

# Food Matrix Reference Materials



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Analytical Products





## Food Matrix Reference Materials

This brochure provides a comprehensive list of food matrix reference materials from various manufacturers, sorted by matrix type and listing the analytes to make it quick and easy for you to find the material that is fit for your needs.

Matrix reference materials are important tools for an analytical laboratory to develop, validate, and verify the results of their analytical methods. While reference materials in neat or in solution formats are usually used for calibration or identification purposes of specific analytes, matrix materials take matrix effects too into account and can serve to account for the bias during sample workup and preparation. Matrix materials are characterised for their composition of specified major, minor, or trace chemical constituents. The material can be naturally contaminated, or the samples can be fortified by spiking the analytes of interest to a blank matrix.

The closer the nature of the used matrix material is to the tested samples, the better it can help to validate the results of a method.

Manufacturing of Food Matrix Reference Materials is a very laborious and time-consuming process. Most of the Food Matrix Materials currently available in the market are manufactured either by metrological institutes (like the National Institute of Standards and Technology (NIST) or the European Joint Research Center (JRC)) or by proficiency testing (PT) providers with access to a big set of analytical data from accredited labs.

Our offering of more than 200 food matrix materials includes products from NIST, JRC, METAS, FAPAS, Alpha Resources and Elemental Microanalysis.

This brochure aims to help you finding the best suited matrix material, but we are only listing the analytes, not the certification level and values. Please also note, that certification of materials as well as the range of certified analytes might be changing. Therefore we recommend to check the most current certificate which you can usually find linked at the corresponding product pages

**[SigmaAldrich.com/foodmatrix](https://sigmaaldrich.com/foodmatrix)**

## NIST

Founded on March 3, 1901, the National Institute of Standards and Technology (NIST) in the United States is one of the oldest physical science laboratories globally. Its measurements support the smallest of technologies to the largest and most complex of human-made creations. NIST standards, also called standard reference materials (SRMs), are available for use in various areas such as industrial raw materials, clinical chemistry, environmental analysis, and food and agriculture. We are proud to be a Licensed Distributor of NIST SRMs.

[SigmaAldrich.com/nist](https://www.sigmaaldrich.com/nist)



## Joint Research Center (JRC)

The Reference Material Unit of the JRC (Joint Research Center, a Directorate General of the European Commission) is situated in Geel, Belgium.

The JRC's mission is to support EU policies with independent evidence throughout the whole policy cycle. This involves the production of certified reference materials (pure and matrix materials) for environmental analysis, food analysis, clinical chemistry, industrial applications and physical properties. The JRC's CRMs are available under the ERM<sup>®</sup>, EURM<sup>®</sup>, IRMM<sup>®</sup> and BCR<sup>®</sup> brands.

The JRC's CRMs are produced in accordance with ISO 17034 and the JRC holds accreditation to ISO 17034 (reference materials production), ISO/IEC 17025 (testing) and ISO 17043 (proficiency testing).

[SigmaAldrich.com/jrc](https://www.sigmaaldrich.com/jrc)



## Fapas<sup>®</sup>

Fapas<sup>®</sup> is a renowned provider of proficiency testing schemes for food analysis and is part of Fera, a center of excellence for interdisciplinary investigation and problem solving across plant and bee health, crop protection, sustainable agriculture, food and feed quality and chemical safety in the environment based in York (UK).

The Fapas<sup>®</sup> RMs are derived from materials used for proficiency testing schemes and undergo formal stability testing for both short-term and long-term applications. The products are delivered with an associated datasheet which lists the reference values and their expanded uncertainty U. The value of U is not a performance limit but is the uncertainty relating to the reference value. RMs therefore have a greater degree of trust in their values than, for example, quality control materials and can be used for method calibration purposes. Fapas<sup>®</sup> RMs are manufactured in accordance with the principles of ISO 17034.

[SigmaAldrich.com/fapas](https://www.sigmaaldrich.com/fapas)



## Alpha Resources and Elemental Microanalysis

Elemental Microanalysis and Alpha Resources are experts in elemental combustion analyses (C, H, N, O, S) within the inorganic and organic markets. Each reference material is manufactured within an ISO9001 accredited company and all Certified Reference Materials (CRM) are produced under ISO17034 accreditation, utilising ISO17025 accredited labs. The determination of certified values for Carbon, Hydrogen, Nitrogen, Oxygen and Sulfur are with elemental analysers calibrated with materials from the National Institute of Standards and Technology (NIST) where applicable. The isotope values are traceable to primary isotopic certified reference materials issued by IAEA Vienna. All reference materials without ISO17034 certification have been produced and tested within a ISO9001 and ISO17025 laboratory.

[SigmaAldrich.com/alpharesources](https://www.sigmaaldrich.com/alpharesources)

[SigmaAldrich.com/elementalmicroanalysis](https://www.sigmaaldrich.com/elementalmicroanalysis)



## METAS

The Federal Institute of Metrology METAS serves as the federal centre of competence for all issues related to measurement and for measuring equipment and procedures. It is the Swiss national metrology institute. As such, its mandate is to ensure the availability of measurement and testing facilities with the degree of accuracy needed to meet the requirements of the economy, research and administration. In collaboration with MERCK in Buchs, METAS is developing certified reference materials. An example is the Whey Protein Matrix Material **WP-CBR001**, intended to be used for development, validation and performance control of analytical methods for the determination of toxic elements and polycyclic aromatic hydrocarbons (PAHs)



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# Animal Feed Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>FAP80738</b>	Aflatoxins in animal feed	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Aflatoxin (total)	Fapas®
<b>BCR115</b>	Animal Feed	<b>Organic Pollutants</b> HCB, β-HCH, γ-HCH, Heptachlor, γ-Chlordane, α-Endosulfan, Dieldrin, Endrin, p,p'-DDE	JRC
<b>NIST1486</b>	Bone meal	<b>Elements</b> Calcium (Ca), Iron (Fe), Lead (Pb), Magnesium (Mg), Phosphorous (P), Potassium (K), Strontium (Sr), Zinc (Zn)	NIST
<b>BCR375</b>	Compound feed (aflatoxin B1, blank)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1	JRC
<b>ERMBE376</b>	Compound feedingstuff (aflatoxins, high level)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1	JRC
<b>ERMBE375</b>	Compound feedingstuff (aflatoxins, very low level)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2	JRC
<b>FAP83946</b>	Fusarium toxins in animal feed	<b>Biotoxins / Mycotoxins</b> Deoxynivalenol (DON), Zearalenone (ZON), T-2, HT-2	Fapas®
<b>FAP83947</b>	OA in animal feed	<b>Biotoxins / Mycotoxins</b> Ochratoxin A	Fapas®
<b>ERMCD281</b>	Rye Grass	<b>Elements</b> Phosphorus (P), Antimony (Sb), Arsenic (As), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Potassium (K), Selenium (Se), Silicon (Si), Sodium (Na), Sulfur (S), Tin (Sn), Zinc (Zn)	JRC



