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Agenda Item 7: Data Standards and Data Dictionaries for IMAP Common Indicators 18 and 20

Data Standards and Data Dictionaries for IMAP Common Indicator 20

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Note by the Secretariat

In the framework of the UNEP/MAP Programme of Work and Budget for 2020–2021 (COP 21, Decision IG.24/14), INFO/RAC, leads the work on the development and completion of the *“Info/MAP platform and platform for the implementation of IMAP fully operative and further developed, connected to MAP components' information systems and other relevant regional knowledge platforms, to facilitate access to knowledge for managers and decision-makers, as well as stakeholders and the general public”*.

The EU funded EcAp-MED II Project (2017-2019) has supported this output with the development of a Pilot IMAP Compatible Data and Information System (IMAP (Pilot) Info System), that has enabled the Contracting Parties to start reporting data as of mid-2020 for selected 11 IMAP Common Indicators. The IMAP (Pilot) Info System laid down the basis for building a fully operational IMAP Info System as provided for by Decision IG.22/7.

At present, the system supports the reporting data for 11 of the 27 IMAP Common Indicators, namely Common Indicators 1, 2, 6, 13, 14, 15, 16, 17, 21, 22, 23. The criteria used for selecting the 11 Common Indicators as part of the IMAP (Pilot) Info System have been: a) maturity of Common Indicators as of 2017, in terms of monitoring experiences and best practices; b) existing data collection and availability representing all IMAP clusters; c) availability of Common Indicators Guidance Factsheets and/or metadata templates.

The IMAP (Pilot) Info System has been developed by INFO/RAC under the coordination of the Secretariat and in close consultation with all relevant MAP Components. The IMAP (Pilot) Info System is now evolving towards the complete IMAP Info System and is able to receive data according to the proposed Data Standards and Data Dictionaries (DSs and DDs) that set the basic information on data reporting within IMAP.

The ongoing process of evolution from the pilot to the final IMAP Info System is also supported by the EU funded project EcAp MED III project and include the implementation of Data Standards and Data Dictionaries and the related data flows for the whole set of modules for the IMAP Common Indicators (EO3 and candidate C.I.s currently excluded). The monitoring protocols guided data standards development. It was carried out in parallel with discussions on the agreed common monitoring methodologies, as well as by keeping in mind that the information system is a major tool to collect and transfer data.

The aim of the current document is to present the final proposal of Data Standards and Data Dictionaries for IMAP CI 20 that is prepared by addressing the request of the Meeting of CorMon on Pollution (26 to 28 April 2021). The present final proposal was elaborated on the basis of the elements of Data Standards and Data Dictionaries for IMAP CI 20 that were already discussed during the Meeting of CorMon on Pollution (26 to 28 April 2021), whereby the final proposal addressing the comments received during that meeting was presented for the information of the 8th Meeting of the Ecosystem Approach Coordination Group (9 September 2021). The Meeting CorMon on Pollution is expected to validate this final proposal for its integration into IMAP Info System with a view of receiving monitoring data from the Contracting Parties for the preparation of the 2023 MED QSR.

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1. Introduction

1. Data Standards (DSs) are prepared in the form of Excel spreadsheets in which every column indicates a field to be filled by the data providers. Data Dictionaries (DDs) are prepared in the form of Excel spreadsheets in which every row contains information to guide the data provider. DSs and DDs are spreadsheets included in the same Excel file, downloadable from the IMAP (Pilot) info system. The data uploaded using the Data Standards will be suitable for the inclusion in the database.
2. The proposal of DSs and DDs provides broader data sets and associated dictionaries than requested as mandatory by the related IMAP Guidance Factsheets and Metadata Templates. In the Data Standards the mandatory data are represented in black and the non-mandatory ones in red. The possibility to fill in also non-mandatory fields is provided to allow the Contracting Parties that already have monitoring systems in place and collect a wider set of data to report them as the additional data. Although it is at the discretion of the Contracting Parties to decide, reporting on non-mandatory data sets is strongly encouraged to avoid knowledge gaps between IMAP and other national data flows.
3. Following the outcome of CORMONs, the finalized DSs and DDs related to the 11 Common Indicators have been uploaded in the IMAP (Pilot) Info System and the consequent changes to the data base structure have been provided. Therefore, once all the parameters and measurement units have been defined, the correspondent data flow have been activated. Following a testing phase of the IMAP (Pilot) Info System realized with the voluntary participation of interested countries, the phase I of the system implementation is officially concluded in June 2020.
4. After the finalization of the EcAp MED II Project, discussion about further modules has been started with the thematic MAP Components for each already selected Common Indicator and for the remaining ones in view of the completion of the IMAP Common Indicator set in IMAP Info System, according to the available resources specifically allocated.
5. By reviewing this document, the present meeting is expected to provide the final inputs and further reflections to tune the standards to timely allow the implementation of the correspondent data flows to be ready by June in order to complete the Common Indicator set available for the IMAP call reporting.
6. Nevertheless, given that the development of DDs for IMAP CIs, monitoring methods and data standards were progressing in parallel, close and continuous dialogue and collaboration are needed among the bodies responsible for these developments to ensure their proper alignment and coherence.

