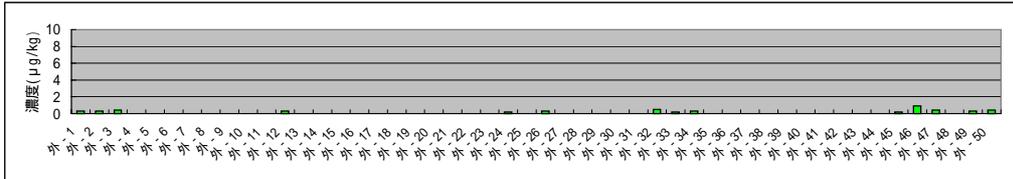
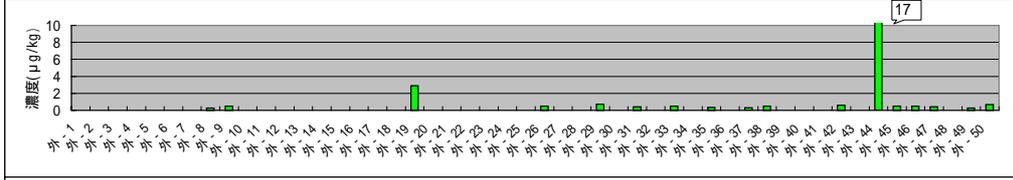


