Chemicals in the *Fourth Report: Updated Tables, February 2015*

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Tobacco Smoke
- Cotinine
- NNAL*

Disinfection By-Products
- Bromodichloromethane
- Dibromochloromethane (Chlorodibromomethane)
- Tribromomethane (Bromoform)
- Trichloromethane (Chloroform)

Environmental Phenols
- Benzophenone-3
- Bisphenol A
- 4-*tert*-Octylphenol
- Triclosan

Fungicides and Metabolites
- *ortho*-Phenylphenol
- Ethylene thiourea*
- Pentachlorophenol
- Propylene thiourea*

Herbicides and Metabolites
- 2,4-Dichlorophenoxyacetic acid
- 2,4,5-Trichlorophenoxyacetic acid

Sulfonylurea Herbicides
- Bensulfuron-methyl*
- Chlorsulfuron*
- Ethametsulfuron-methyl*
- Foramsulfuron*
- Halosulfuron*
- Mesosulfuron-methyl*
- Metsulfuron-methyl*
- Nicosulfuron*
- Oxasulfuron*
- Primisulfuron-methyl*
- Prosulfuron*
- Rimsulfuron*
- Sulfometuron-methyl*
- Sulfosulfuron*
- Thifensulfuron-methyl*
- Triasulfuron*
- Triflusulfuron-methyl*

Carbamate Pesticide Metabolites
- Carbofuranphenol
- 2-Isopropoxyphenol

Organochlorine Pesticides and Metabolites
- Aldrin
- Dieldrin
- Endrin
- Heptachlor epoxide
- *o,p'*-Dichlorodiphenyltrichloroethane (DDT)
- 2,4,5-Trichlorophenol
- 2,4,6-Trichlorophenol

Other Pesticides and Metabolites
- 2,4-Dichlorophenol*
- 2,5-Dichlorophenol*

Organophosphorus Insecticides: Specific Metabolites
- Acephate*
- Dimethoate*
- Methamidophos*
- Omethoate*
- Malathion dicarboxylic acid
- 2-Isopropyl-4-methyl-6-hydroxypyrimidine
- *para*-Nitrophenol
- 3,5,6-Trichloro-2-pyridinol

Organophosphorus Insecticides: Dialkyl Phosphate Metabolites
- Diethylphosphate (DEP)
- Dimethylphosphate (DMP)
- Diethylthiophosphate (DETP)
- Dimethylthiophosphate (DMTP)
- Diethyldithiophosphate (DEDTP)
- Dimethyldithiophosphate (DMDTP)

Pyrethroid Metabolites
- *trans*-3-(2,2-Dichlorovinyl)-2,2-dimethylcyclopropane carboxylic acid
- *cis*-3-(2,2-Dibromovinyl)-2,2-dimethylcyclopropane carboxylic acid
- 4-Fluoro-3-phenoxybenzoic acid
- 3-Phenoxybenzoic acid

Metals and Metalloids
- Antimony
- Arsenic, Total
  - Inorganic Arsenic-related Species*
  - Arsenic (V) acid
  - Arsenobetaine
  - Arsenocholine
  - Arsenous (III) acid
  - Dimethylarsinic acid
  - Monomethylarsonic acid
  - Trimethylarsine oxide
- Barium
- Beryllium
- Cadmium
- Cesium
- Cobalt
- Copper*
- Lead
- Manganese*
- Mercury (total; inorganic; ethyl* and methyl species*)
- Molybdenum
- Platinum
- Selenium*
- Strontium*
- Thallium
- Tin*
- Tungsten
- Uranium
- Zinc*

Parabens
- Butyl paraben*
- Ethyl paraben*
- Methyl paraben*
- *n*-Propyl paraben*

Perchlorate and Other Anions
- Nitrate*
- Perchlorate
- Thiocyanate*

Perfluorinated Compounds: Surfactants
- Perfluorobutane sulfonic acid (PFBuS)
- Perfluorodecanoic acid (PFDeA)
- Perfluorododecanoic acid (PFDoA)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorohexane sulfonic acid (PFHxS)
- Perfluorononanoic acid (PFNA)
- Perfluorooctanoic acid (PFOA)
- Perfluorooctane sulfonic acid (PFOS)
- Perfluorooctane sulfonamide (PFOSA)
- 2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid (Et-PFOSA-AcOH)
- 2-(N-Methyl-perfluorooctane sulfonamido) acetic acid (Me-PFOSA-AcOH)
- Perfluoroundecanoic acid (PFUA)

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Phthalate and Phthalate Alternative Metabolites

Mono-benzyl phthalate (MBzP)
Mono-isobutyl phthalate (MiBP)
Mono-n-butyl phthalate (MnBP)
Mono-cyclohexyl phthalate (MCHP)
Mono-ethyl phthalate (MEP)
Mono-2-ethylhexyl phthalate (MEHP)
Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)
Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)
Mono-(2-ethyl-5-carboxypentyl) phthalate (MECPP)
Mono-(carboxynonyl) phthalate (MCNP)*
Mono-isononyl phthalate (MiNP)
Mono-(carboxyoctyl) phthalate (MCOP)*
Mono-methyl phthalate (MMP)
Mono-(3-carboxypropyl) phthalate (MCPP)
Mono-n-octyl phthalate (MOP)
Cyclohexane-1,2-dicarboxylic acid mono(hydroxy-isononyl ester) (MHNCH)*