2. Data Standards and Data Dictionaries for IMAP Common Indicator 20: Levels of contaminants in seafood

7. The present document provides proposal of the Data Standards and Data Dictionaries (DSs & DDs) aimed at collecting data on actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood in the Mediterranean Sea.
8. As it is explained in IMAP Guidance factsheet for IMAP CI 20, its implementation beyond food consumer protection and public health would need to be determined. Thus, monitoring protocols, risk-based approaches, analytical testing and assessment methodologies would need to be further examined by the Contracting Parties' national food safety authorities, research organisations and/or environmental agencies.
9. The reference documents used as a basis for proposing this DSs and DDs, including the species to be monitored, are the following:
 - i. IMAP Common Indicator Guidance Facts Sheets (Pollution and Marine Litter) (UNEP/MED WG.444/5);

- ii. IMAP Guidance Factsheets: Update for Common Indicators 13, 14, 17, 18, 20 and 21 (UNEP/MED WG.467/5);
- iii. IMAP Monitoring Guideline for Reporting Monitoring Data for IMAP Common Indicators 13, 14, 17, 18 and 20 (UNEP/MED WG.492/8).

3. Module PSF1: Levels of contaminants in seafood

10. One of the potential risks associated with the occurrence of harmful substances (chemicals, nanoparticles, microplastics, toxins) in the marine environment is the human exposure through commercial fish and shellfish species (primarily, from wild fisheries and aquaculture). These organisms are exposed to environmental contaminants which enter their organism through different mechanisms and pathways according their trophic level, which include from filter feeding to predatory strategies (crustaceans, bivalves, fish). Consequently, there exist both bioaccumulation and biomagnification processes of these chemicals released in the marine environment. Common examples are well-known regarding bioaccumulation of metals and organic compounds in commercial bivalve species (such as the *Mytilus galloprovincialis* in the Mediterranean Sea) or alkyl mercury compounds (methylmercury) in tuna fish; the impacts of new and emerging contaminants should also be considered in the near future.

11. For IMAP CI 20, contaminants' levels should also be expressed in absolute figures and not only in relation to the regulatory level (i.e. above or below the regulatory level). Regulatory levels for the protection of human health as presented in EU Regulations (EC) No 1881/2006, (EC) No 835/2011 and EC No 1259/2011 (Annex III) are usually high in relation to the normal ambient concentrations of contaminants in marine organisms. However, recording the absolute concentration (and not the relative above/below the regulatory level information) triggers a warning signal in the event of an ascending trend of contaminants concentrations, even if these concentrations are still below the regulatory limit. It must be underlined that concentrations below regulatory levels are not necessarily indicators of good environmental status, since environmental effects might be present at lower concentrations (JRC, 2010). Furthermore, recording the absolute concentration of pollutants generate data for contaminants, which may not be regulated yet but which might be regulated in the future.

12. The concentration limits for the regulated contaminants in the EU as presented in a concise format in Annex I have been considered for preparing this proposal of DDs and DSs for IMAP CI 20 in line with the conclusion of the Meeting of CorMon on Pollution Monitoring that was held from 26 to 28 April 2021. The list of contaminants includes Cd, Hg, Pb, four PAHs (benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene), dioxins, dioxin-like and non dioxin-like PCBs (PCB 28, PCB 52, PCB 101, PCB 138, PCB 153 and PCB 180) and radionuclides. Non-regulated contaminants could be included in the IMAP CI 20 monitoring programme, but for the time being no concentration limits are set in the EU legislation.

13. Integration of monitoring data for CI 20 have been made with care. JRC (2010) suggests to take into account "the frequency that levels exceed the regulatory levels, the actual levels that have been detected, the number of contaminants for which exceeding levels have been detected and in parallel the origin of the contamination (geological versus anthropogenic, local versus or long distance)". It also stipulates that "further an intake assessment taking into account the importance in the human diet of the species showing the exceeding levels could be taken into account" (JRC, 2010). If regulatory levels are exceeded in one species, that doesn't mean that all seafood consumption from this sub-region is dangerous.

14. In line with above, the initial proposal of the elements that have been agreed by the Meeting of CorMon on Pollution Monitoring were used for preparing this proposal of the Data Standards (DS) and Data Dictionaries (DDs) specific for CI 20 as provided here-below.

15. The module PSF1 for reporting on the monitoring data for IMAP CI 20 into the IMAP Info System allows collecting data related to the type of contaminants detected in sea food, the actual levels detected and the exceeding of the regulatory levels for consumption by humans. This data along with the information on the time of sampling ensures evaluation of the frequency of the contaminants' concentration exceedance of the regulatory limits.