図2-1 外食 調査結果 グラフ

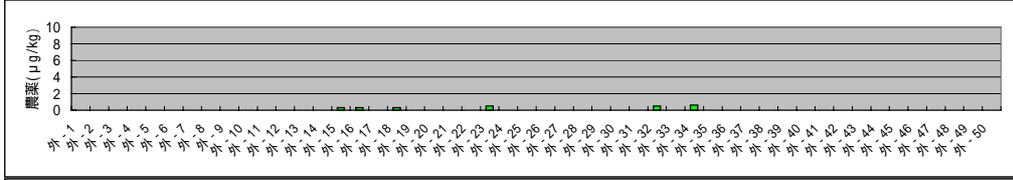
2,4 - シクロフェール



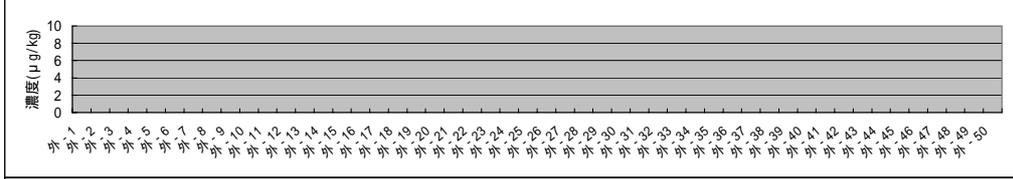
4-t-ブチルフェノール



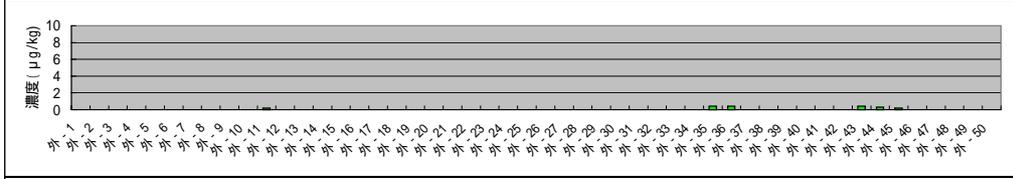
4-n-ブチルフェノール



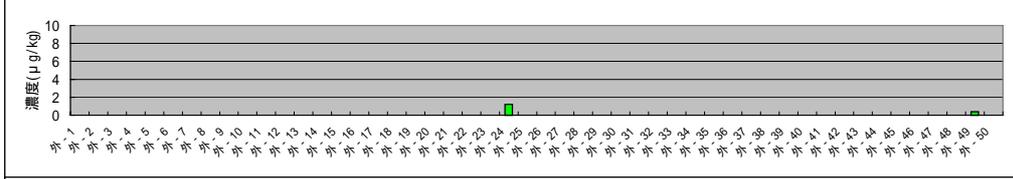
4-t-ペンチルフェノール



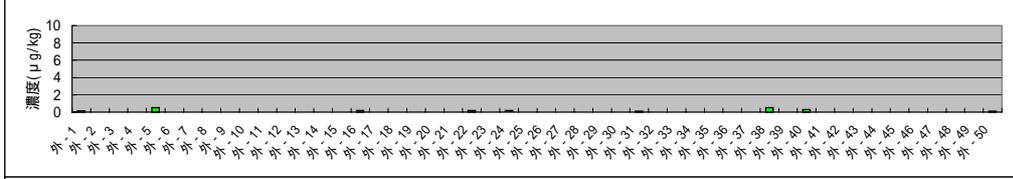
4-n-ペンチルフェノール



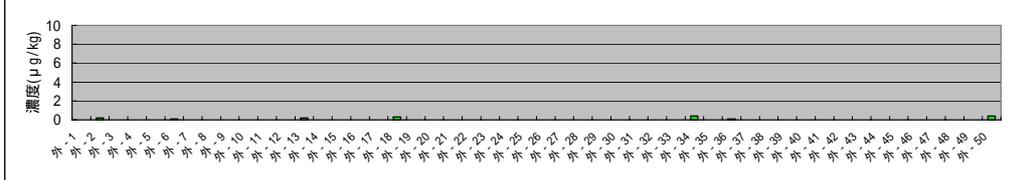
4-n-ヘキシルフェノール



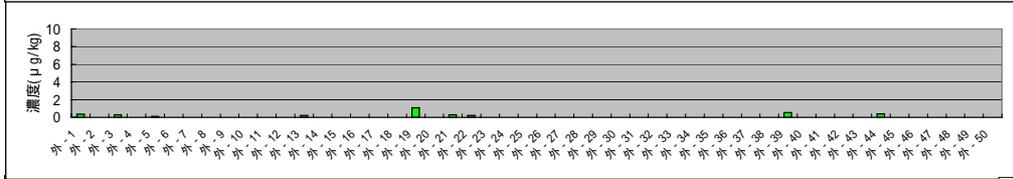
4-t-オクチルフェノール



4-n-ヘプチルフェノール



4-n-オクチルフェノール



4 - ニルフェノール

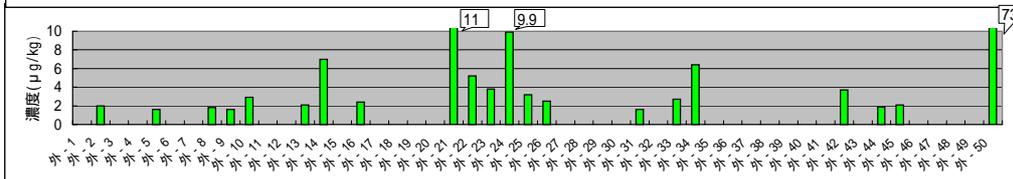
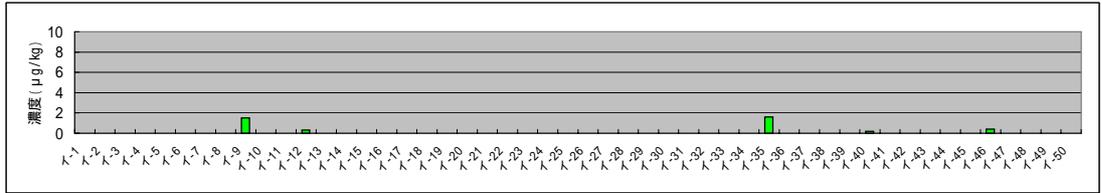
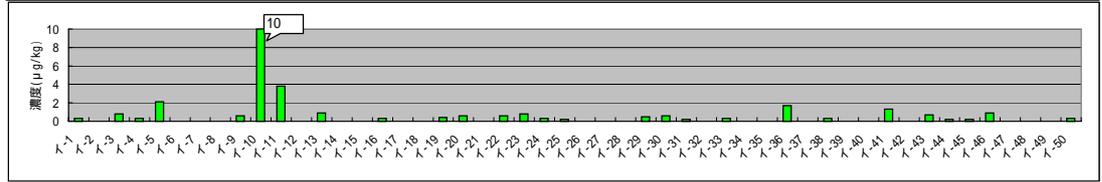