# Beverages and Water Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>FAP80591</b>	Acrylamide in coffee	<b>Organic Pollutants</b> Acrylamide	Fapas®
<b>BCR651</b>	Beer (EtOH, low level)	<b>Ethanol</b>	JRC
<b>BCR652</b>	Beer (EtOH, very low level)	<b>Ethanol</b>	JRC
<b>BCR480</b>	Fresh water (nitrate, high level)	<b>Nitrate (NO<sub>3</sub>)</b>	JRC
<b>BCR479</b>	Fresh water (nitrate, low level)	<b>Nitrate (NO<sub>3</sub>)</b>	JRC
<b>FAP80562</b>	Metals in soft drink	<b>Elements</b> Arsenic (inorganic), Cadmium (Cd), Iron (Fe), Lead (Pb), Tin (Sn)	Fapas®
<b>FAP80561</b>	Metals in wine	<b>Elements</b> Cadmium (Cd), Copper (Cu), Lead (Pb)	Fapas®
<b>FAP84207</b>	OTA in coffee (processed)	<b>Biotoxins / Mycotoxins</b> Ochratoxin A	Fapas®
<b>FAP80679</b>	Soft drinks ingredients	<b>Phytochemicals</b> Benzoic acid, Caffeine  <b>Sweeteners</b> Acesulfame-K, Saccharin	Fapas®
<b>IRMM428</b>	Water (PFASs)	<b>Organic Pollutants</b> Linear perfluorooctane sulfonate (L-PFOS), Perfluorobutane sulfonate (PFBS), Perfluoroheptanoic acid (PFHpA), Perfluorohexane sulfonate (PFHxS), Perfluorohexanoic acid (PFHxA), Perfluorononanoic acid, Perfluoropentanoic acid (PFPeA)	JRC
<b>BCR653</b>	Wine (EtOH, low level)	<b>Ethanol</b>	JRC



# Botanicals Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>NIST3247</b>	Ginkgo biloba (Extract)	<p><b>Phytochemicals</b> Bilobalide, Ginkgolide A, Ginkgolide B, Ginkgolide C, Ginkgolide J, Isorhamnetin, Kaempferol, Quercetin, Total Aglycones, Total Terpene Lactones</p> <p><b>Elements</b> Arsenic (As), Cadmium (Cd), Lead (Pb)</p>	NIST
<b>NIST3246</b>	Ginkgo biloba (Leaves)	<p><b>Phytochemicals</b> Bilobalide, Ginkgolide A, Ginkgolide B, Ginkgolide C, Ginkgolide J, Isorhamnetin, Kaempferol, Quercetin, Total Aglycones, Total Terpene Lactones</p> <p><b>Elements</b> Cadmium (Cd), Lead (Pb), Mercury (Hg)</p>	NIST
<b>NIST3248</b>	Ginkgo-Containing Tablets	<p><b>Phytochemicals</b> Bilobalide, Ginkgolide A, Ginkgolide B, Ginkgolide C, Ginkgolide J, Isorhamnetin, Kaempferol, Quercetin, Total Aglycones, Total Terpene Lactones</p> <p><b>Elements</b> Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg)</p>	NIST
<b>NIST3255</b>	Green Tea (Camellia sinensis) Extract	<p><b>Phytochemicals</b> (-)-Epicatechin, (-)-Epicatechin gallate, (-)-Epigallocatechin, (-)-Epigallocatechin gallate, (-)-Epigallocatechin methylgallate, (-)-Gallocatechin, (-)-Gallocatechin gallate, (+)-Catechin, Caffeine, Gallic acid, L-Theanine, theobromine, Theophylline</p> <p><b>Elements</b> Aluminum (Al), Arsenic (As), Copper (Cu), Iron (Fe), Lead (Pb), Manganese (Mn), Zinc (Zn)</p>	NIST
<b>NIST3254</b>	Green Tea (Camellia sinensis) Leaves	<p><b>Phytochemicals</b> (-)-Epicatechin, (-)-Epicatechin gallate, (-)-Epigallocatechin, (-)-Epigallocatechin gallate, (-)-Gallocatechin, (-)-Gallocatechin gallate, (+)-Catechin, Caffeine, Gallic acid, L-Theanine, Theobromine</p> <p><b>Elements</b> Aluminum (Al), Arsenic (As), Cadmium (Cd), Copper (Cu), Iron (Fe), Lead (Pb), Manganese (Mn), Mercury (Hg), Zinc (Zn)</p>	NIST



Cat. No.	Description	Analytes listing	Manufacturer
<b>NIST3256</b>	Green Tea-Containing Solid Oral Dosage Form	<p><b>Phytochemicals</b></p> <p>(-)-Epicatechin, (-)-Epicatechin gallate, (-)-Epigallocatechin, (-)-Epigallocatechin gallate, (-)-Gallocatechin, (-)-Gallocatechin gallate, (+)-Catechin, caffeine, Gallic acid, L-Theanine, theobromine, Theophylline</p> <p><b>Metals</b></p> <p>Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg)</p>	NIST
<b>NIST3251</b>	Saw Palmetto ( <i>Serenoa repens</i> ) Extract	<p><b>Phytochemicals</b></p> <p>Campesterol, Cycloartenol, Lupeol, Stigmasterol, <math>\beta</math>-Sitosterol</p> <p><b>Vitamins</b></p> <p>9-Cis-<math>\beta</math>-carotene, Total <math>\beta</math>-carotene, Trans-<math>\beta</math>-carotene, <math>\gamma</math>-Tocopherol</p>	NIST
<b>NIST3250</b>	Saw Palmetto ( <i>Serenoa repens</i> ) Fruit	<p><b>Phytochemicals</b></p> <p>Campesterol, Stigmasterol, <math>\beta</math>-Sitosterol</p>	NIST
<b>BCR402</b>	White clover (trace elements)	<p><b>Elements</b></p> <p>Arsenic (As), Cobalt (Co), Molybdenum (Mo), Selenium (Se)</p>	JRC