16. The DSs developed for this Module should allow to collect all data for the necessary statistical treatments and long-term time-trend evaluations.

17. The DSs and DDs related to IMAP CI 20 for characteristic parameters including contaminants information and the List of reference on chemicals are based on the DDs (contaminants information) which have been developed for IMAP CI17 (UNEP/MED WG.467/8).

18. The list of reference for chemicals proposed for IMAP CI 20 (Table 3) is also in use by the European Environmental Agency (EEA, WISE-Marine) and includes either the CAS numbers (Chemical Abstract Service reference number) or the EEA reference number (for particular EEA requirements). The mandatory contaminants¹ are represented in black (Cd, Hg, Pb, four PAHs (benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene), dioxins, dioxin-like and non dioxin-like PCBs and radionuclides) and the non-mandatory ones in red color.

19. The list of commercial species reported in Table 4 refers to JRC list of marine species of commercial interest in the different Mediterranean Regions (Marine strategy framework directive Task group 9 contaminants in fish and other seafood, April 2010).²

20. If any species is not present among those listed, it is always possible to insert related data by filling in the SpeciesNameOther field.

Table 1: DSs & DDs Module PSF1 (Levels of contaminants in seafood for IMAP CI20: Stations

Field	Description	List of value
CountryCode	Member country code as ISO two digits, for example "IT" for Italy.	
NationalStationID	Specify the station code of the sample collection. In case information on location of collection is not available, then provide code of the fishing area. Specifically, in the case of fishing area, insert one of the Geographical Subarea number present in the 'Value' column of the Excel sheet 'List_GSA'.	
NationalStationName	Specify the station name of the sample collection. In case information on location of collection is not available, then provide name of the fishing area. Specifically, in the case of fishing area, insert one of the Geographical Subarea name present in the 'Description' column of the Excel sheet 'List_GSA'.	
*Region	Administrative subdivision of first level which the station belongs to (according to the country subdivision)	
Latitude	Latitude of the sample collection in the WGS84 decimal degrees reference system with at least 5	

¹ This list has been included in Annex III of the Monitoring Guideline for Reporting Monitoring Data for IMAP Common Indicators 13, 14, 17, 18 and 20 (UNEP/MED WG. 492/08)

² This list has been included in Annex I of the Monitoring Guidelines/Protocols for Sampling and Sample Preservation of Sea Food for IMAP Common Indicator 20: Heavy and Trace Elements and Organic Contaminants (UNEP/MED WG. 482/17)

Field	Description	List of value
	digits (xx.xxxxx). In case information on location of collection is not available, then provide the latitude of the centroid of the Fishing Area, referring to the Geographical Subarea (GSA) specified in NationalStationID.	
Longitude	Longitude of the sample collection in the WGS84 decimal degrees reference system with at least 5 digits (xx.xxxxx). Use positive values without '+' before numbers (for ex. 13.98078) for coordinates east of the of the Greenwich Meridian (0°) and negative values with '-' for coordinates west of the Greenwich Meridian (0°) (for ex. -2.6893). In case information on location of collection is not available, then provide the longitude of the centroid of the Fishing Area, referring to the Geographical Subarea (GSA) specified in NationalStationID.	
SampleCollectionType	Specify if the geographical information, entered in "Latitude" and "Longitude" fields, refers to the collection location (CL) or to the fishing area (FA), in case information on location of collection is not available. Enter one value in the list.	CL = Collection Location FA = Fishing Area
*ClosestCoast	Station distance from the coast in km	
TCMMatrix	Environmental matrix measured in the station, enter one of the values in the list.	B = Biota
SeaDepth	Sea depth in meters	
AreaTypology	Indicate the typology of the monitored area, enter one of the values in the list	R = Reference sites C = Coastal HS = Hot spot O = Others
Remarks	Notes	

* non-mandatory under IMAP Guidance Factsheets

Table 2: DSs & DDs Module PSF1 (Levels of contaminants in seafood) for IMAP CI 20: Contaminants

Field	Description	List of value
CountryCode	Member country code as ISO two digits, for example "IT" for Italy.	
NationalStationID	Specify the station code of the sample collection. In case information on location of collection is not available, then provide code of the fishing area. Specifically, in the case of fishing area, insert one of the Geographical Subarea number present in the 'Value' column of the Excel sheet 'List_GSA'.	
Year	Year of sampling in YYYY format	
Month	Month of sampling in 1-12 format	
Day	Day of sampling in 1-31 format	
Time	Hours-minutes-seconds of sampling in HH:MM:SS format	
SampleID	Sample Code if multiple sampling are made with the same value as Year, Month, Day and Time.	