図2-2 インスタント食品等 調査結果 グラフ

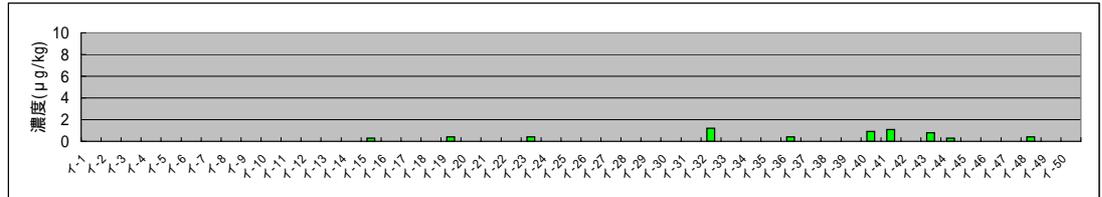
2,4-ジクロロフェノール



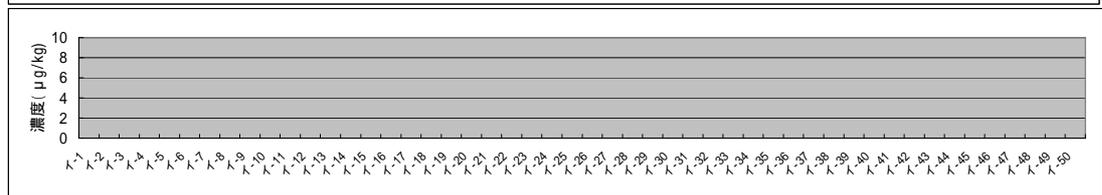
4-t-ブチルフェノール



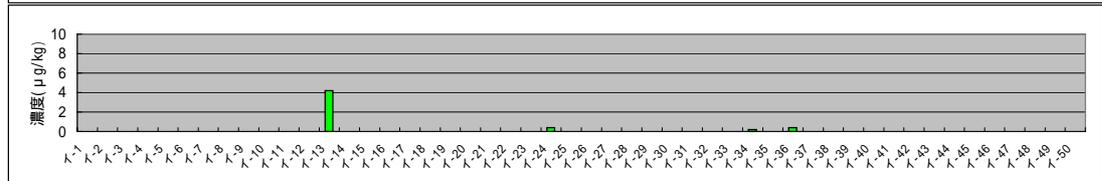
4-n-ブチルフェノール



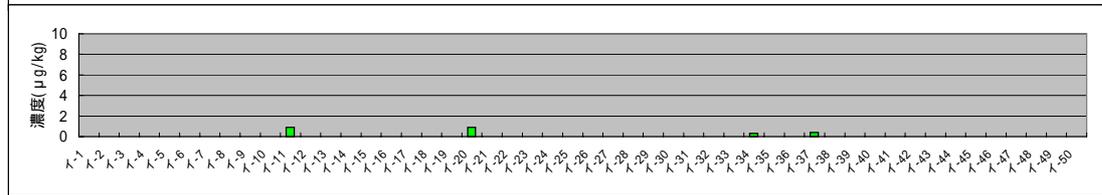
4-t-ペンチルフェノール



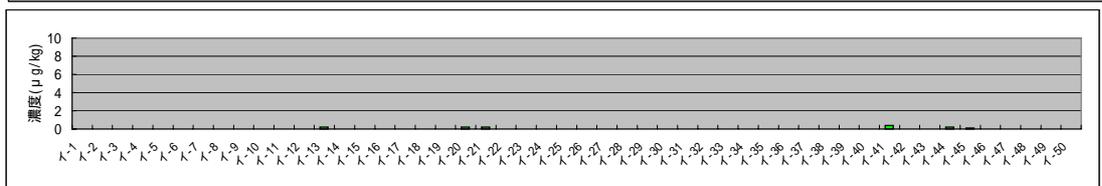
4-n-ペンチルフェノール



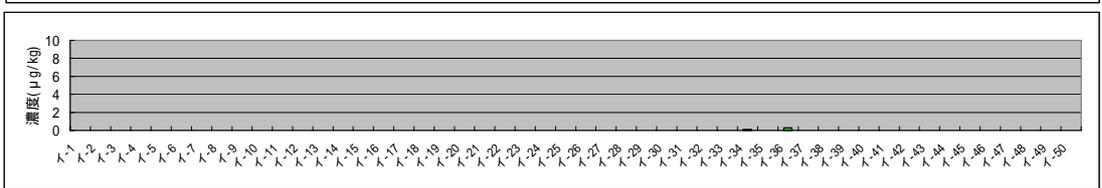
4-n-ヘキシルフェノール



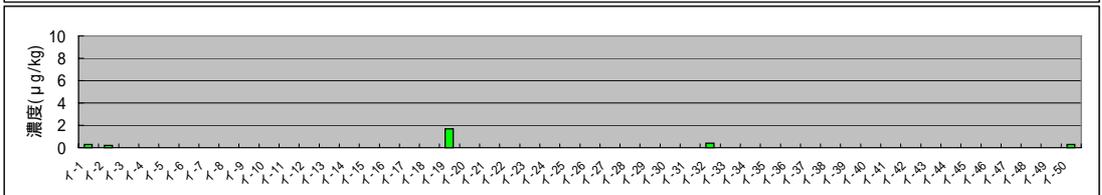
4-t-オクチルフェノール



4-n-ヘプチルフェノール



4-n-オクチルフェノール



4-ノニルフェノール

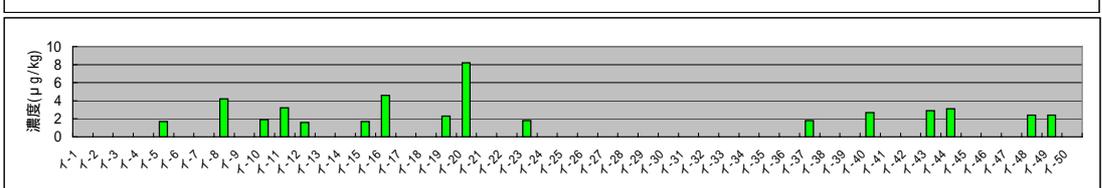


表 1-1 家庭内食事(陰膳)調査結果 一覧

単位; $\mu\text{g}/\text{kg}$
N.D.; 定量下限未満

| ブロック | | No. | 2-4-ジクロロフェノール | 4-t-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-t-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ヘプチルフェノール | 4-n-オクチルフェノール | 4-n-ニルフェノール | |
|-------|-------|------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|------|
| 1 | 北海道 | 1-1 | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.9 | |
| | | 1-2 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 1-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.1 | N.D. | N.D. |
| | | 1-4 | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | 1-5 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 2 | 東北 | 2-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 2-2 | N.D. | 0.3 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 2-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 2-4 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | 2-5 | N.D. | 1.6 | 0.4 | N.D. | 0.4 | 0.4 | N.D. | N.D. | N.D. | N.D. | 2.7 |
| 3 | 関東 | 3-1 | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 3-2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 3-3 | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.1 | N.D. | N.D. |
| | | 3-4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.9 |
| | | 3-5 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. |
| 4 | 甲信越 | 4-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 4-2 | N.D. | 0.3 | N.D. | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | 0.5 | N.D. |