# Cereals, Bread, Rice and Maize Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>FAP80659</b>	Acrylamide in potato products	<b>Organic Pollutants</b> Acrylamide	Fapas®
<b>FAP80868</b>	Aflas in maize	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Aflatoxin (total)	Fapas®
<b>AR2027</b>	Barley Flour	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources
<b>ERMBD518</b>	Bran breakfast cereal (dietary fibre)	<b>Dietary Fibre</b> Dietary fibre according to AOAC 1990985.29, Dietary fibre according to AOAC 1992 MES-TRIS 991.43, Dietary fibre according to Englyst (by Colorimetry), Dietary fibre according to Englyst (by GC), Dietary fibre according to Uppsala 994.13	JRC
<b>AR2017</b>	Corn Gluten	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources
<b>AR2025</b>	Corn Meal	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources
<b>FAP80926</b>	Fumonisin in cereals	<b>Biotoxins / Mycotoxins</b> Fumonisin B1, Fumonisin B2	Fapas®
<b>FAP80916</b>	Fusarium toxins in cereals	<b>Biotoxins / Mycotoxins</b> Deoxynivalenol (DON), Zearalenone (ZON), T-2, HT-2	Fapas®
<b>ERMBC717</b>	Maize (low level zon)	<b>Biotoxins / Mycotoxins</b> Deoxynivalenol, Nivalenol (NIV), Zearalenone (ZON)	JRC
<b>ERMBC716</b>	Maize (very low level ZON)	<b>Biotoxins / Mycotoxins</b> Zearalenone (ZON)	JRC
<b>BCR377</b>	Maize flour (deoxynivalenol, blank)	<b>Biotoxins / Mycotoxins</b> Deoxynivalenol	JRC
<b>FAP80551</b>	Metals in infant cereal	<b>Elements</b> Arsenic (As), Arsenic (inorganic), Cadmium (Cd), Chromium (Cr), Lead (Pb), Mercury (Hg, total), Selenium (Se)	Fapas®
<b>FAP80469</b>	Metals in rice	<b>Elements</b> Arsenic (As), Arsenic (inorganic), Cadmium (Cd), Lead (Pb), Mercury (Hg, total)	Fapas®
<b>FAP80467</b>	Metals in wheat	<b>Elements</b> Aluminium (Al), Arsenic (As, total), Cadmium (Cd), Copper (Cu), Iron (Fe), Lead (Pb), Mercury (Hg, total), Nickel (Ni), Zinc (Zn)	Fapas®
<b>FAP82171</b>	Multi-Mycotoxins in cereals	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Ochratoxin A, Deoxynivalenol (DON), Zearalenone (ZON)	Fapas®
<b>FAP88984</b>	Nutritional elements in breakfast cereal	<b>Elements</b> Calcium (Ca), Iron (Fe), Magnesium (Mg), Phosphorous (P), Potassium (K), Sodium (Na), Zinc (Zn)	Fapas®
<b>FAP80836</b>	OA in cereals	<b>Biotoxins / Mycotoxins</b> Ochratoxin A	Fapas®
<b>AR2026</b>	Oatmeal	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources
<b>EMB2149</b>	Pasta	<b>Elements</b> Nitrogen	Elemental Microanalysis
<b>EMB2140</b>	Pasta	<b>Elements</b> Nitrogen	Elemental Microanalysis
<b>EMB2278</b>	Rice Flour	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Elemental Microanalysis
<b>BCR467</b>	Rice flour (amylose, high level)	<b>Carbohydrates</b> Amylose	JRC
<b>BCR465</b>	Rice flour (amylose, low level)	<b>Carbohydrates</b> Amylose	JRC
<b>BCR466</b>	Rice flour (amylose, medium level)	<b>Carbohydrates</b> Amylose	JRC
<b>IRMM804</b>	Rice flour (trace elements)	<b>Elements</b> Arsenic (As), Cadmium (Cd), Copper (Cu), Lead (Pb), Manganese (Mn), Selenium (Se), Zinc (Zn)	JRC
<b>NIST1568B</b>	Rice Flower	<b>Elements</b> Phosphorous, Aluminum (Al), Arsenic (As), Bromine (Br), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Cobalt (Co), Copper (Cu), Dimethylarsinic acid, Inorganic arsenic (iAs), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Monomethylarsonic acid (MMA), Potassium (K), Rubidium (Rb), Selenium (Se), Sodium (Na), Sulfur (S), Tin (Sn), Zinc (Zn)	NIST
<b>AR2020</b>	Rye Flour	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources

Cat. No.	Description	Analytes listing	Manufacturer
<b>ERMBC381</b>	Rye flour (major nutrients)	<b>Ash, Starch, Total Fat, Kjeldahl nitrogen</b> <b>Elements</b> Phosphorous, Calcium (Ca), Magnesium (Mg), Sodium (Na)	JRC
<b>EMB2158</b>	Sorghum Flour	<b>Elements</b> Carbon, Nitrogen and Sulfur	Elemental Microanalysis
<b>EMB2159</b>	Sorghum Flour	<b>Elements</b> Carbon, Nitrogen and Sulfur, $\delta$ 13C, $\delta$ 15N, $\delta$ 34S	Elemental Microanalysis
<b>BCR471</b>	Wheat (ochratoxin A, blank)	<b>Biotoxins / Mycotoxins</b> Ochratoxin A	JRC
<b>EMB2156</b>	Wheat Flour	<b>Elements</b> Carbon, Hydrogen and Nitrogen	Elemental Microanalysis
<b>EMB2157</b>	Wheat Flour	<b>Elements</b> Carbon, Nitrogen and Sulfur, $\delta$ 13C, $\delta$ 15N, $\delta$ 34S	Elemental Microanalysis
<b>AR2019</b>	Wheat Flour	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulfur	Alpha Resources
<b>BCR396</b>	Wheat flour (deoxynivalenol, blank)	<b>Biotoxins / Mycotoxins</b> Deoxynivalenol	JRC
<b>NIST1567B</b>	Wheat Flower	<b>Elements</b> Phosphorus (P), Aluminum (Al), Arsenic (As), Bromine (Br), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Potassium (K), Rubidium (Rb), Selenium (Se), Sodium (Na), Sulfur (S), Tin (Sn), Vanadium (V), Zinc (Zn)	NIST
<b>BCR121</b>	Wholemeal flour (vitamins)	<b>Vitamins</b> Thiamine (Vitamin B1), Vitamin B6 (total pyridoxine), Folate (total)	JRC