Field	Description	List of value
Matrix	Sample matrix, enter one value of the list	B = Biota
SampleDepth	Sampling depth in meters	
Salinity	Salinity (psu)	
Temperature	Temperature (°C)	
DissolveOxygen	Dissolved oxygen (µmol O ₂ /l)	
SpeciesID	Monitored species. Enter one value of the column 'ID_Species' of the list 'List_species'	
SpeciesName	Monitored species. Enter one value of the column 'Label' of the list 'List_species'	
SpeciesNameOther	Name of species, in case not included in the list 'List_species'	
Specimen_lenght	Length of specimen in cm. In case of pooling, indicate mean lenght. (precision at 0,1 cm)	
*Specimen_lenght_sd	Standard deviation of average length of specimens in a pool in cm.	
Specimen_weight	Weight of specimen in g. In case of pooling, indicate mean weight. (precision at 0,1 g)	
*Specimen_weight_sd	Standard deviation of average weight of specimens in a pool in g.	
*Pooling	In case of pooling, describe the content of pooling as number of specimens and other methodological issues, taking into consideration the sampling requirements described in IMAP Monitoring Guidelines UNEP/MED WG.482/17	
DeterminHazSubsName	Name of the contaminant, enter one value of the column 'Label' of the list 'List_contaminants'	
DeterminHazSubsID	ID of the contaminant, enter one value of the column 'ID_Contaminant' of the list 'List_contaminants'	
CASNumber	CAS number of contaminant, enter one value of the column 'CASNumber' of list 'List_contaminants'	
Concentration	Concentration value of detected contaminant (DeterminHazSubsID)	
MRL	Maximum Regulatory Level for contaminant (DeterminHazSubsID)	
HazSubs_unit	Unit of measurement for the contaminant. Enter one value of the list	mg/kg = metals ug/kg = not metals
MRL_Flag	Enter the value '>' in case the concentration value of detected contaminant is above the Maximum Regulatory Level for contaminant (MRL). In the other cases, leave the field empty.	> = Concentration value of detected contaminant above MRL
Remarks	Notes	

* non-mandatory under IMAP Guidance Factsheets

Table 3: DSs & DDs Module PSF1 (Levels of contaminants in seafood) for CI 20: List of contaminants

ID_Contaminant	Label	CAS Number
*CAS_90-12-0	1-methylnaphthalene	90-12-0
*CAS_75-34-3	1,1-dichloroethane	75-34-3
*CAS_75-35-4	1,1-dichloroethene	75-35-4
*CAS_563-58-6	1,1-dichloropropene	563-58-6
*CAS_71-55-6	1,1,1-trichloroethane	71-55-6
*CAS_630-20-6	1,1,1,2-tetrachloroethane	630-20-6
*CAS_1070-78-6	1,1,1,3-tetrachloropropane	1070-78-6
*CAS_79-00-5	1,1,2-trichloroethane	79-00-5
*CAS_79-34-5	1,1,2,2-tetrachloroethane	79-34-5
*CAS_96-12-8	1,2-dibromo-3-chloropropane	96-12-8
*CAS_106-93-4	1,2-dibromoethane	106-93-4
*CAS_95-50-1	1,2-dichlorobenzene	95-50-1
*CAS_107-06-2	1,2-dichloroethane	107-06-2
*CAS_540-59-0	1,2-dichloroethene	540-59-0
*CAS_78-87-5	1,2-dichloropropane	78-87-5
*CAS_87-61-6	1,2,3-trichlorobenzene	87-61-6
*CAS_96-18-4	1,2,3-trichloropropane	96-18-4
*CAS_35822-46-9	1,2,3,4,6,7,8-H7CDD	35822-46-9
*CAS_67562-39-4	1,2,3,4,6,7,8-H7CDF	67562-39-4
*CAS_3268-87-9	1,2,3,4,6,7,8,9-O8CDD	3268-87-9
*CAS_39001-02-0	1,2,3,4,6,7,8,9-O8CDF	39001-02-0
*CAS_39227-28-6	1,2,3,4,7,8-H6CDD	39227-28-6
*CAS_70648-26-9	1,2,3,4,7,8-H6CDF	70648-26-9
*CAS_55673-89-7	1,2,3,4,7,8,9-H7CDF	55673-89-7
*CAS_57653-85-7	1,2,3,6,7,8-H6CDD	57653-85-7
*CAS_57117-44-9	1,2,3,6,7,8-H6CDF	57117-44-9
*CAS_40321-76-4	1,2,3,7,8-P5CDD	40321-76-4
*CAS_57117-41-6	1,2,3,7,8-P5CDF	57117-41-6
*CAS_19408-74-3	1,2,3,7,8,9-H6CDD	19408-74-3
*CAS_72918-21-9	1,2,3,7,8,9-H6CDF	72918-21-9
*CAS_120-82-1	1,2,4-trichlorobenzene	120-82-1
*CAS_95-63-6	1,2,4-trimethylbenzene	95-63-6
*CAS_3194-55-6	1,2,5,6,9,10-hexabromocyclododecane	3194-55-6
*CAS_541-73-1	1,3-dichlorobenzene	541-73-1
*CAS_142-28-9	1,3-dichloropropane	142-28-9
*CAS_542-75-6	1,3-dichloropropene	542-75-6
*CAS_108-70-3	1,3,5-trichlorobenzene	108-70-3
*CAS_108-67-8	1,3,5-trimethylbenzene	108-67-8
*CAS_25637-99-4	1,3,5,7,9,11-hexabromocyclododecane	25637-99-4
*CAS_106-46-7	1,4-dichlorobenzene	106-46-7
*CAS_123-91-1	1,4-dioxane	123-91-1
*CAS_4904-61-4	1,5,9-cyclododecatriene	4904-61-4
*CAS_57-63-6	17alpha-ethinylestradiol (EE2)	57-63-6
*CAS_50-28-2	17beta-estradiol (E2)	50-28-2
*CAS_288-88-0	1H-1,2,4-Triazole	288-88-0
*CAS_25140-90-3	2-(2,6-dichlorophenoxy)propionic acid (2,6-DCPP)	25140-90-3
*CAS_3307-39-9	2-(4-chlorophenoxy)propionic acid (4-CPP)	3307-39-9
*CAS_16672-87-0	2-chloroethylphosphonic acid	16672-87-0
*CAS_95-57-8	2-chlorophenol	95-57-8

