

ANNEX 1: BACKGROUND INFORMATION ON PAH

PAH form a class of diverse organic compounds, each of them containing two or more aromatic rings.

Compounds that are particularly relevant (cf § Introduction)in this context are :

- benzo[*a*]pyrene,
- the 15 other PAH considered by the United States Environmental Protection Agency (US EPA) in connection with the analysis of municipal and industrial waste waters (naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benz[*a*]anthracene, chrysene, benzo[*b*]fluoranthene, benzo[*k*]fluoranthene, indeno[1,2,3-*cd*]-pyrene, dibenz[*a,h*]anthracene, benzo[*ghi*]perylene) (US EPA, 1984a)
- and the additional PAH considered by IPCS in 1998 (IPCS, 1998) (see table in annex 4 for compounds included and abbreviations used in this assessment).

For the general population, the major routes of exposure to PAH are from food and inhaled air. PAH enter the environment via the atmosphere from a variety of combustion processes and pyrolysis sources.

PAH have been detected in a variety of foods, notably vegetables, as a result of the deposition of airborne PAH, and in fish and mussels from contaminated waters.

PAH are also formed as a result of certain food preparation methods, such as grilling, roasting and smoking. Direct fire-drying and heating processes used during the production of some oils of plant origin and in particular olive residue oil can result in high levels of PAH. Effective removal of processing-derived PAH to ensure that the products are safe is seldom completely achieved. Therefore selecting a design which avoids formation of PAH during processing should be the preferable alternative way.

Benzo[*a*]pyrene was last considered by IARC in 1987 (IARC, 1987), which concluded that it is a probable human carcinogen. Some other PAH have also been identified as being carcinogens, with possible genotoxic properties (Scientific Committee on Food - Opinion of 4 December 2002).

In laboratory studies the levels found to induce experimental tumours were several fold higher than those expected to be found in food and consumed. However, in view of the non-threshold effects of genotoxic substances the levels of PAH in foods should be reduced to as low as reasonably achievable.

The Scientific Committee on Food concluded that benzo(*a*)pyrene could be used as a marker for the occurrence and effect of carcinogenic PAH in food. However, further analyses of the relative proportions of different PAH in foods should be made and possible changes in the PAH profile monitored.

ANNEX 2: EXPLANATORY NOTES. INSTRUCTION FOR COMPLETION OF THE QUESTIONNAIRE

The aim of the SCOOP task 3.2.12 is to collect recent data on the occurrence of Polycyclic Aromatic Hydrocarbons (PAH) in food and to collect estimate of food intakes according to different population groups.

To address these issues, 3 different tables have been drafted:

Table 1 presents all the laboratories, which have provided data on PAH for a given country.

Table 2 presents a summary of occurrence and analytical data on PAH in food samples as provided by participants.

Most of the contamination of foods by PAH results either from an environmental pollution or from food processing. In this table have been selected these information which may be indicative of the susceptibility of a given food to be contaminated through one or another means. The overall aim is to collate different “risk food categories”.

Table 3 presents an estimate of food intakes by defined population group. This table has to be duplicated for every specific population group e.g. specific age, food habits (vegetarian, etc.), geographical area, etc.

A **sample** is defined as an entity, which has been analysed. The sample could be of two different forms: individual or pooled. In case of pool, indicate the number of food items included in the pool.

Appendix 1 describes the different coded items that are contained in the scrolling menus of the table 1, 2 and 3.

If the choices proposed in a scrolling menu do not suit with your data, write directly into the cell to specify another characteristic and press “Enter” to confirm.

In every table, more rows and columns can be added if needed. In order to respect the macros, it is recommended not to delete whole rows. On the other hand, it is possible to erase the content of an individual cell in case of mistake.

Of highest interest are the most recent data (last five years). However depending on the number of data available, older data can be reported but they must not be more than ten year old.

Blue colour filled columns mean that this information is mandatory for the later information treatment. Brown colour filled columns correspond to information that are useful if available.