| | | 4-3 | 1.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | 4-4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | 4-5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 5 | 中部 | 5-1 | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 5-2 | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 5-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 5-4 | 0.4 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 5-5 | 1.8 | 0.5 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.5 | 2.1 |
| 6 | 北陸 | 6-1 | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 6-2 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 6-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 6-4 | 0.2 | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 6-5 | N.D. | 0.9 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 7 | 関西 | 7-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 7-2 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 7-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 7-4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 7-5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 8 | 中国・四国 | 8-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. | |
| | | 8-2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 8-3 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 8-4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. |
| | | 8-5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 9 | 九州 | 9-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 9-2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 9-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 9-4 | N.D. | N.D. | 0.3 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | | 9-5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 10 | 沖縄県 | 10-1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.7 | |
| | | 10-2 | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | |
| | | 10-3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.4 | |
| | | 10-4 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 5.8 | |
| | | 10-5 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.9 | |
| 検出数 | | | 12 | 15 | 4 | 0 | 4 | 1 | 2 | 2 | 5 | 8 | |
| データ数 | | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | |
| 検出率 | | | 24% | 30% | 8% | 0% | 8% | 2% | 4% | 4% | 10% | 16% | |
| 定量下限値 | | | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 | |
| 最大値 | | | 1.8 | 1.6 | 0.4 | - | 0.4 | 0.4 | 0.2 | 0.1 | 0.5 | 5.8 | |
| 算術平均値 | | | 0.6 | 0.5 | 0.4 | - | 0.3 | 0.4 | 0.2 | 0.1 | 0.4 | 2.7 | |