ID_Contaminant	Label	CAS Number
*CAS_95-49-8	2-chlorotoluene	95-49-8
*CAS_5466-77-3	2-Ethylhexyl 4-methoxycinnamate	5466-77-3
*CAS_1668-54-8	2-methyl-4-amino-6-methoxy-s-triazine	1668-54-8
*CAS_95-48-7	2-methyl-phenol	95-48-7
*CAS_91-57-6	2-methylnaphthalene	91-57-6
*CAS_135-19-3	2-naphthol	135-19-3
*CAS_594-20-7	2,2-dichloropropane	594-20-7
*CAS_526-75-0	2,3-dimethyl-phenol	526-75-0
*CAS_4901-51-3	2,3,4,5-tetrachlorophenol	4901-51-3
*CAS_58-90-2	2,3,4,6-tetrachlorophenol	58-90-2
*CAS_60851-34-5	2,3,4,6,7,8-H6CDF	60851-34-5
*CAS_57117-31-4	2,3,4,7,8-P5CDF	57117-31-4
*CAS_50-31-7	2,3,6-trichlorobenzoic acid	50-31-7
*CAS_51207-31-9	2,3,7,8-T4CDF	51207-31-9
*CAS_94-82-6	2,4-DB	94-82-6
*CAS_133-53-9	2,4-dichloro-3,5-dimethylphenol	133-53-9
*CAS_120-83-2	2,4-dichlorophenol	120-83-2
*CAS_94-75-7	2,4-dichlorophenoxyacetic acid, 2-4 D	94-75-7
*CAS_105-67-9	2,4-dimethyl-phenol	105-67-9
*CAS_121-14-2	2,4-dinitrotoluene	121-14-2
*CAS_93-76-5	2,4,5-T	93-76-5
*CAS_95-95-4	2,4,5-trichlorophenol	95-95-4
*CAS_732-26-3	2,4,6-tri-tert-butylphenol	732-26-3
*CAS_36065-30-2	2,4,6-tribromophenyl 2-methyl-2,3-dibromopropyl ether	36065-30-2
*CAS_88-06-2	2,4,6-trichlorophenol	88-06-2
*CAS_118-96-7	2,4,6-trinitrotoluene	118-96-7
*CAS_95-87-4	2,5-dimethylphenol	95-87-4
*CAS_2008-58-4	2,6-dichlorobenzamide	2008-58-4
*CAS_50-30-6	2,6-dichlorobenzoic acid	50-30-6
*CAS_87-65-0	2,6-dichlorophenol	87-65-0
*CAS_576-26-1	2,6-dimethyl-phenol	576-26-1
*CAS_128-37-0	2,6-Ditert-butyl-4-methylphenol	128-37-0
*CAS_16655-82-6	3-hydroxycarbofuran	16655-82-6
*CAS_59-50-7	3-methyl-4-chlorophenol	59-50-7
*CAS_55525-54-7	3,3'-(ureylenedimethylene)bis(3,5,5' - trimethylcyclohexyl) diisocyanate	55525-54-7
*CAS_95-76-1	3,4-dichloroaniline	95-76-1
*CAS_95-65-8	3,4-dimethyl-phenol	95-65-8
*CAS_108-68-9	3,5-dimethyl-phenol	108-68-9
*CAS_793-24-8	4-(dimethylbutylamino) diphenylamin (6PPD)	793-24-8
*CAS_101-55-3	4-bromophenyl phenyl ether	101-55-3
*CAS_1570-64-5	4-chloro-2-methylphenol	1570-64-5
*CAS_106-43-4	4-chlorotoluene	106-43-4
*CAS_99-87-6	4-isopropyltoluene	99-87-6
*CAS_106-44-5	4-methyl-phenol	106-44-5
*CAS_104-40-5	4-nonylphenol	104-40-5
*CAS_84852-15-3	4-nonylphenol, branched	84852-15-3
*CAS_98-51-1	4-tert-butyltoluene	98-51-1
*CAS_1570-65-6	4,6-dichloro-2-methylphenol	1570-65-6
*CAS_83-32-9	Acenaphthene	83-32-9
*CAS_208-96-8	Acenaphthylene	208-96-8
*CAS_160430-64-8	Acetamidrid	160430-64-8