# Dairy Products and Eggs Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
FAP80733	Aflatoxin M1 in milk powder	<b>Biotoxins / Mycotoxins</b> Aflatoxin M1	Fapas®
ERMBB125	Egg powder (fipronil)	<b>Organic Pollutants / Pesticides</b> Fipronil sulfone, Sum of fipronil and fipronil sulfone expressed as fipronil	JRC
NIST1869	Infant/Adult Nutritional Formula II (milk/whey/soy-based)	<b>Solids, Ash, Protein, Lactose Monohydrate, Calories, Fat (extracted)</b> Histidine, Isoleucine, Leucine, Lysine, Phenylalanine, Proline, Serine, Taurine, Threonine, Tryptophan, Tyrosine, Valine  <b>Carbohydrates</b> Glucose, Sucrose, Free Maltose, Lactose, Total Fructans, Total Sugars  <b>Lipids and Fatty Acids</b> Caproic Acid, Capric Acid, Caprylic Acid, Lauric Acid, Myristic Acid, Margaric Acid, Palmitic Acid, Palmitoleic Acid, Stearic Acid, Oleic Acid, Vaccenic Acid, Linoleic Acid, α-Linoleic Acid, Arachidic Acid, Arachidonic Acid, Behenic Acid, DHA, Homo-γ-Linolenic Acid, Lignoceric Acid, Nervonic Acid, (Pentadecanoic Acid (C15:0), Total Trans C18:1 Fatty Acids, (E,Z)-9,12-Octadecadienoic Acid (C18:2), (Z,E)-9,12-Octadecadienoic Acid (C18:2), Total Trans C18:1 and C18:2 Fatty Acids, Eicosadienoic Acid (C20:2), Cis-Monounsaturated Fatty Acids, Cis-Polyunsaturated Fatty Acids, Saturated Fatty Acids, Omega-3 Fatty Acids, Omega-6 Fatty Acids, Total Trans Fatty Acid, Fat (as the sum of fatty acids as triglycerides)  <b>Elements</b> Calcium (Ca), Copper (Cu), Chlorine (Cl), Chromium (Cr), Iodine (I), Iron (Fe), Magnesium (Mg), Manganese (Mn), Molybdenum (Mo), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Zinc Zn  <b>Vitamins</b> Ascorbic Acid (Vitamin C), Thiamine (Vitamin B1), Riboflavin (Vitamin B2), Niacinamide (Vitamin B3), Total Vitamin B3 as Niacinamide, Pantothenic Acid (Vitamin B5), Pyridoxine (Vitamin B6), Cyanocobalamin (Vitamin B12), Biotin, Total Choline, Free Carnitine, Niacin Equivalents, Folic Acid, Free Choline, Retinol, Retinyl Acetate, Retinyl Palmitate, Ergocalciferol (Vitamin D2), Cholecalciferol (Vitamin D3), α-Tocopherol (free and total), α-Tocopheryl Acetate, β-Tocopherol, γ-Tocopherol, δ-Tocopherol, Phylloquinone (Vitamin K1), trans-Vitamin K1, β-Carotene, Lutein, Lycopene, myo-Inositol"  <b>Nucleotides</b> Adenosine Monophosphate, Cytidine Monophosphate, Guanosine Monophosphate, Inosine Monophosphate, Uridine Monophosphate	NIST
FAP80673	Melamine in Milk powder	<b>Organic Pollutants</b> Melamine, Cyanuric acid	Fapas®
FAP80527	Metals in milk powder	<b>Elements</b> Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg, total)	Fapas®
BCR607	Milk powder (PCDD's, PCDF's)	<b>Organic Pollutants</b> 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF	JRC
BCR450	Natural milk powder (PCB's )	<b>Organic Pollutants</b> PCB 52, PCB 118, PCB 153, PCB 156, PCB 170, PCB 180	JRC
BCR187	Natural milk powder (pesticides)	<b>Organic Pollutants</b> γ-HCH, p,p'-DDE, Hexachlorobenzene	JRC
FAP88659	Nutritional elements in infant formula	<b>Elements</b> Calcium (Ca), Copper (Cu), Iodine (I), Iron (Fe), Magnesium (Mg), Manganese (Mn), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Zinc (Zn)	Fapas®
FAP88819	Nutritional elements in milk powder	<b>Elements</b> Calcium (Ca), Iodine (I), Magnesium (Mg), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Iron (Fe), Copper (Cu), Zinc (Zn), Manganese (Mn), Molybdenum (Mo)	Fapas®
FAP88987	Pesticides and PCBs in infant formula	<b>Organic Pollutants / Pesticides</b> Chlordane (cis), Chlorfenvinphos (sum of E and Z isomers), HCH-B (beta hexachlorocyclohexane), Heptachlo-eopxide (cis), PCB 101, Demeton-S-methyl-sulfoxide (oxydemeton-methyl), Nitrofen	Fapas®
FAP89036	Pesticides and PCBs in milk powder	<b>Organic Pollutants / Pesticides</b> Bifenthrin, DDE-pp, Famoxadone, Fenvalerate, HCH-G (gamma hexachlorocyclohexane / lindane), Pendimethalin, Pyrazophos, PCB 52, PCB 153	Fapas®

Cat. No.	Description	Analytes listing	Manufacturer
FAP85259	Proximates in condensed milk	<b>Moisture, Ash, Total Fat, Nitrogen, Total Sugars</b>	Fapas®
BCR685	Skim milk powder	<b>Crude protein, Fat</b>	JRC
ERMBD150	Skimmed milk powder (major and trace elements)	<b>Elements</b> Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Copper (Cu), Iodine (I), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Zinc (Zn)	JRC
ERMBD151	Skimmed milk powder (major and trace elements)	<b>Elements</b> Cadmium (Cd), Calcium (Ca), Chloride, Copper (Cu), Iodine (I), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Phosphorus (P), Potassium (K), Selenium (Se), Sodium (Na), Zinc (Zn)	JRC
BCR188	Spiked milk powder (pesticides)	<b>Organic Pollutants</b> γ-HCH, p,p'-DDT, Endrin, Dieldrin, p,p'-DDE, b-HEPO, β-HCH, Hexachlorobenzene	JRC
WP-CBR001	Whey protein	<b>Organic Pollutants:</b> Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Chrysene  <b>Trace Elements:</b> Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg)	METAS
NIST1845A	Whole egg powder	<b>Solids, Ash, Nitrogen, Protein, Carbohydrates, Fat (as sum of fatty acids as triglycerides)</b>  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cysteine, Glutamic Acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine  <b>Lipids and Fatty Acids</b> Myristic Acid, Myristoleic Acid, Pentadecanoic Acid (C15:0), Palmitic Acid, Palmitoleic Acid, Margaric Acid, Margaroleic Acid, Elaidic Acid, Transvaccenic Acid, Stearic Acid, Oleic Acid, Vaccenic Acid, Linoleic Acid, α-Linolenic Acid, γ-Linolenic Acid, Arachidic Acid, Gadoleic Acid, Gondoic Acid, Eicosadienoic Acid, Dihomo-γ-linolenic Acid, Arachidonic Acid, DPA, DPH, Lignoceric Acid, Nervonic Acid  <b>Elements</b> Barium (Ba), Calcium (Ca), Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Strontium (Sr), Zinc (Zn)  <b>Vitamins</b> Cholecalciferol (Vitamin D3), 25-Hydroxyvitamin D3	NIST
ERMBD600	Whole milk powder	<b>Vitamins</b> Riboflavin (Vitamin B2), Thiamine (Vitamin B1), Vitam B12, Vitamin C (total ascorbate), α-Tocopherol	JRC
NIST1549A	Whole milk Powder	<b>Ash, Carbohydrates, Fat (as the sum of fatty acids as Free Fatty Acids), Protein, Solids</b>  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cysteine, Glutamic Acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Serine, Threonine, Tryptophan, Tyrosine, Valine  <b>Lipids and Fatty Acids</b> Butyric Acid, Caproic Acid, Caprylic Acid, Cholesterol, DPA, Lauric acid, Linoleic acid, Margaric Acid, Margaroleic Acid, Myristic Acid, Oleic Acid, Palmitic Acid, Palmitoleic Acid, Pentadecanoic Acid (C15:0), Stearic Acid, trans-Palmitelaidic Acid, Tridecanoic Acid (C13:0)  <b>Elements</b> Barium (Ba), Calcium (Ca), Copper (Cu), Iodine (I), Iron (Fe), Magnesium (Mg), Manganese (Mn), Molybdenum (Mo), Phosphorous (P), Potassium (K), Selenium (Se), Sodium (Na), Strontium (Sr), Zinc (Zn)  <b>Vitamins</b> 25-Hydroxyvitamin D3, Biotin, Carnitine, Cholecalciferol (Vitamin D3), Choline, Niacinamide (Vitamin B3), Pantothenic Acid (Vitamin B5), Pyridoxal, Pyridoxamine (Vitamin B6), Riboflavin (Vitamin B2), Total Vitamin B6 as Pyridoxal, Vitamin B12	NIST
ERMBD284	Whole milk powder, high level	<b>Biotoxins / Mycotoxins</b> Aflatoxin M1	JRC
ERMBD282	Whole milk powder, zero level	<b>Biotoxins / Mycotoxins</b> Aflatoxin M1	JRC