Phytoestrogens and Metabolites

Daidzein
Enterodiol
Enterolactone
Equol
Genistein
O-Desmethylangolensin

Polycyclic Aromatic Hydrocarbon Metabolites

2-Hydroxyfluorene
3-Hydroxyfluorene
9-Hydroxyfluorene
1-Hydroxyphenanthrene
2-Hydroxyphenanthrene
3-Hydroxyphenanthrene
4-Hydroxyphenanthrene
1-Hydroxypyrene
1-Hydroxynaphthalene (1-Naphthol)
2-Hydroxynaphthalene (2-Naphthol)

Volatile Organic Compounds (VOCs)

1,1,1-Trichloroethane (Methyl chloroform)
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene (Vinylidene chloride)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dichlorobenzene (*o*-Dichlorobenzene)
1,2-Dichloroethane (Ethylene dichloride)
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichlorobenzene (*m*-Dichlorobenzene)
1,4-Dichlorobenzene (Paradichlorobenzene)
2,5-Dimethylfuran
Benzene
Chlorobenzene (Monochlorobenzene)
Dibromomethane
Dichloromethane (Methylene chloride)
Ethylbenzene
Hexachloroethane
Methyl-*tert*-butyl ether (MTBE)
Nitrobenzene
Styrene
Tetrachloroethene (Perchloroethylene)
Tetrachloromethane (Carbon tetrachloride)
Toluene
Trichloroethene (Trichloroethylene)
m-/*p*-Xylene
o-Xylene

Volatile Organic Compound (VOC) Metabolites

N-Acetyl-S-(benzyl)-L-cysteine*
N-Acetyl-S-(2-carbamoyl-2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(2-carbamoylethyl)-L-cysteine*
N-Acetyl-S-(2-carboxyethyl)-L-cysteine*
N-Acetyl-S-(3-hydroxypropyl)-L-cysteine*
N-Acetyl-S-(2-cyanoethyl)-L-cysteine*
N-Acetyl-S-(1,2-dichlorovinyl)-L-cysteine*
N-Acetyl-S-(2,2-dichlorovinyl)-L-cysteine*
N-Acetyl-S-(dimethylphenyl)-L-cysteine*
N-Acetyl-S-(N-methylcarbamoyl)-L-cysteine*
N-Acetyl-S-(3,4-dihydroxybutyl)-L-cysteine*
N-Acetyl-S-(2-hydroxy-3-butenyl)-L-cysteine*
N-Acetyl-S-(4-hydroxy-2-butenyl)-L-cysteine*
N-Acetyl-S-(1-hydroxymethyl-2-propenyl)-L-cysteine*
N-Acetyl-S-(2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(2-hydroxypropyl)-L-cysteine*
N-Acetyl-S-(3-hydroxypropyl-1-methyl)-L-cysteine*
N-Acetyl-S-(phenyl)-L-cysteine*
t,t-Muconic acid*
N-Acetyl-S-(phenyl-2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(n-propyl)-L-cysteine*
N-Acetyl-S-(trichlorovinyl)-L-cysteine*
2-Aminothiazoline-4-carboxylic acid*
Mandelic acid*
2-Methylhippuric acid*
3- and 4-Methylhippuric acid*
Phenylglyoxylic acid*
2-Thioxothiazolidine-4-carboxylic acid*

Metals and Metalloids (Adult Cigarette Smokers and Nonsmokers: Special Sample)

Antimony
Arsenic, Total
  Arsenic (V) acid
  Arsenobetaine
  Arsenocholine
  Arsenous (III) acid
  Dimethylarsinic acid
  Monomethylarsonic acid
  Trimethylarsine oxide
Barium
Cadmium
Cesium
Cobalt
Lead
Manganese*
Molybdenum
Strontium*
Thallium
Tin*
Tungsten
Uranium

Perchlorate and Other Anions (Adult Cigarette Smokers and Nonsmokers: Special Sample)

Nitrate*
Perchlorate
Thiocyanate*

Polycyclic Aromatic Hydrocarbon Metabolites (Adult Cigarette Smokers and Nonsmokers: Special Sample)

2-Hydroxyfluorene
3-Hydroxyfluorene
9-Hydroxyfluorene
1-Hydroxyphenanthrene
2-Hydroxyphenanthrene
3-Hydroxyphenanthrene
4-Hydroxyphenanthrene
1-Hydroxypyrene
1-Hydroxynaphthalene (1-Naphthol)
2-Hydroxynaphthalene (2-Naphthol)