ID_Contaminant	Label	CAS Number
*CAS_34256-82-1	Acetochlor	34256-82-1
*CAS_187022-11-3	Acetochlor ESA	187022-11-3
*CAS_194992-44-4	Acetochlor OA	194992-44-4
*EEA_3151-01-7	Acid neutralizing capacity	
*EEA_3153-01-3	Acid neutralizing capacity to pH 4.5	
*CAS_74070-46-5	Aclonifen	74070-46-5
*CAS_79-06-1	Acrylamide	79-06-1
*CAS_107-13-1	Acrylonitrile	107-13-1
*CAS_15972-60-8	Alachlor	15972-60-8
*CAS_142363-53-9	Alachlor ESA	142363-53-9
*CAS_171262-17-2	Alachlor OA	171262-17-2
*CAS_116-06-3	Aldicarb	116-06-3
*CAS_1646-87-3	Aldicarb sulfoxide	1646-87-3
*CAS_1646-88-4	Aldoxycarb	1646-88-4
*CAS_309-00-2	Aldrin	309-00-2
*EEA_33-01-2	Alkalised benzene	
*CAS_959-98-8	Alpha-Endosulfan	959-98-8
*CAS_319-84-6	Alpha-HCH	319-84-6
*CAS_134237-50-6	alpha-Hexabromocyclododecane	134237-50-6
*CAS_7429-90-5	Aluminium and its compounds	7429-90-5
*CAS_834-12-8	Ametryn	834-12-8
*CAS_120923-37-7	Amidosulfuron	120923-37-7
*CAS_1066-51-9	Aminomethylphosphonic acid (AMPA)	1066-51-9
*CAS_7664-41-7	Ammonia	7664-41-7
*CAS_14798-03-9	Ammonium	14798-03-9
*CAS_120-12-7	Anthracene	120-12-7
*CAS_7440-36-0	Antimony	7440-36-0
*CAS_59473-04-0	AOX	59473-04-0
*CAS_140-57-8	Aramite	140-57-8
*CAS_12767-79-2	Aroclor	12767-79-2
*CAS_7440-38-2	Arsenic and its compounds	7440-38-2
*CAS_1332-21-4	Asbestos	1332-21-4
*CAS_3337-71-1	Asulam	3337-71-1
*CAS_29122-68-7	Atenolol	29122-68-7
*CAS_1912-24-9	Atrazine	1912-24-9
*CAS_2642-71-9	Azinphos-ethyl	2642-71-9
*CAS_86-50-0	Azinphos-methyl	86-50-0
*CAS_83905-01-5	Azitromycin	83905-01-5
*CAS_131860-33-8	Azoxystrobin	131860-33-8
*CAS_7440-39-3	Barium	7440-39-3
*CAS_189084-64-8	BDE 100 (2,2',4,4',6-pentabromodiphenyl ether)	189084-64-8
*CAS_182677-30-1	BDE 138 (2,2',3,4,4',5'-hexabromodiphenyl ether)	182677-30-1
*CAS_68631-49-2	BDE 153 (2,2',4,4',5,5'-hexabromodiphenyl ether)	68631-49-2
*CAS_207122-15-4	BDE 154 (2,2',4,4',5,6'-hexabromodiphenyl ether)	207122-15-4
*CAS_68928-80-3	BDE 183 (Heptabromodiphenylether)	68928-80-3
*CAS_41318-75-6	BDE 28 (2,4,4'-tribromodiphenyl ether)	41318-75-6
*CAS_5436-43-1	BDE 47 (2,2',4,4'-tetrabromodiphenyl ether)	5436-43-1
*CAS_182346-21-0	BDE 85 (2,2',3,4,4'-pentabromodiphenyl ether)	182346-21-0
*CAS_60348-60-9	BDE 99 (2,2',4,4',5-pentabromodiphenyl ether)	60348-60-9
*CAS_3813-05-6	Benazolin	3813-05-6
*CAS_22781-23-3	Bendiocarb	22781-23-3
*CAS_1861-40-1	Benfluralin	1861-40-1