Participants might not always be able to provide the information requested, but all information available, even incomplete, are welcome.

In every table, examples have been indicated taking Austria as model for the first country of the list, Austria. They are only examples and are not representative of this country.

All publications cited in a table should be presented in a list of references supplied in **Appendix 2**. In the table refer to:

The author's name (without initials) and year of publication. For three or more authors use the first author followed by "and al." in the table. The list of references should be arranged alphabetically by author's name. The Harvard system of references must be used. References should therefore be given in the following form:

Journal article : Paivio, A., Jansen, B., Becker, L.J., 1975. Inter-relationships among variables comprising amphipod production. *Hydrobiologia* 1 (2), 71-74.

Book : Cressie, N., 1991. Statistics for spatial data. John Wiley and Sons, New York.

Article or chapter in edited book:

Jeffries, P., Barea, J.M., 1994. Biochemical cycling and arbuscular mycorrhizas in the sustainability of plant-soil systems. In : Gianinazzi, S., Schuepp, H. (Eds.). *Impact of Arbuscular Mycorrhizas on Sustainable Agriculture and Natural Systems*. Birkhauser Verlag, Basel, Switzerland, pp.101-115.

Format for personal communication:

Smith, J., Personal communication.

About table 1 : Accreditation status of the laboratory and analytical technologies used

Country

Name of the Member State where the samples have been analysed, use the scrolling menu.

I.D. Lab

Give an identification code for each laboratory, which has provided analytical results. The I.D. Lab is composed of the country code (appendix 1) and a three-digit number.

GLP

Is the laboratory officially recognized or not for “good laboratory practices” ?

Analytical technology & procedure reference

The analytical technology must be indicated, e.g. gas chromatography, high performance liquid chromatography, together with the detection system e.g. fluorescence, mass spectrometry, ultraviolet, flame ionisation detection, etc. The analytical procedure must describe the material (type of column, gel, solvent...) and the method used.

The description of the method can be:

The reference of an international norm (International Organization for Standardization, OECD...). Indicate the norm reference and if the laboratory is accredited for performing this method as following:

“**I.D. Lab/norm number/yes or no**”.

The reference of a published report. Indicate the reference as following:

“**I.D. Lab/reference of the publication**” e.g. author’s name & year of publication. The whole reference must be listed in Appendix 2.

A full description of the procedure developed and used in the laboratory. Indicate the reference as following:

“**I.D. Lab/TOP one digit number**”

In this case, the text of the Technical Operating Procedure (TOP) should be enclosed and identified as following:

“**I.D. Lab/TOP one digit number**”.

In all cases, details of the validation of each method used (use of blank, extraction efficiency, reproducibility, repeatability, normal recovery range, correction for recovery, definition of LOD and LOQ, etc.) should be supplied in an additional paper. Label such papers using the reference identification explained previously (“I.D. Lab/norm number/yes or no”, “I.D. Lab/reference of the publication” or “I.D. Lab/TOP one digit number”).

If a Member State supplies data that have been obtained using different methods of analysis from the same laboratory, a column and a number can be added for each new method described.

Remarks

Space to provide additional remarks to the data submitted.

About Table 2 : Summary of occurrence data on PAH in food samples by country

More rows (for every new sample) and columns (if your data concern others PAH) can be added if needed. It means that the table will have as many rows as the number of samples collected.

There is a keyboard shortcut “Ctrl + D” and a button “Duplicate characteristics of a sample” which allows to copy and paste all the parameters of the previous row to the following row excluding the analytical results. It could be useful to use it in case of you have several samples which present the same characteristics. The cursor must be placed in any cell of a new row in order to copy the previous one.

Country

Name of the Member State where the monitoring has taken place, use the scrolling menu.

National I.D.

Identification code of the sample given by the analysing institute (if available). The aim of this column is to allow traceability.