# Fish and Seafood Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>BCR718</b>	Canned fresh herring	<b>Organic Pollutants</b> PCB 28, PCB 52, PCB 101, PCB 105, PCB 118, PCB 128, PCB 138, PCB 149, PCB 153, PCB 156, PCB 170, PCB 180	JRC
<b>BCR349</b>	Cod liver oil (PCB's)	<b>Organic Pollutants</b> PCB 28, PCB 52, PCB 101, PCB 118, PCB 153, PCB 180	JRC
<b>ERMBB422</b>	Fish muscle	<b>Elements</b> Arsenic (As), Cadmium (Cd), Copper (Cu), Iron (Fe), Mercury (Hg), Iodine (I), Manganese (Mn), Selenium (Se), Zinc (Zn)	JRC
<b>ERMBB350</b>	Fish oil (PCB's)	<b>Organic Pollutants</b> PCB 101, PCB 105, PCB 110, PCB 118, PCB 138, PCB 149, PCB 153, PCB 156, PCB 163, PCB 167, PCB 177, PCB 180, PCB 183, PCB 187, PCB 194, PCB 196, PCB 28, PCB 52, PCB 74, PCB 95, PCB 99	JRC
<b>ERMCE102</b>	Fish Tissue	<b>Organic Pollutants</b> BDE-47 (2,2',4,4'-tetrabromodiphenyl ether), BDE-49 (2,2',4,5'-tetrabromodiphenyl ether), BDE-99 (2,2',4,4',5-pentabromodiphenyl ether), BDE-100 (2,2',4,4',6-pentabromodiphenyl ether), BDE-153 (2,2',4,4',5,5'-hexabromodiphenyl ether), BDE-154 (2,2',4,4',5,6'-hexabromodiphenyl ether)  <b>Indicative Values:</b> BDE-28 (2,4,4'-tribromodiphenyl ether), BDE-183 (2,2',3,4,4',5',6'-heptabromodiphenyl ether)	JRC
<b>EURM020</b>	Hippoglossus Hippoglossus (Atlantic Halibut) - Fish Powder	<b>Identity by DNA barcode</b>	JRC
<b>FAP79864</b>	Histamine in fish	<b>Allergens</b> Histamine	Fapas®
<b>FAP80466</b>	Metals in seafood	<b>Elements</b> Arsenic (As), Cadmium (Cd), Mercury (Hg)	Fapas®
<b>ERMCE477</b>	Mussel tissue (butyltins)	<b>Elements / Metallorganics</b> DBT: Sn(C4H9)2, MBT: Sn(C4H9)3, TBT: Sn(C4H9)3	JRC
<b>ERMCE278K</b>	Mussel tissue (elements)	<b>Elements</b> Arsenic (As), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Nickel (Ni), Potassium (K), Rubidium (Rb), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Zinc (Zn)	JRC
<b>BCR682</b>	Mussel tissue (PCB's)	<b>Organic Pollutants</b> PCB 28, PCB 52, PCB 118, PCB 138, PCB 149, PCB 153, PCB 170, PCB 180	JRC
<b>BCR668</b>	Mussel tissue (trace elements)	<b>Trace Elements</b> Arsenic (As), Cadmium (Cd), Cerium (Ce), Cesium (Cs), Chromium (Cr), Cobalt (Co), Dysprosium (Dy), Erbium (Er), Europium (Eu), Gadolinium (Gd), Holmium (Ho), Iron (Fe), Lanthanum (La), Lutetium (Lu), Molybdenum (Mo), Neodymium (Nd), Praseodymium (Pr), Samarium (Sm), Scandium (Sc), Terbium (Tb), Thorium (Th), Thulium (Tm), Uranium (U), Ytterbium (Yb), Yttrium (Y), Zinc (Zn)	JRC
<b>NIST3275</b>	Omega-3 and Omega-6 Fatty Acids in Fish Oil	<b>Lipids and Fatty Acids</b>  (Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic Acid (C20:5 n-3; EPA), (Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic Acid (C20:5 n-3; EPA), (Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic Acid (C22:5; DPA), (Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid (C22:6 n-3; DHA), Arachidic Acid, Arachidonic Acid, Behenic Acid, Erucic Acid, Erucic Acid, Gondoic Acid, Lauric Acid, Lignoceric Acid, Linoleic acid, Myristic Acid, Myristoleic Acid, Nervonic Acid, Oleic Acid, Palmitic Acid, Palmitoleic Acid, Vaccenic Acid, α-Linolenic Acid, γ-Linolenic Acid	NIST
<b>NIST1566B</b>	Oyster Tissue	<b>Ash, Total Dietary Fiber, Moisture, Nitrogen (N), Protein Nitrogen, Protein, Solids</b>  <b>Elements</b> Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Boron (B), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Cobalt (Co), Copper (Cu), Gold (Au), Hydrogen (H), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Methylmercury (as mercury), Nickel (Ni), Potassium (K), Rubidium (Rb), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Sulfur (S), Thorium (Th), Tin (Sn), Titanium (Ti), Uranium (U), Vanadium (V), Zinc (Zn)	NIST



Cat. No.	Description	Analytes listing	Manufacturer
<b>IRMM427</b>	Pike-perch (PFASs in fish tissue)	<b>Organic Pollutants</b> Branched perfluorooctane sulfonate (br-PFOS), Linear perfluorooctane sulfonate (L-PFOS), Perfluorooctane sulfonamide (FOSA), Perfluorodecanoic acid (PFDA), Perfluorododecanoic acid, Perfluorohexanesulfonate (PFHxS), Perfluorononanoic acid, Perfluorotetradecanoic acid (PFTeDA), Perfluorotridecanoic acid (PFTrDA), Perfluoroundecanoic acid, Total perfluorooctane sulfonate (tot-PFOS)	JRC
<b>BCR725</b>	Salmon tissue	<b>Antibiotics</b> Flumequine, Oxolinic acid	JRC
<b>FAP89089</b>	Total Volatile Basic Nitrogen in fish	<b>Total Volatile Basic Nitrogen (TVB-N)</b>	Fapas®
<b>ERMCE101</b>	Trout Muscle (trace elements)	<b>Elements</b> Arsenic (As), Iron (Fe), Manganese (Mn), Mercury (Hg), Selenium (Se), Zinc (Zn)	JRC
<b>BCR627</b>	Tuna fish tissue (As species)	<b>Elements, Organometallics</b> Arsenobetaine, Dimethylarsinic acid, Total arsenic	JRC