ID_Contaminant	Label	CAS Number
*CAS_83055-99-6	Bensulfuron-methyl	83055-99-6
*CAS_25057-89-0	Bentazone	25057-89-0
*CAS_71-43-2	Benzene	71-43-2
CAS_56-55-3	Benzo(a)anthracene	56-55-3
CAS_50-32-8	Benzo(a)pyrene	50-32-8
CAS_205-99-2	Benzo(b)fluoranthene	205-99-2
*CAS_191-24-2	Benzo(g,h,i)perylene	191-24-2
*CAS_207-08-9	Benzo(k)fluoranthene	207-08-9
*EEA_33-02-3	Benzol	
*CAS_95-14-7	Benzotriazol	95-14-7
*CAS_7440-41-7	Beryllium	7440-41-7
*CAS_33213-65-9	Beta-Endosulfan	33213-65-9
*CAS_319-85-7	Beta-HCH	319-85-7
*CAS_134237-51-7	beta-Hexabromocyclododecane	134237-51-7
*CAS_41859-67-0	Bezafibrate	41859-67-0
*CAS_42576-02-3	Bifenox	42576-02-3
*CAS_1163-19-5	Bis(pentabromophenyl) ether	1163-19-5
*CAS_80-05-7	Bisphenol A	80-05-7
*EEA_3133-01-5	BOD5	
*EEA_3133-02-6	BOD7	
*CAS_7440-42-8	Boron	7440-42-8
*CAS_188425-85-6	Boscalid	188425-85-6
*CAS_314-40-9	Bromacil	314-40-9
*CAS_15541-45-4	Bromate	15541-45-4
*CAS_24959-67-9	Bromide	24959-67-9
*EEA_32-04-2	Brominated diphenylethers (congener numbers 28, 47, 99, 100, 153 and 154)	
*EEA_33-04-5	Brominated flame retardants	
*CAS_108-86-1	Bromobenzene	108-86-1
*CAS_74-97-5	Bromochloromethane	74-97-5
*CAS_75-27-4	Bromodichloromethane	75-27-4
*CAS_75-25-2	Bromoform	75-25-2
*CAS_74-83-9	Bromomethane	74-83-9
*CAS_1689-84-5	Bromoxynil	1689-84-5
*CAS_1689-99-2	Bromoxynil octanoate	1689-99-2
*CAS_52-51-7	Bronopol	52-51-7
*EEA_33-05-6	BTEX	
*CAS_41483-43-6	Bupirimate	41483-43-6
*CAS_3766-60-7	Buturon	3766-60-7
*CAS_85-68-7	Butyl benzyl phthalate (BBP)	85-68-7
CAS_7440-43-9	Cadmium and its compounds	7440-43-9
*CAS_58-08-2	Caffeine	58-08-2
*CAS_7440-70-2	Calcium	7440-70-2
*CAS_133-06-2	Captan	133-06-2
*CAS_298-46-4	Carbamazepin	298-46-4
*CAS_63-25-2	Carbaryl	63-25-2
*CAS_10605-21-7	Carbendazim	10605-21-7
*CAS_16118-49-3	Carbetamide	16118-49-3
*CAS_1563-66-2	Carbofuran	1563-66-2
*CAS_7440-44-0	Carbon	7440-44-0
*CAS_56-23-5	Carbon tetrachloride	56-23-5
*CAS_3812-32-6	Carbonate	3812-32-6
*CAS_786-19-6	Carbophenothion	786-19-6

ID_Contaminant	Label	CAS Number
*EEA_123-06-8	Charaphytes presence	
*CAS_10599-90-3	Chloramide	10599-90-3
*CAS_14866-68-3	Chlorates	14866-68-3
*CAS_13360-45-7	Chlorbromuron	13360-45-7
*CAS_57-74-9	Chlordane	57-74-9
*CAS_143-50-0	Chlordecone (Kepone)	143-50-0
*CAS_6164-98-3	Chlordimeform	6164-98-3
*CAS_470-90-6	Chlorfenvinphos	470-90-6
*CAS_7790-93-4	Chloric acid	7790-93-4
*CAS_1698-60-8	Chloridazon	1698-60-8
*CAS_6339-19-1	Chloridazon desphenyl	6339-19-1
*CAS_17254-80-7	Chloridazon methyl desphenyl	17254-80-7
*CAS_16887-00-6	Chloride	16887-00-6
*EEA_33-06-7	Chlorinated benzene	
*EEA_33-07-8	Chlorinated phenol	
*EEA_3142-02-7	Chlorine Cl-	
*CAS_14998-27-7	Chlorite	14998-27-7
*CAS_85535-84-8	Chloroalkanes C10-13	85535-84-8
*CAS_85535-85-9	Chloroalkanes C14-17,MCCP	85535-85-9
*CAS_108-90-7	Chlorobenzene	108-90-7
*CAS_75-01-4	Chloroethene (vinylchloride)	75-01-4
*EEA_3164-01-0	Chlorophyll a	
*CAS_1897-45-6	Chlorothalonil	1897-45-6
*CAS_1418095-02-9	Chlorothalonil ESA (VIS-01)	1418095-02-9
*CAS_1982-47-4	Chloroxuron	1982-47-4
*CAS_2921-88-2	Chlorpyrifos	2921-88-2
*CAS_5598-13-0	Chlorpyrifos-methyl	5598-13-0
*CAS_64902-72-3	Chlorsulfuron	64902-72-3
*CAS_1918-13-4	Chlorthiamid	1918-13-4
*CAS_15545-48-9	Chlortoluron	15545-48-9
*EEA_33-08-9	Chromium (III)	
*CAS_18540-29-9	Chromium (VI)	18540-29-9
*CAS_7440-47-3	Chromium and its compounds	7440-47-3
*CAS_1333-82-0	Chromium trioxide (CrO3)	1333-82-0
CAS_218-01-9	Chrysene	218-01-9
*CAS_156-59-2	cis-1,2-dichloroethene	156-59-2
*CAS_10061-01-5	cis-1,3-dichloropropene	10061-01-5
*CAS_81103-11-9	Clarithromycin	81103-11-9
*CAS_81777-89-1	Clomazone	81777-89-1
*CAS_1702-17-6	Clopyralid	1702-17-6
*CAS_210880-92-5	Clothianidin	210880-92-5
*CAS_23593-75-1	Clotrimazole	23593-75-1
*CAS_7440-48-4	Cobalt and its compounds	7440-48-4
*EEA_3133-03-7	CODCr	
*EEA_3133-04-8	CODMn	
*CAS_7440-50-8	Copper and its compounds	7440-50-8
*CAS_56-72-4	Coumaphos	56-72-4
*CAS_21725-46-2	Cyanazine	21725-46-2
*EEA_11-06-3	Cyanobacteria biomass	
*EEA_11-07-4	Cyanobacteria proportion	
*CAS_506-77-4	Cyanogen chloride	506-77-4
*CAS_28159-98-0	Cybutryne	28159-98-0