表 1 - 2 家庭内食事調査(陰膳調査) 検出状況

| | | 2,4-ジクロロフェノール | 4-t-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ヘプチルフェノール | 4-n-オクチルフェノール | 4-ノニルフェノール |
|-------|---------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| 北海道 | 検出状況 | 3/5 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 1/5 | 1/5 | 0/5 | 1/5 |
| | 検出率 (%) | 60% | 20% | 0% | 0% | 0% | 0% | 20% | 20% | 0% | 20% |
| 東北 | 検出状況 | 0/5 | 2/5 | 2/5 | 0/5 | 2/5 | 1/5 | 0/5 | 0/5 | 0/5 | 1/5 |
| | 検出率 (%) | 0% | 40% | 40% | 0% | 40% | 20% | 0% | 0% | 0% | 20% |
| 関東 | 検出状況 | 0/5 | 3/5 | 0/5 | 0/5 | 0/5 | 0/5 | 1/5 | 1/5 | 1/5 | 1/5 |
| | 検出率 (%) | 0% | 60% | 0% | 0% | 0% | 0% | 20% | 20% | 20% | 20% |
| 甲信越 | 検出状況 | 1/5 | 1/5 | 0/5 | 0/5 | 1/5 | 0/5 | 0/5 | 0/5 | 1/5 | 0/5 |
| | 検出率 (%) | 20% | 20% | 0% | 0% | 20% | 0% | 0% | 0% | 20% | 0% |
| 中部 | 検出状況 | 4/5 | 2/5 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 1/5 | 1/5 |
| | 検出率 (%) | 80% | 40% | 20% | 0% | 0% | 0% | 0% | 0% | 20% | 20% |
| 北陸 | 検出状況 | 1/5 | 4/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 |
| | 検出率 (%) | 20% | 80% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| 関西 | 検出状況 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 |
| | 検出率 (%) | 20% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| 中国・四国 | 検出状況 | 0/5 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 2/5 | 0/5 |
| | 検出率 (%) | 0% | 20% | 0% | 0% | 0% | 0% | 0% | 0% | 40% | 0% |
| 九州 | 検出状況 | 0/5 | 0/5 | 1/5 | 0/5 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 |
| | 検出率 (%) | 0% | 0% | 20% | 0% | 20% | 0% | 0% | 0% | 0% | 0% |
| 沖縄 | 検出状況 | 2/5 | 1/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 4/5 |
| | 検出率 (%) | 40% | 20% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 80% |
| 陰膳全試料 | 検出状況 | 12/50 | 15/50 | 4/50 | 0/50 | 4/50 | 1/50 | 2/50 | 2/50 | 5/50 | 8/50 |
| | 検出率 (%) | 24% | 30% | 8% | 0% | 8% | 2% | 4% | 4% | 10% | 16% |
| | 定量下限値 (μg/kg) | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| | 最大値 (μg/kg) | 1.8 | 1.6 | 0.4 | - | 0.4 | 0.4 | 0.2 | 0.1 | 0.5 | 5.8 |
| | 算術平均値 (μg/kg) | 0.6 | 0.5 | 0.4 | - | 0.3 | 0.4 | 0.2 | 0.1 | 0.4 | 2.7 |