Sample code (country code / nature code / food group code / sample number)

The sample code will automatically appear after filling in the corresponding cells. This code is composed of the country code (Appendix 1) / nature code (Appendix 1) / food group code (Appendix 1) / a four digit sample number.

Nature

Select from Appendix 1 and use the scrolling menu.

Food group

Assign the sample to a food group selected from Appendix 1 and use the scrolling menu.

Food item

Any additional information that describes the product should be given here, e.g. the type of meat, the part of the product analysed, was the product washed or unwashed, peeled or unpeeled ? (if available).

Process

Describe the details of the process undergone by the sample: barbecuing with charcoal using, wood using, grilling, frying, temperature of heating if known (write directly into the cell), oven microwave (write directly into the cell), etc.

Type of monitoring

Specify if the data come from a random monitoring, a suspicion control, an auto-control monitoring, a designated targeted monitoring program following an accidental contamination, a targeted sampling in a suspected contaminated area, etc., select from Appendix 1.

Reference of report if data published in the literature

Give the reference of the publication if the data are reported in the scientific literature. Use the model described previously: author’s name (without initials) and year of publication in the table. The whole reference should be listed in Appendix 2.

Origin of production

Specify the country of production (domestic or imported), and if possible, the geographic origin should be precised (area, urban or rural zone, open field or greenhouse culture).

Area & place of collection

District or region where the sample has been collected. Place where the sample has been collected (market place, retail outlet, producer, farm, slaughterhouse, etc.).

Specific conditions

For example specify if the zone of production or collection is close to a known or suspected particular point source of emission, etc.

Remarks

Space to provide additional remarks to the data submitted.

Reference of the analytical procedure

Use the reference identification explained previously (“I.D. Lab/norm number/yes or no”, “I.D. Lab/reference of the publication” or “I.D. Lab/TOP one digit number”).

Date of sampling

Supply details of when the sample was collected in the format year/month/day, e.g. for a sample collected on the 3 May 2001 the date supplied would be 2001/05/03. If only the month and year are known the date would be 2001/05.

Date of analysis

Supply details of when the sample was analysed in the same format as for the date the sample was collected. If an extract has been done from the sample and stored before analysis, give the date of extraction of the sample and the date of analysis.

Storage conditions of the sample

Specify the type of container (glass, metal, plastic, etc.), the physical state (fresh, dried, frozen, etc.), the temperature (+4°C, -20°C, -80°C, etc.), has the sample been exposed to UV light ?

Uncertainty of the result (%)

The percentage of the uncertainty of the result for a given sample.

Expression of results

Results should be preferentially reported as **µg/kg** (microgram per kilogram or ppb) on a wet, fresh weight basis. If on a dry weight basis, indicate the % of water content in next column.

Water content (%) if result expressed on a dry weight basis

Specify this for samples whose results are expressed on a dry weight basis.

Fat content (%)

Specify it if available.

Individual / pooled sample

Please indicate if the sample is a pooled sample or an individual sample.

Number of food items included in the pool

Indicate of how many food items the pooled sample has been made of.

Data from samples where various food items or food groups (Total Diet Study) have been mixed, will be treated separately. Specify in this cell if the sample comes from a TDS.

Replicate

If a sample is a replicate of another sample give the sample code of the matching sample here. If these replicates are from the same batch prefix the sample code of the matching sample with 'x'.

Representative for the Member State

Comment on to which extent are the data representative for the Member State: background contamination, selected contaminated area, etc.

Remarks

Space to provide additional remarks to the data submitted.

Limit of Detection (LOD)

The limit of detection depending on the method of analysis for a specific food matrix and for a specific PAH analysed should be given in the table and its definition in the additional paper about the details of validation.

Limit of quantification (LOQ)

The limit of quantification depending on the method of analysis for a specific food matrix and for a specific PAH analysed should be given in the table and its definition in the additional paper about the details of validation.