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Volatile Organic Compound (VOC) Metabolites (Adult Cigarette Smokers and Nonsmokers: Special Sample)
N-Acetyl-S-(benzyl)-L-cysteine*
N-Acetyl-S-(2-carbamoyl-2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(2-carbamoylethyl)-L-cysteine*
N-Acetyl-S-(2-carboxyethyl)-L-cysteine*
N-Acetyl-S-(3-hydroxypropyl)-L-cysteine*
N-Acetyl-S-(2-cyanoethyl)-L-cysteine*
N-Acetyl-S-(1,2-dichlorovinyl)-L-cysteine*
N-Acetyl-S-(2,2-dichlorovinyl)-L-cysteine*
N-Acetyl-S-(dimethylphenyl)-L-cysteine*
N-Acetyl-S-(N-methylcarbamoyl)-L-cysteine*
N-Acetyl-S-(3,4-dihydroxybutyl)-L-cysteine*
N-Acetyl-S-(2-hydroxy-3-butenyl)-L-cysteine*
N-Acetyl-S-(4-hydroxy-2-butenyl)-L-cysteine*
N-Acetyl-S-(1-hydroxymethyl-2-propenyl)-L-cysteine*
N-Acetyl-S-(2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(2-hydroxypropyl)-L-cysteine*
N-Acetyl-S-(3-hydroxypropyl-1-methyl)-L-cysteine*
N-Acetyl-S-(phenyl)-L-cysteine*
t,t-Muconic acid*
N-Acetyl-S-(phenyl-2-hydroxyethyl)-L-cysteine*
N-Acetyl-S-(n-propyl)-L-cysteine*
N-Acetyl-S-(trichlorovinyl)-L-cysteine*
2-Aminothiazoline-4-carboxylic acid*
Mandelic acid*
2-Methylhippuric acid*
3- and 4-Methylhippuric acid*
Phenylglyoxylic acid*
2-Thioxothiazolidine-4-carboxylic acid*

Organochlorine Pesticides and Metabolites (Pooled Samples)
Oxychlordane
trans-Nonachlor
p,p'-DDT
p,p'-DDE
Hexachlorobenzene
beta-Hexachlorocyclohexane
gamma-Hexachlorocyclohexane
Mirex

Polybrominated Diphenyl Ethers and PBB 153 (Pooled Samples)
2,2',4'-Tribromodiphenyl ether (BDE 17)
2,4,4'-Tribromodiphenyl ether (BDE 28)
2,2',4,4'-Tetrabromodiphenyl ether (BDE 47)
2,3',4,4'-Tetrabromodiphenyl ether (BDE 66)
2,2',3,4,4'-Pentabromodiphenyl ether (BDE 85)
2,2',4,4',5-Pentabromodiphenyl ether (BDE 99)
2,2',4,4',6-Pentabromodiphenyl ether (BDE 100)
2,2',4,4',5,5'-Hexabromodiphenyl ether (BDE 153)
2,2',4,4',5,6'-Hexabromodiphenyl ether (BDE 154)
2,2',3,4,4',5',6-Heptabromodiphenyl ether (BDE 183)
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (BDE 209)*
2,2',4,4',5,5'-Hexabromobiphenyl (PBB 153)

Dioxin-like Polychlorinated Biphenyls: mono-*ortho*-substituted PCBs (Pooled Samples)
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)
2,3,3',4,4'-Pentachlorobiphenyl (PCB 114)*
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)*
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156)
2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157)
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)

Non-Dioxin-Like Polychlorinated Biphenyls (Pooled Samples)
2,4,4'-Trichlorobiphenyl (PCB 28)
2,2'3,5'-Tetrachlorobiphenyl (PCB 44)
2,2',4,5'-Tetrachlorobiphenyl (PCB 49)
2,2',5,5'-Tetrachlorobiphenyl (PCB 52)
2,3',4,4'-Tetrachlorobiphenyl (PCB 66)
2,4,4',5-Tetrachlorobiphenyl (PCB 74)
2,2',3,4,5'-Pentachlorobiphenyl (PCB 87)
2,2',4,4',5-Pentachlorobiphenyl (PCB 99)
2,2',4,5,5'-Pentachlorobiphenyl (PCB 101)
2,3,3',4',6-Pentachlorobiphenyl (PCB 110)
2,2',3,3',4,4'-Hexachlorobiphenyl (PCB 128)
2,2',3,4,4',5' and 2,3,3',4,4',6-Hexachlorobiphenyl (PCB 138 & 158)
2,2',3,4',5,5'-Hexachlorobiphenyl (PCB 146)
2,2',3,4',5',6-Hexachlorobiphenyl (PCB 149)
2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151)
2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)
2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170)
2,2',3,3',4,5,5'-Heptachlorobiphenyl (PCB 172)
2,2',3,3',4,5',6'-Heptachlorobiphenyl (PCB 177)
2,2',3,3',5,5',6-Heptachlorobiphenyl (PCB 178)
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)
2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183)
2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB 187)
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)
2,2',3,3',4,4',5,6-Octachlorobiphenyl (PCB 195)
2,2',3,3',4,4',5,6' and 2,2',3,4,4',5,5',6-Octachlorobiphenyl (PCB 196 & 203)
2,2',3,3',4,5,5',6-Octachlorobiphenyl (PCB 199)
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (PCB 206)
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl (PCB 209)