 検出率50%以上

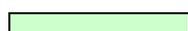
 検出率10%以上

表2-1 外食調査結果一覧

単位: µg/kg
N.D.:定量下限未満

| 食品 | | 2,4-ジクロロベンゾイル | | | | | | | | | |
|--------------------------|--------|---------------|-----------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| | | 2,4-ジクロロベンゾイル | 4-tert-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ヘプチルフェノール | 4-n-オクチルフェノール | 4-ノニルフェノール |
| ファーストフード | 外 - 1 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | 0.4 | N.D. |
| | 外 - 2 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. | 2.0 |
| | 外 - 3 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. |
| | 外 - 4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.5 | N.D. | N.D. | 1.6 |
| 和風ファーストフード | 外 - 6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 7 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 8 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.8 |
| | 外 - 9 | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.6 |
| | 外 - 10 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.9 |
| ファミリーレストラン | 外 - 11 | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 12 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 13 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.2 | 2.1 |
| | 外 - 14 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 7.0 |
| | 外 - 15 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| ステーキレストラン・焼肉屋 | 外 - 16 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | 0.2 | N.D. | N.D. | 2.4 |
| | 外 - 17 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 18 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. | N.D. |
| | 外 - 19 | N.D. | 2.9 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.1 | N.D. |
| | 外 - 20 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| すし | 外 - 21 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | 11 |
| | 外 - 22 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. | 0.2 | 5.2 |
| | 外 - 23 | N.D. | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 3.8 |
| | 外 - 24 | 0.2 | N.D. | N.D. | N.D. | N.D. | 1.2 | 0.2 | N.D. | N.D. | 9.9 |
| | 外 - 25 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | 1.7 |
| ラーメン そば うどん パスタ | 外 - 26 | 0.3 | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.5 |
| | 外 - 27 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 28 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 29 | N.D. | 0.7 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 30 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 中華料理 | 外 - 31 | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | 1.6 |
| | 外 - 32 | 0.5 | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 33 | 0.2 | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.7 |
| | 外 - 34 | 0.3 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. | 6.4 |
| | 外 - 35 | N.D. | 0.3 | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. |
| 食堂 | 外 - 36 | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. | 0.1 | N.D. | N.D. |
| | 外 - 37 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 38 | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | 0.5 | N.D. | N.D. | N.D. |
| | 外 - 39 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.5 | N.D. |
| | 外 - 40 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. |
| 弁当 | 外 - 41 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 42 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 3.7 |
| | 外 - 43 | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 44 | N.D. | 17 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | 0.4 | 1.9 |
| | 外 - 45 | 0.2 | 0.5 | N.D. | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | 2.1 |
| パン | 外 - 46 | 0.9 | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 47 | 0.4 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 48 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | 外 - 49 | 0.3 | 0.3 | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. |
| | 外 - 50 | 0.4 | 0.7 | N.D. | N.D. | N.D. | N.D. | 0.1 | 0.4 | N.D. | 73 |
| 検出数 | | 14 | 17 | 6 | 0 | 6 | 2 | 9 | 7 | 8 | 21 |
| データ数 | | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| 検出率 | | 28% | 34% | 12% | 0% | 12% | 4% | 18% | 14% | 16% | 42% |
| 定量下限 | | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| 最大値 | | 0.9 | 17 | 0.6 | - | 0.4 | 1.2 | 0.5 | 0.4 | 1.1 | 73 |
| 算術平均値 | | 0.4 | 1.6 | 0.4 | - | 0.3 | 0.8 | 0.2 | 0.2 | 0.4 | 7.0 |