For congeners analysed but giving results below limit of detection or limit of quantification (LOD or LOQ), the cells should be filled in as < LOD or < LOQ. If a PAH has not been measured for a given sample, the corresponding cell should be filled in as "n.m" (not measured).

For a given PAH, the result should be given first, then the limit of detection and at third the limit of quantification.

The 16 PAH listed in table 2 are given as the most common compounds analysed. This is not a limitative list, any additional data for other compounds can be added as supplementary columns in the same format (result, LOD, LOQ).

Attention should be given to report on the possible co-elution of some PAH. For example, under common gas chromatography conditions, the following PAH are expected to co-elute and give rise to an individual peak: chrysene + triphenylene; benzo(*b+j+k*)fluoranthenes; dibenz(*a,h+a,c*)anthracenes

Possibly critical separations in high performance liquid chromatography, highly depending on experimental conditions, are: benzo(*b*)fluoranthene + perylene; benzo(*k*)fluoranthene + dibenz(*a,c*)anthracene; benzo(*j*)fluoranthene + benzo(*e*)pyrene

In the case of co-eluting PAH, create a new column and give the data as e.g : "sum of benzo(*b+j+k*)fluoranthenes".

About table 3 : Estimate of food consumption for a population group.

Use a different table for each population group and specify above the table all characteristic identifying the group: type of population (adults, children, etc.), number of subjects (n =), total population or specific sex and / or age, food habits (vegetarian, etc.), geographical area, average weight if available, etc.

To paste the sheet, use the button “Duplicate worksheet Table 3”. All the food intakes should be in **g/person/day**. If another units are used (for example: beverages), they must be specified in the column “Remarks”.

Nature

Select from Appendix 1 and use the scrolling menu.

Food group

Assign a food group selected from Appendix 1 and use the scrolling menu.

Food item

Any additional information that describes the product should be given here, e.g. the type of meat.

Process

Describe the processing details (barbecuing with charcoal using, wood using, grilling, frying, temperature of heating if known, oven microwave, etc.).

Reference of the survey

Name of the survey (source of the consumption data) and period over which data were collected. The whole reference of the survey and its procedure should be described in Appendix 2.

Nature of survey

Indicate the nature of the survey for obtaining food consumption data: food balance sheets, household budget surveys or purchased records, dietary surveys.

Methodology to collect the data

Dietary records / diary / length of the observation (24 hours-recall repeated or not, 7 days diary record, Food Frequency Questionnaire, 4 weeks recall, etc.).

Geographical level

Specify geographical region covered (national, regional, urban, rural).

Mean \pm SD total population

The arithmetic mean consumption and the standard deviation for the total population should be given in the following unit: **g/person/day**.

Median total population

The median consumption for the total population should be given in the following unit: **g/person/day**.

95 % percentile total population

Estimate of high consumption for the total population should be given in the following unit: **g/person/day**.

Mean ± SD consumers only

The arithmetic mean consumption and the standard deviation for consumers only should be given in the following unit: **g/person/day**.

Median consumers only

The median consumption for consumers only should be given in the following unit: **g/person/day**.

95 % percentile consumers only

Estimate of high consumption for the consumers only should be given in the following unit: **g/person/day**.

Rate of consumers

Express the percentage of the population, which consumed the designated foodgroup.

Data of “total population” = data of “consumers only” x “rate of consumers”

Representative for the Member State

Comment on to which extent are the data representative for the Member State: national consumption, local specific consumption, etc.

Remarks

Space to provide additional remarks to the data submitted.

About Appendix 1: Lists of multiple choice scrolling menus

List of the different items contained in the scrolling menus.

The column “family of foodgroup” has been designed only in Appendix 1 in order to facilitate the rapid identification of the foodgroup. It is not present in table 2 on purpose.

About Appendix 2: List of references

Report all the references of the publications cited in the different tables. The procedure of the consumption survey should also be described in this appendix.

ANNEX 3: TABLES OF THE ELECTRONIC QUESTIONNAIRE

The different tables contained in the questionnaire are presented below. Examples are represented in italic red colour.