# Fruits and Vegetables Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>EMB2273</b>	Alfalfa	<b>Elements</b> Carbon, Hydrogen, Nitrogen and Sulphur (S)	Elemental Microanalysis
<b>ERMBC516</b>	Apple (dietary fibre)	<b>Dietary Fibre</b> Dietary fibre according to AOAC 1990 985.29, Dietary fibre according to AOAC 1992 MES-TRIS 991.43, Dietary fibre according to Englyst (by Colorimetry), Dietary fibre according to Englyst (by GC), Dietary fibre according to Uppsala 994.13	JRC
<b>NIST1515</b>	Apple Leaves	<b>Nitrogen (Total) (N)</b>  <b>Elements:</b> Phosphorus (P), Aluminum (Al), Boron (B), Barium (Ba), Barium (Ba), Cadmium (Cd), Calcium (Ca), Chlorine (Cl), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Potassium (K), Rubidium (Rb), Sodium (Na), Strontium (Sr), Vanadium (V), Zinc (Zn)	NIST
<b>ERMCD200</b>	Bladderwrack, Fucus vesiculosus (trace metals)	<b>Elements</b> Arsenic (As), Cadmium (Cd), Copper (Cu), Lead (Pb), Mercury (Hg), Selenium (Se), Zinc (Zn)	JRC
<b>ERMBC515</b>	Carrot (dietary fibre)	<b>Dietary Fibre</b> Dietary fibre according to AOAC 1990 985.29, Dietary fibre according to AOAC 1992 MES-TRIS 991.43, Dietary fibre according to Englyst (by Colorimetry), Dietary fibre according to Englyst (by GC), Dietary fibre according to Uppsala 994.13	JRC
<b>ERMBC403</b>	Cucumber (pesticides)	<b>Pesticides</b> Acetamiprid, Azoxystrobin, Carbendazim, Chlorpyrifos, Cypermethrin, Diazinon, a-Endosulfan, Fenitrothion, Imazalil, Imidacloprid, Iprodione, Malathion, Methomyl, Tebuconazole, Thiabendazole	JRC



Cat. No.	Description	Analytes listing	Manufacturer
<b>ERMBC514</b>	Haricots beans (dietary fibre)	<b>Dietary Fibre</b> Dietary fibre according to AOAC 1990 985.29, Dietary fibre according to AOAC 1992 MES-TRIS 991.43, Dietary fibre according to Englyst (by Colorimetry), Dietary fibre according to Englyst (by GC), Dietary fibre according to Uppsala 994.13	JRC
<b>FAP80553</b>	Metals in fruit products	<b>Elements</b> Cadmium (Cd), Copper (Cu), Iron (Fe), Lead (Pb), Tin (Sn)	Fapas®
<b>FAP80554</b>	Metals in vegetable puree	<b>Elements</b> Cadmium (Cd), Iron (Fe), Lead (Pb), Tin (Sn)	Fapas®
<b>FAP84209</b>	Patulin in fruit	<b>Biotoxins / Mycotoxins</b> Patulin	Fapas®
<b>NIST1547</b>	Peach leaves	<b>Nitrogen (N)</b>  <b>Elements</b> Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Boron (B), Bromine (Br), Cadmium (Cd), Calcium (Ca), Cerium (Ce), Chlorine (Cl), Chromium (Cr), Cobalt (Co), Copper (Cu), Europium (Eu), Gadolinium (Gd), Iodine (I), Iron (Fe), Lanthanum (La), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Neodymium (Nd), Nickel (Ni), Phosphorous, Potassium (K), Rubidium (Rb), Samarium (Sm), Scandium (Sc), Selenium (Se), Sodium (Na), Strontium (Sr), Sulfur (S), Terbium (Tb), Thorium (Th), Uranium (U), Vanadium (V), Ytterbium (Yb), Zinc (Zn)	NIST
<b>NIST1573A</b>	Tomato Leaves	<b>Kjeldahl Nitrogen, Nitrogen (Total), Phosphorus</b>  <b>Elements</b> Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Boron (B), Bromine (Br), Cadmium (Cd), Calcium (Ca), Cesium (Cs), Cerium (Ce), Chlorine (Cl), Chromium (Cr), Cobalt (Co), Copper (Cu), Gadolinium (Gd), Hafnium (Hf), Hydrogen (H), Iodine (I), Iron (Fe), Lanthanum (La), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Potassium (K), Rubidium (Rb), Samarium (Sm), Scandium (Sc), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Sulfur (S), Thorium (Th), Uranium (U), Vanadium (V), Zinc (Zn)	NIST
<b>NIST1570A</b>	Trace Elements in Spinach Leaves	<b>Nitrogen (N)</b>  <b>Elements</b> Aluminum (Al), Arsenic (As), Boron (B), Cadmium (Cd), Calcium (Ca), Cobalt (Co), Copper (Cu), Europium (Eu), Lead (Pb), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Nickel (Ni), Potassium (K), Phosphorous, Rubidium (Rb), Scandium (Sc), Selenium (Se), Sodium (Na), Strontium (Sr), Sulfur (S), Thorium (Th), Uranium (U), Vanadium (V), Zinc (Zn)	NIST
<b>BCR679</b>	White cabbage (trace elements)	<b>Elements</b> Antimony (Sb), Arsenic (As), Barium (Ba), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Phosphorous (P), Strontium (Sr), Thallium (Tl), Zinc (Zn)	JRC
<b>IRMM426</b>	Wild berries (bilberries)	<b>Elements</b> <sup>137</sup> Cs, <sup>40</sup> K, <sup>90</sup> Sr, Aluminum (Al), Barium (Ba), Calcium (Ca), Cesium (Cs), Magnesium (Mg), Potassium (K), Rubidium (Rb), Sodium (Na), Strontium (Sr)	JRC