表 2-2 インスタント食品等調査結果一覧

単位: $\mu\text{g}/\text{kg}$
N.D.: 定量下限未満

| 食品 | | 2,4-ジクロロフェノール | 4-tert-ブチルフェノール | 4-n-ブチルフェノール | 4-tert-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-tert-オクチルフェノール | 4-n-ヘプチルフェノール | 4-n-オクチルフェノール | 4-n-ノニルフェノール |
|----------|-------|---------------|-----------------|--------------|------------------|---------------|---------------|------------------|---------------|---------------|--------------|
| 冷凍食品 | イ-1 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. |
| | イ-2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. |
| | イ-3 | N.D. | 0.8 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-4 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-5 | N.D. | 2.1 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.7 |
| | イ-6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-7 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-8 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 4.2 |
| | イ-9 | 1.5 | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-10 | N.D. | 10 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.9 |
| レトルト食品 | イ-11 | N.D. | 3.8 | N.D. | N.D. | N.D. | 0.9 | N.D. | N.D. | N.D. | 3.2 |
| | イ-12 | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.6 |
| | イ-13 | N.D. | 0.9 | N.D. | N.D. | 4.2 | N.D. | 0.2 | N.D. | N.D. | N.D. |
| | イ-14 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-15 | N.D. | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.7 |
| | イ-16 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 4.6 |
| | イ-17 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-18 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-19 | N.D. | 0.4 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | 1.7 | 2.3 |
| | イ-20 | N.D. | 0.6 | N.D. | N.D. | N.D. | 0.9 | 0.2 | N.D. | N.D. | 8.2 |
| インスタント食品 | イ-21 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.2 | N.D. | N.D. | N.D. |
| | イ-22 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-23 | N.D. | 0.8 | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 1.8 |
| | イ-24 | N.D. | 0.3 | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-25 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-26 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-27 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-28 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-29 | N.D. | 0.5 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-30 | N.D. | 0.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| 缶詰・瓶詰食品 | イ-31 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-32 | N.D. | N.D. | 1.2 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. |
| | イ-33 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-34 | N.D. | N.D. | N.D. | N.D. | 0.2 | 0.3 | N.D. | 0.1 | N.D. | N.D. |
| | イ-35 | 1.6 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-36 | N.D. | 1.7 | 0.4 | N.D. | 0.4 | N.D. | N.D. | 0.3 | N.D. | N.D. |
| | イ-37 | N.D. | N.D. | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | 1.8 |
| | イ-38 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-39 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-40 | 0.2 | N.D. | 0.9 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.7 |
| 惣菜 | イ-41 | N.D. | 1.3 | 1.1 | N.D. | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. |
| | イ-42 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-43 | N.D. | 0.7 | 0.8 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.9 |
| | イ-44 | N.D. | 0.2 | 0.3 | N.D. | N.D. | N.D. | 0.2 | N.D. | N.D. | 3.1 |
| | イ-45 | N.D. | 0.2 | N.D. | N.D. | N.D. | N.D. | 0.1 | N.D. | N.D. | N.D. |
| | イ-46 | 0.4 | 0.9 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-47 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. |
| | イ-48 | N.D. | N.D. | 0.4 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.4 |
| | イ-49 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 2.4 |
| | イ-50 | N.D. | 0.3 | N.D. | N.D. | N.D. | N.D. | N.D. | N.D. | 0.3 | N.D. |
| | 検出数 | 5 | 27 | 10 | 0 | 4 | 4 | 6 | 2 | 5 | 16 |
| | データ数 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| | 検出率 | 10% | 54% | 20% | 0% | 8% | 8% | 12% | 4% | 10% | 32% |
| | 定量下限値 | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| | 最大値 | 1.6 | 10 | 1.2 | - | 4.2 | 0.9 | 0.4 | 0.3 | 1.7 | 8.2 |
| | 算術平均値 | 0.8 | 1.1 | 0.6 | - | 1.3 | 0.6 | 0.2 | 0.2 | 0.6 | 2.9 |