Table 1 : Accreditation status of the laboratory and analytical technologies used

Country : Austria

background information
useful additional information

	I.D. Lab	GLP (yes/no)	Analytical technology & procedure reference	Analytical technology & procedure reference	Remarks
	<i>Laboratory 1 01/001</i>	<i>yes</i>	<i>Gas Chromatography / Mass Spectrometry 01/001/ISO 15753 / no</i>	<i>High Performance Liquid Chromatography Ultraviolet detector 01/001/Moret, Conte, 2000</i>	

Table 2: Summary of occurrence and analytical data on PAH in food samples by country

background information																				
Country : Austria ▼																				
useful additional information																				
National I.D.	Sample code (country code / nature code / foodgroup code / sample number)	Nature	Foodgroup	Food item	Process	Type of monitoring	Reference of report if data published in the literature	Origin of production	Area & place of collection	Specific conditions	Remarks									
X20002	01/03/07/0001	unknown	sausages & ham	frankfurt sausage	unknown	random monitoring	johnson 1998	domestic	South of Austria, supermarket	sample taken near an aluminium plant										
Reference of the analytical procedure	Date of sampling	Date of analysis	Storage conditions of the sample	Uncertainty of the result (%)	Expression of results	Water content (%) if result expressed on a dry weight basis	Fat content (%)	Individual / pooled sample	Number of food items included in the pool	Replicate										
Gas Chromatography / Mass Spectrometry 05/001/ISO 15753 / no	1997/12	1997/12	glass, dark, frozen, -20°C	12	wet weight	12	82	pooled	10	no										
units in µg/kg																				
n.m : not measured																				
Representative for the Member State	Remarks	acenaphthene			acenaphthylene			anthracene			benzo(a)anthracene			benzo(b)fluoranthene						
		result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ				
representative for a selected contaminated area		< LOD	0.01	0.1	< LOD	0.1	1	n.m	n.m	n.m	0.55	0.19	0.28	< LOQ	0.01	0.1				
benzo(k)fluoranthene			benzo(g,h,i)perylene			benzo(a)pyrene			chrysene			dibenzo(a,h)anthracene			fluoranthene					
result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ			
0.12	0.01	0.1	n.m	n.m	n.m	0.3	0.01	0.1	0.56	0	0.1	0.015	0.001	0.01	< LOD	0.1	1			
fluorene			indeno(1,2,3-c,d)pyrene			naphthalene			phenanthrene			pyrene			benzo(e)pyrene			other PAH		
result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ	result	LOD	LOQ
< LOQ	0	0.01	4.2	0.1	1	< LOD	0	0.1	2.4	0.1	1	n.m	n.m	n.m	0.21	0.01	0.1			

Table 3: Estimate of food consumption for a population group (1)

(1): use a different table for each population group and specify all characteristic identifying the group: e.g. total sample or specific age, food habits (vegetarian, etc.), geographical area, etc

Country : Austria



units in g / person / day

Duplicate worksheet "Table 3"

Adults n = 1474, all population, age > 15, average weight = 65 kg

Nature	Foodgroup	Food item	Process	Reference of the survey	Nature of the survey	Methodology to collect the data	Geographical level
<i>processed</i>	<i>meat</i>	<i>beef</i>	<i>not available</i>	<i>INCA/1998 & 1999</i>	<i>dietary survey</i>	<i>7 days diary record</i>	<i>national (urban & rural)</i>

Mean ± SD total population	Median total population	95 % percentile total population	Mean ± SD consumers only	Median consumers only	95 % percentile consumers only	rate of consumers (%)	Representative for the Member State	Remarks
<i>126,3 ± 52,5</i>	<i>132</i>	<i>180</i>	<i>154,09 ± 64,05</i>	<i>161</i>	<i>219.6</i>	<i>78%</i>	<i>national consumption for adult</i>	