# Meat Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>BCR648649</b>	Bovine liver (beta-agonist)	<b>Antibiotics</b> Clenbuterol (free base), Salbutamol, Terbutaline	JRC
<b>ERMBB185</b>	Bovine Liver (trace elements)	<b>Elements</b> Arsenic (As), Cadmium (Cd), Copper (Cu), Lead (Pb), Manganese (Mn), Selenium (Se), Zinc (Zn)	JRC
<b>NIST1577C</b>	Bovine liver	<b>Nitrogen</b>  <b>Elements</b> Phosphorous, Antimony (Sb), Arsenic (As), Cadmium (Cd), Calcium (Ca), Cesium (Cs), Chlorine (Cl), Chromium (Cr), Cobalt (Co), Copper (Cu), Hydrogen (H), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Potassium (K), Rubidium (Rb), Selenium (Se), Silicon (Si), Silver (Ag) Sodium (Na), Strontium (Sr), Sulfur (S), Vanadium (V), Zinc (Zn)  <b>Vitamins</b> 25-Hydroxyvitamin D3" <the "3" subscript>	NIST
<b>ERMBB184</b>	Bovine muscle (trace elements)	<b>Elements</b> Arsenic (As), Cadmium (Cd), Calcium (Ca), Chloride, Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Mercury (Hg), Potassium (K), Selenium (Se), Sodium (Na), Zinc (Zn)	JRC
<b>NIST1546A</b>	Meat Homogenate	Ash, Calories, Carbohydrates, Fat / Saturated Fat, Protein, Solids, Nitrate  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cystine, Glutamic Acid, Glycine, Histidine, Hydroxyproline, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Phosphate, Proline, Serine, Taurine, Threonine, Tryptophan, Tyrosine, Valine  <b>Lipids and Fatty Acids</b> Capric Acid, Lauric acid, Myristic Acid, Myristoleic Acid, Palmitic acid, Palmitoleic Acid, Stearic acid, Oleic acid, Vaccenic Acid, Linoleic acid, α-Linolenic Acid, Arachidic Acid, Gondoic Acid, Lignoceric Acid, Nervonic Acid, Cholesterol, (Z,Z)-11,14-Eicosadienoic Acid (C20:2 n-6), (Z,Z,Z)-11,14,17-Eicosatrienoic Acid (C20:3 n-3), cis-Monounsaturated Fat, γ-Linolenic Acid, Pentadecanoic Acid (C15:0), cis-Polyunsaturated Fat, Dihomo-γ-linolenic Acid, DGLA, Elaidic Acid, Erucic Acid, Total cis-C18:1, Total cis-C18:2, Total cis-C20:1, Total cis-C22:4, Total cis-C22:5, Total trans Fat, Total trans-C18:1, Total trans-C18:2, Total trans-C18:2 conjugated, Total ω-3 Fatty Acids, Total ω-6 Fatty Acids, trans-Vaccenic Acid, <b>Elements</b> Barium (Ba), Boron (B), Calcium (Ca), Chlorine (Cl), Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Molybdenum (Mo), Potassium (K), Rubidium (Rb), Selenium, Sodium (Na), Strontium, Zinc (Zn)  <b>Vitamins</b> 25-Hydroxyvitamin D3, Carnitine, Cholecalciferol (Vitamin D3), Choline, Niacin (Vitamin B3), Niacinamide (Vitamin B3), Pantothenic Acid (Vitamin B5), Pyridoxamine (Vitamin B6), Pyridoxine (Vitamin B6), Riboflavin (Vitamin B2), Thiamine (Vitamin B1), Total Vitamin B12 by Microbiological Assay, Total Vitamin B3 as Niacinamide, Total Vitamin B5 by Microbiological Assay, Total Vitamin B6 as Pyridoxine, Total Vitamin B6 by Microbiological Assay	NIST
<b>FAP84231</b>	Nutritional and Hydroxyproline in meat	<b>Biotoxins / Mycotoxins</b> Patulin	Fapas®
<b>FAP85276</b>	Nutritional in canned meat product	<b>Moisture, Ash, Total Fat, Nitrogen, Sodium, Chloride</b>	Fapas®
<b>BCR706</b>	Pig kidney (CTC free)	<b>Antibiotics</b> Chlortetracycline	JRC
<b>ERMBB186</b>	Pig kidney (trace elements)	<b>Elements</b> Cadmium (Cd), Copper (Cu), Iron (Fe), Manganese (Mn), Lead (Pb), Selenium (Se), Zinc (Zn), Arsenic (As), Mercury (Hg), Calcium (Ca), Chlorine (Cl), Potassium (K), Magnesium (Mg), Cobalt (Co), Sodium (Na)	JRC
<b>BCR695</b>	Pig liver (CTC free)	<b>Antibiotics</b> Chlortetracycline	JRC
<b>BCR696</b>	Pig liver (CTC incurred)	<b>Antibiotics</b> Chlortetracycline	JRC
<b>BCR697</b>	Pig muscle (CTC free)	<b>Antibiotics</b> Chlortetracycline	JRC

Cat. No.	Description	Analytes listing	Manufacturer
<b>BCR444</b>	Porcine muscle (chloramphenicol blank)	<b>Antibiotics</b> Chloramphenicol	JRC
<b>ERMBB430</b>	Pork fat (OCP's)	<b>Organic Pollutants</b> Hexachlorobenzene, $\alpha$ -HCH, $\beta$ -HCH, $\beta$ -HEPO, p,p'-DDT, p,p'-DDD, p,p'-DDE, $\gamma$ -HCH, Dieldrin, Endrin	JRC
<b>ERMBB444</b>	Pork fat (PCB blank)	<b>Organic pollutants</b> PCB 28, PCB 52, PCB 101, PCB 118, PCB 138, PCB 153, PCB 180, Lindane, BDE 47	JRC
<b>ERMBB446</b>	Pork fat (PCB) low level	<b>Organic pollutants</b> BDE 47, Lindane, PCB 101, PCB 118, PCB 138, PCB 153, PCB 180, PCB 28, PCB 52	JRC
<b>ERMBB445</b>	Pork fat (PCB) very low level	<b>Organic pollutants</b> PCB 28, PCB 52, PCB 101, PCB 118, PCB 138, PCB 153, PCB 180, Lindane, BDE 47	JRC
<b>ERMBB124</b>	Pork Muscle	<b>Antibiotics</b> 2-hydroxymethyl-1-methyl-5-nitroimidazole (HMMNI), Hydroxyipronidazole (IPZOH), Hydroxymetronidazole (MNZOH), Metronidazole (MNZ), Ronidazole (RNZ), Dimetridazole (DMZ)	JRC
<b>ERMBB130</b>	Pork Muscle	<b>Antibiotics</b> Chloramphenicol	JRC
<b>ERMBB384</b>	Pork muscle, major nutrients	<b>Ash, Total Fat, Kjeldahl nitrogen, Phosphate</b>  <b>Trace Elements</b> Calcium (Ca), Magnesium (Mg), Sodium (Na)	JRC



# Nuts, Soy, Edible Oils and Fats Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>EMB2168</b>	Coconut shell	<b>Elements</b> Carbon, Hydrogen and Nitrogen	Elemental Microanalysis
<b>BCR262R</b>	Defatted peanut meal	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1	JRC
<b>BCR263R</b>	Defatted peanut meal	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2	JRC
<b>BCR264</b>	Defatted peanut meal (aflatoxin B1, high level)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1	JRC
<b>ERMBC517</b>	Full fat soya (dietary fibre)	<b>Dietary Fibre</b> Dietary fibre according to AOAC 1990 985.29, Dietary fibre according to AOAC 1992 MES-TRIS 991.43, Dietary fibre according to Englyst (by Colorimetry), Dietary fibre according to Englyst (by GC), Dietary fibre according to Uppsala 994.13	JRC
<b>BCR122</b>	Margarine (vitamins)	<b>Vitamins</b> Cholecalciferol (Vitamin D3), $\alpha$ -Tocopherol	JRC
<b>EMB2172</b>	Olive Oil	<b>Elements</b> $\delta$ 13C	Elemental Microanalysis
<b>EMB2170</b>	Olive stone	<b>Elements</b> Carbon, Hydrogen and Nitrogen	Elemental Microanalysis
<b>FAP79868</b>	PAH in oils and fats	<b>Organic Pollutants</b> Benz[a]anthracene, Chrysene, Benzo[b]fluoranthene, Benzo[a]pyrene, Indeno[1,2,3-cd]pyrene, Benzo[g,h,i]perylene, PAH4 (sum)	Fapas®
<b>NIST2387</b>	Peanut Butter	<b>Ash, Calories, Carbohydrates, Total Dietary Fiber, Phosphorus (P), Fat (as the sum of fatty acids as triglycerides), Fat (Extractable), Protein, Solids</b>  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cystine, Glutamic Acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine  <b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Total Aflatoxins  <b>Lipids and Fatty Acids</b> Arachidic Acid, Arachidonic Acid, Behenic Acid, Eicosadienoic Acid (C20:2), Erucic Acid, Gondoic Acid, Linoleic acid, Margaric Acid, Margoleic acid, Monounsaturated Fatty Acids, Myristic Acid, Oleic Acid, Palmitoleic Acid, Polyunsaturated Fatty Acids, Stearic acid, Vaccenic Acid, $\alpha$ -Linolenic Acid  <b>Elements</b> Calcium (Ca), Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Potassium (K), Sodium (Na), Zinc (Zn)  <b>Vitamins</b>	NIST
<b>BCR401R</b>	Peanut butter (aflatoxin low level)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2	JRC
<b>BCR385R</b>	Peanut butter (aflatoxin, low level)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2	JRC
<b>FAP89005</b>	Pesticides and PCBs in fat	<b>Organic Pollutants / Pesticides</b> Chlordane (oxy), Chlordane (trans), Endosulfan II (beta), Fenvalerate, Heptachlor, Parathion (ethyl), Profenofos, PCB 101	Fapas®
<b>FAP89004</b>	Pesticides in oil	<b>Pesticides</b> Dimethoate, Endosulfan I (alpha), Fenthion-sulfoxide, Fiefenoxuron, Penconazole, Phosmet	Fapas®
<b>EMB2154</b>	Protein	<b>Elements</b> Nitrogen	Elemental Microanalysis
<b>ERMBC190</b>	Rapeseed (S, total glucosinolate)	<b>Phytochemicals</b> Total glucosinolate (GSL)  <b>Elements</b> Sulphur (S)	JRC