表 2-3 外食・インスタント調査 検出状況

| | | 2,4-ジクロロフェノール | 4-t-ブチルフェノール | 4-n-ブチルフェノール | 4-t-ペンチルフェノール | 4-n-ペンチルフェノール | 4-n-ヘキシルフェノール | 4-t-オクチルフェノール | 4-n-ヘプチルフェノール | 4-n-オクチルフェノール | 4-ノニルフェノール |
|-----------------|--------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------|
| ファーストフード | 検出状況 | 3/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 2/5 | 1/5 | 2/5 | 2/5 |
| | 検出率(%) | 60% | 0% | 0% | 0% | 0% | 0% | 40% | 20% | 40% | 40% |
| 和風ファーストフード | 検出状況 | 0/5 | 2/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 3/5 |
| | 検出率(%) | 0% | 40% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 60% |
| ファミリーレストラン | 検出状況 | 1/5 | 0/5 | 1/5 | 0/5 | 1/5 | 0/5 | 0/5 | 1/5 | 1/5 | 2/5 |
| | 検出率(%) | 20% | 0% | 20% | 0% | 20% | 0% | 0% | 20% | 20% | 40% |
| ステーキレストラン・焼肉屋 | 検出状況 | 0/5 | 1/5 | 2/5 | 0/5 | 0/5 | 0/5 | 1/5 | 1/5 | 1/5 | 1/5 |
| | 検出率(%) | 0% | 20% | 40% | 0% | 0% | 0% | 20% | 20% | 20% | 20% |
| すし | 検出状況 | 1/5 | 0/5 | 1/5 | 0/5 | 0/5 | 1/5 | 2/5 | 1/5 | 2/5 | 5/5 |
| | 検出率(%) | 20% | 0% | 20% | 0% | 0% | 20% | 40% | 20% | 40% | 100% |
| ラーメン・そば・うどん・パスタ | 検出状況 | 1/5 | 2/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 0/5 | 1/5 |
| | 検出率(%) | 20% | 40% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 20% |
| 中華料理 | 検出状況 | 3/5 | 3/5 | 2/5 | 0/5 | 1/5 | 0/5 | 1/5 | 1/5 | 0/5 | 3/5 |
| | 検出率(%) | 60% | 60% | 40% | 0% | 20% | 0% | 40% | 20% | 0% | 60% |
| 食堂 | 検出状況 | 0/5 | 2/5 | 0/5 | 0/5 | 1/5 | 0/5 | 2/5 | 1/5 | 1/5 | 0/5 |
| | 検出率(%) | 0% | 40% | 0% | 0% | 20% | 0% | 20% | 20% | 20% | 0% |
| 弁当 | 検出状況 | 1/5 | 3/5 | 0/5 | 0/5 | 3/5 | 0/5 | 0/5 | 0/5 | 1/5 | 3/5 |
| | 検出率(%) | 20% | 60% | 0% | 0% | 60% | 0% | 0% | 0% | 20% | 60% |
| パン | 検出状況 | 4/5 | 4/5 | 0/5 | 0/5 | 0/5 | 1/5 | 1/5 | 1/5 | 0/5 | 1/5 |
| | 検出率(%) | 80% | 80% | 0% | 0% | 0% | 20% | 20% | 20% | 0% | 20% |
| 冷凍食品 | 検出状況 | 1/10 | 6/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 0/10 | 2/10 | 3/10 |
| | 検出率(%) | 10% | 60% | 0% | 0% | 0% | 0% | 0% | 0% | 20% | 30% |
| レトルト食品 | 検出状況 | 1/10 | 5/10 | 2/10 | 0/10 | 1/10 | 2/10 | 2/10 | 0/10 | 1/10 | 6/10 |
| | 検出率(%) | 10% | 50% | 20% | 0% | 10% | 20% | 20% | 0% | 10% | 60% |
| インスタント食品 | 検出状況 | 0/10 | 6/10 | 1/10 | 0/10 | 1/10 | 0/10 | 1/10 | 0/10 | 0/10 | 1/10 |
| | 検出率(%) | 0% | 60% | 10% | 0% | 10% | 0% | 10% | 0% | 0% | 10% |
| 缶詰・瓶詰食品 | 検出状況 | 2/10 | 4/10 | 3/10 | 0/10 | 2/10 | 2/10 | 0/10 | 2/10 | 1/10 | 2/10 |
| | 検出率(%) | 20% | 40% | 30% | 0% | 20% | 20% | 0% | 20% | 10% | 20% |
| 惣菜 | 検出状況 | 1/10 | 6/10 | 4/10 | 0/10 | 0/10 | 0/10 | 3/10 | 0/10 | 1/10 | 4/10 |
| | 検出率(%) | 10% | 60% | 40% | 0% | 0% | 0% | 30% | 0% | 10% | 40% |
| 外食等全試料 | 検出状況 | 19/100 | 44/100 | 16/100 | 0/100 | 10/100 | 6/100 | 15/100 | 9/100 | 13/100 | 37/100 |
| | 検出率(%) | 19% | 44% | 16% | 0% | 10% | 6% | 15% | 9% | 13% | 37% |
| | 定量下限値(μg/kg) | 0.2 | 0.2 | 0.3 | 0.8 | 0.2 | 0.3 | 0.1 | 0.1 | 0.2 | 1.6 |
| | 最大値(μg/kg) | 1.6 | 17 | 1.2 | - | 4.2 | 1.2 | 0.5 | 0.4 | 1.7 | 73 |
| | 最大値の食品群 | 缶詰・瓶詰 | 弁当 | 缶詰・瓶詰 | - | レトルト食品 | すし | ファーストフード・食堂 | 中華料理・パン | レトルト食品 | パン |

検出率50%以上

検出率10%以上