Appendix 1: Lists of multiple choice scrolling menus

Code	Country	Code	Nature	Family of Foodgroup	Code	Foodgroup
01	Austria	01	raw	fish & meat	01	crustaceans
02	Belgium	02	processed		02	fish / fish products
03	Denmark	03	unknown		03	meat
04	Finland				04	molluscs
05	France				05	offals
06	Germany				06	poultry & game
07	Greece				07	sausages & ham
08	Ireland				08	butter & animal fats
09	Italy				09	cheese
10	Netherlands				10	eggs
11	Norway				11	milk / dairy products
12	Portugal				12	margarine
13	Spain				13	nuts & oleaginous grains
14	United-Kingdom				14	vegetal oils
				animal fats	15	bread / rolls
					16	breakfast cereals
					17	cereals (others)
					18	pastas / rice
				végétal fats	19	biscuits
					20	chocolate (chocolate & cocoa products)
					21	pastry goods
					22	sugar & by-products including honey
				cereals	23	dried fruits
					24	fries / chips
					25	fruits
					26	potatoes
					27	pulses
					28	vegetables (leaf)
					29	vegetables (others)
					30	vegetables (root excluding potatoes)
				sugar products	31	crisps & ready-to-eat savouries (salted snacks & seeds)
					32	mixed dishes
					33	pizzas & quiches
					34	products for special nutritional use (infant & dietetic formulae)
				fruits & vegetables	35	soups
					36	spices/sauces/condiments
					37	alcoholic beverages excluding beer & wine
					38	beer & wine
					39	coffee (green bean, filter, instant)
					40	fruit juices
					41	hot drinks (tea, infusion excluding cocoa powder)
					42	soft drinks excluding fruit juices
				miscellaneous food	43	waters (mineral, source, tap)
					44	others
				beverages		

Appendix 1: Lists of multiple choice scrolling menus

Process	Reference	Individual / pooled sample
baking	random monitoring	individual
barbecuing (charcoal using)	targeted monitoring in contaminated areas	pooled
barbecuing (wood using)	targeted monitoring of suspected contaminated foodstuffs	not available
drying		
frying		
grilling		
not available		
smoking (traditionnal)		
smoking (liquid flavouring)		
toasting		

ANNEX 4: PAH ABBREVIATIONS

Table: Polycyclic Aromatic Hydrocarbons included in the task SCOOP² report.

Common name	CAS name	CAS Registry No.	Abbreviation
Acenaphthene	Acenaphthylene,1,2-dihydro-	83-32-9	AC
Acenaphthylene	Acenaphthylene	208-96-8	ACL
Anthanthrene	Dibenzo[<i>def,mno</i>]chrysene	191-26-4	ATR
Anthracene	Anthracene	120-12-7	AN
Benz[<i>a</i>]anthracene	Benz[<i>a</i>]anthracene	56-55-3	BaA
Benzo[<i>b</i>]fluoranthene	Benzo[<i>e</i>]acephenanthrylene	205-99-2	BbFA
Benzo[<i>j</i>]fluoranthene	Benzo[<i>j</i>]fluoranthene	205-82-3	BjFA
Benzo[<i>k</i>]fluoranthene	Benzo[<i>k</i>]fluoranthene	207-08-9	BkFA
Benzo[<i>ghi</i>]perylene	Benzo[<i>ghi</i>]perylene	191-24-2	BghiP
Benzo[<i>a</i>]pyrene	Benzo[<i>a</i>]pyrene	50-32-8	BaP
Benzo[<i>e</i>]pyrene	Benzo[<i>e</i>]pyrene	192-97-2	BeP
Chrysene	Chrysene	218-01-9	CHR
Cyclopenta[<i>cd</i>]pyrene	Cyclopenta[<i>cd</i>]pyrene	27208-37-3	CPP
Dibenz[<i>a,h</i>]anthracene	Dibenz[<i>a,h</i>]anthracene	53-70-3	DBahA
Fluoranthene	Fluoranthene	206-44-0	FA
Fluorene	9H-Fluorene	86-73-7	FL
Indeno[1,2,3- <i>cd</i>]pyrene	Indeno[1,2,3- <i>cd</i>]-pyrene	193-39-5	IP
Naphthalene	Naphthalene	91-20-3	NA
Perylene	Perylene	198-55-0	PE
Phenanthrene	Phenanthrene	85-01-8	PHE
Pyrene	Pyrene	129-00-0	PY
Triphenylene	Triphenylene	217-59-4	TRI
1-Methylnaphtalene	Naphthalene, 1-methyl-		
2-Methylnaphtalene	Naphthalene, 2-methyl-		
2,6-Dimethylnaphtalene	Naphthalene, 2,6-dimethyl-		
2,3,5-Trimethylnaphtalene	Naphthalene, 2,3,5-trimethyl-		
1-Methylphenanthrene	Phenanthrene, 1-methyl-	832-69-9	1-MPH
C2-Phenanthrenes			
Benzo[<i>b</i>]naphto[2,1- <i>d</i>]thiophene			
Dibenzothiophene			
C1-Dibenzothiophenes			