Cat. No.	Description	Analytes listing	Manufacturer
<b>ERMBC366</b>	Rapeseed (S, total glucosinolate)	<b>Phytochemicals</b> Total glucosinolate (GSL)  <b>Elements</b> Sulphur (S)	JRC
<b>ERMBC367</b>	Rapeseed (S, total glucosinolate)	<b>Phytochemicals</b> Total glucosinolate (GSL)  <b>Elements</b> Sulphur (S)	JRC
<b>ERMBC211</b>	Rice flour (Total As and As species)	<b>Elements / Metallorganics</b> Dimethylarsinic acid, Total Arsenic (As), The sum of arsenite and arsenate	JRC
<b>AR2016</b>	Soy Bean Meal	<b>Elements</b> Nitrogen and Sulphur (S)	Alpha Resources
<b>NIST3234</b>	Soy Flour	<b>Ash, Calories, Carbohydrates, Total Dietary Fiber, Fat (as the sum of fatty acids as triglycerides), Phosphorus (P), Protein</b>  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cystine, Glutamic Acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine  <b>Phytochemicals</b> Daidzein, Daidzin, Genistein, Genistin, Glycitin  <b>Elements</b> Calcium (Ca), Copper (Cu), Iron (Fe), Magnesium (Mg), Manganese (Mn), Potassium (K), Sodium (Na), Zinc (Zn)	NIST
<b>BCR162R</b>	Soya-maize oil blend (fatty acid profile)	<b>Lipids and Fatty Acids</b> 16:0 (n-hexadecanoic acid), 9c-18:1 (n-octadecenoic acid), 9c,12c-18:2 (n-octadecadienoic acid), 9c,12c,15c-18:3 (n-octadecatrienoic acid), 18:0 (n-octadecanoic acid), 18:1 (n-octadecenoic acid) , 18:2 (n-octadecadienoic acid), 18:3 (n-octadecatrienoic acid)	JRC
<b>NIST3278</b>	Tocopherols in Edible Oils	<b>Vitamins</b>  $\alpha$ -Tocopherol, $\beta$ -Tocopherol, $\gamma$ -Tocopherol, $\delta$ -Tocopherol	NIST





# Processed Food Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>BCR644</b>	Artificial foodstuff (Fructose, Sucrose, Lactose and Starch/glucose)	<b>Carbohydrates</b> Fructose, Lactose, Starch/glucose, Sucrose	JRC
<b>BCR645</b>	Artificial foodstuff (Sucrose, Lactose and starch/glucose)	<b>Carbohydrates</b> Lactose, Sucrose, Starch/glucose	JRC
<b>NIST2383A</b>	Baby Food Composite	<b>Ash, Carbohydrates, Total Sugars, Protein</b>  <b>Carbohydrates</b> Fructose, Glucose, Lactose, Sucrose  <b>Amino Acids</b> Alanine, Arginine, Aspartic Acid, Cystine, Histidine, Phenylalanine, Tyrosine, Valine  <b>Elements</b> Arsenic (As), Barium (Ba), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Iodine (I), Iron (Fe), Magnesium (Mg), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Phosphorus (P), Potassium (K), Selenium (Se), Sodium (Na), Strontium (Sr), Tin (Sn), Zinc (Zn)  <b>Vitamins</b> Total Lutein, Total Zeaxanthin, trans- $\beta$ -Carotene, Total $\alpha$ -Tocopherol	NIST
<b>NIST2384</b>	Baking Chocolate	<b>Ash, Calories, Carbohydrates, Proteins, Total Dietary Fiber, Fat (as the sum of fatty acids as triglycerides), Fat (Extractable), Solids</b>  <b>Lipids and Fatty Acids</b> Arachidic Acid, Behenic Acid, Gadoleic Acid, Lauric Acid, Lignoceric Acid, Linoleic acid, Margaric Acid, Myristic Acid, Palmitic Acid, Palmitoleic Acid, Pentadecanoic Acid (C15:0), Stearic acid, Vaccenic Acid, $\alpha$ -Linolenic Acid  <b>Elements</b> Cadmium (Cd), Calcium (Ca), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Phosphorus (P), Potassium (K), Sodium (Na), Zinc (Zn)	NIST
<b>ERMBD512</b>	Dark Chocolate	<b>Elements</b> Cadmium (Cd), Copper (Cu), Manganese (Mn), Nickel (Ni)	Fapas®
<b>FAP79867</b>	Nut allergen in biscuit	<b>Allergens</b> Hazelnut and Peanut. Value for whole hazelnut and whole peanut protein spike and reference values for different ELISA kits.	Fapas®
<b>FAP79859</b>	Nut allergen in choc, quant	<b>Allergens</b> Almond Proteins. Value for whole almond protein spike and reference values for different ELISA kits.	Fapas®

# Spices Matrix Materials

Cat. No.	Description	Analytes listing	Manufacturer
<b>FAP79875</b>	Metals in spices	<b>Trace Elements</b> Arsenic (As), Cadmium (Cd), Lead (Pb)	Fapas®
<b>FAP80775</b>	Mycotoxins in spices	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Aflatoxin (total), Ochratoxin A	Fapas®
<b>ERMBD286</b>	Paprika Powder (aflatoxin B1, G1)	<b>Biotoxins / Mycotoxins</b> Aflatoxin B1, Aflatoxin G1  <b>non certified values for:</b> Aflatoxin B2, Aflatoxin G2, Ochratoxin A	JRC

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