ANNEX 5: LIST OF NATIONAL REPRESENTATIVES FOR THE SCOOP TASK

Austria

Dr. Roland Grossgut

Austrian Agency for Health and Food Safety Ltd.
Spargelfeldstraße 191
A-1226, Vienna
Austria

Tel +43 (1) 73216 4150

Fax +43 (1) 73216 2108

roland.grossgut@gl.ages.at, roland.grossgut@lwvie.ages.at

Belgium

Dr. Christine Vinkx

Inspection générale des Denrées alimentaires
C.A.E. Quartier Esplanade Bur.1119
Boulevard Pachéco 19 bte 5
B 1010 Bruxelles
Belgium

Tel +32 2 210 48 37

Fax +32 2 210 48 16

christine.vinkx@health.fgov.be

Denmark

Dr. Lene Duedahl-Olesen

Danish Institute for Food and Veterinary Research
Department of Food Chemistry
Moerkhoej Bygade 19
DK-2860 Soeborg
Denmark

Tel +45 72 34 74 70

Fax +45 72 34 74 48

ldom@dfvf.dk

Finland

Dr. Anja Hallikainen

National Food Agency
Vanha Talvitie 5
Box 28
FIN-00581, Helsinki
Finland

Tel +358-9-3931540

Fax +358-9-3931592

anja.hallikainen@nfa.fi, anja.hallikainen@elintarvikevirasto.fi

Dr. Veli Hietaniemi

MTT, Chemistry Laboratory
31600 Jokioinen
Finland

Tel +358-3-4188 32 43

Fax +358-3-41883266

veli.hietaniemi@mtt.fi

France

Pr. Claude Lambré.

AFSSA (Agence française de sécurité sanitaire des aliments)
Direction de l'évaluation des risques nutritionnels et sanitaires
Unité d'évaluation des risques physico-chimiques
27-31 avenue du Général Leclerc, BP 19 – 94701 Maisons-Alfort
France

Tel + 33 1 40 56 79 29

Fax + 33 1 40 56 46 26

claude.lambre@sante.gouv.fr

Dr. Thomas Muller

AFSSA (Agence française de sécurité sanitaire des aliments)
Direction de l'évaluation des risques nutritionnels et sanitaires
Unité d'évaluation des risques physico-chimiques
27-31 avenue du Général Leclerc, BP 19 – 94701 Maisons-Alfort
France

Tel + 33 1 49 77 38 97

Fax + 33 1 49 77 13 52

t.muller@afssa.fr

Germany

Dr. Katrin Kapp

Bundesinstitut für Risikobewertung
Postfach 33 00 13
D-14191 Berlin
Germany

Tel + 49 30 8412 3299
Fax + 49 30 8412 3685
k.kapp@bfr.bund.de

Mrs. Marianne Blattmann-Greschniok

Bundesinstitut für Risikobewertung
Postfach 33 00 13
D-14191 Berlin
Germany

Tel +49 30 8412 3780
Fax +49 30 8412 3685
m.blattmann@bfr.bund.de

Greece

Dr. Irene Poulima

General Chemical Laboratory of Greece
Laboratory of Food Division
115 21 Athens
Greece

Tel +3010-6479404-447
Fax +3010-6425313
gxk-foodiv@ath.forthnet.gr

Ireland

Dr. Leonie Wallace

Public Analyst's Laboratory,
Seamus Quirke Rd,
Galway
Ireland

Tel: +353 91 581122
Fax: +353 91 581212
leonie.wallace@whb.ie

Italy

Dr. Edoardo Menichini

Istituto Superiore di Sanità
Dipartimento di Ambiente e Connessa Prevenzione Primaria.
Viale Regina Elena, 299
00161 Roma
Italy

Tel +39 06 4990 2877
Fax +39 06 4938 7083
emenichini@iss.it

Dr. Fulvio Ferrara

Istituto Superiore di Sanità
Viale Regina Elena, 299
Dipartimento di Ambiente e Connessa Prevenzione Primaria
00161 Roma
Italy

Phone & fax: +39-06-49902046
fulvioferrara@iss.it, fulvioferrara@tiscali.it

Netherlands

Dr. R.A. Baumann

National Institute for Public Health and the Environment (RIVM)
A. van Leeuwenhoeklaan 1
Postbus 1, 3720 BA Bilthoven
The Netherlands

Tel + 31.30.2742732
Fax +31.30.2744424
bert.baumann@rivm.nl

Dr. Elbert Hogendoorn

National Institute for Public Health and the Environment (RIVM)
LOC (pb 11), P.O. Box 1
3720 BA, Bilthoven
The Netherlands

Tel + 31 30 274 2702
Fax +31.30.2744424
elbert.hogendoorn@rivm.nl

Norway

Ms. Marie Louise Wiborg

Norwegian Food Control Authority
P.O. Box 8187 Dep
0034 Oslo
Norway

Tel +47 23 21 66 59
Fax +47 23 21 70 01
marie.wiborg@snt.no

Mrs. Christina Bergsten

Norwegian Food Control Authority
P.O. Box 8187 Dep
0034 Oslo
Norway

Tel +47 23 21 66 59
Fax +47 23 21 70 01
christina.bergsten@snt.no

Portugal

Ms. Maria Fernanda Ramalho

Laboratorio Central de Qualidade Alimentar
Avenida Conde Valbom 98
1050-070 Lisbonne
Portugal

Tel +351 217983712
Fax +351 217983834
f.ramalho@dgcqa.min-agricultura.pt

Spain

Mr Pedro A. Burdaspal

Head, Chemical Area
Spanish Food Safety Agency
Centro Nacional de Alimentacion.
28220 Majadahonda
Madrid
Spain

Fax +34 91 5097926
pburdas@isciii.es

United-Kingdom

Mr Andrew Greaves
Food Standards Agency
Room 707C
Aviation House, 125 Kingsway
London
WC2B 6NH,
United-Kingdom

Tel +44 0 207 276 8727
Fax + 44 0 207 276 8717
andrew.greaves@foodstandards.gsi.gov.uk

Ms Barbara Gallani
Food Standards Agency
Room 707C
Aviation House, 125 Kingsway
London
WC2B 6NH,
United-Kingdom

Tel
Fax + 44 0 207 276 8717
Barbara.Gallani@foodstandards.gsi.gov.uk

European Commission

Dr. Martin Slayne

European Commission

Health and Consumer Protection Directorate-General

Rue de la loi 200,

B-1049 Bruxelles

Belgium

Tel +32 2 295 6329

Fax +32 2 299 1856

Martin.Slayne@cec.eu.int