ID_Contaminant	Label	CAS Number
*CAS_294-62-2	Cyclododecane	294-62-2
*CAS_101205-02-1	Cycloxydim	101205-02-1
*CAS_57966-95-7	Cymoxanil	57966-95-7
*CAS_52315-07-8	Cypermethrin	52315-07-8
*CAS_121552-61-2	Cyprodinil	121552-61-2
*CAS_75-99-0	Dalapon	75-99-0
*CAS_789-02-6	DDT, o,p'	789-02-6
*CAS_50-29-3	DDT, p,p'	50-29-3
*CAS_3397-62-4	Deisopropyldeethylatrazine	3397-62-4
*CAS_319-86-8	Delta-HCH	319-86-8
*CAS_52918-63-5	Deltamethrin	52918-63-5
*CAS_919-86-8	Demeton-S-methyl	919-86-8
*CAS_17040-19-6	Demeton-S-methylsulfon	17040-19-6
*CAS_52236-30-3	Desamino-diketo-metribuzin	52236-30-3
*CAS_6190-65-4	Desethylatrazine	6190-65-4
*CAS_30125-63-4	Desethylterbuthylazine	30125-63-4
*CAS_1007-28-9	Desisopropylatrazine	1007-28-9
*CAS_13684-56-5	Desmedipham	13684-56-5
*CAS_1014-69-3	Desmetryn	1014-69-3
*EEA_33-09-0	Detergents	
*CAS_84-66-2	Di-ethyl phthalate	84-66-2
*CAS_84-69-5	Di-iso-butyl phthalate	84-69-5
*CAS_117-81-7	Di(2-ethylhexyl)phthalate (DEHP)	117-81-7
*CAS_333-41-5	Diazinon	333-41-5
*CAS_53-70-3	Dibenzo(a,h)anthracene	53-70-3
*CAS_262-12-4	Dibenzodioxin	262-12-4
*CAS_3252-43-5	Dibromoacetonitrile	3252-43-5
*CAS_124-48-1	Dibromochlorometane	124-48-1
*CAS_74-95-3	Dibromomethane	74-95-3
*CAS_84-74-2	Dibutylphthalate	84-74-2
*CAS_1002-53-5	Dibutyltin	1002-53-5
*CAS_1918-00-9	Dicamba	1918-00-9
*CAS_1194-65-6	Dichlobenil	1194-65-6
*CAS_79-43-6	Dichloroacetic acid	79-43-6
*CAS_3018-12-0	Dichloroacetonitrile	3018-12-0
*EEA_33-10-3	Dichlorobenzene	
*CAS_75-71-8	Dichlorodifluoromethane	75-71-8
*CAS_75-09-2	Dichloromethane	75-09-2
*EEA_33-11-4	Dichlorophenol	
*CAS_120-36-5	Dichlorprop (2,4-DP)	120-36-5
*CAS_15165-67-0	Dichlorprop-P	15165-67-0
*CAS_62-73-7	Dichlorvos	62-73-7
*CAS_15307-86-5	Diclofenac	15307-86-5
*CAS_15307-79-6	Diclofenac sodium	15307-79-6
*CAS_99-30-9	Dicloran	99-30-9
*CAS_115-32-2	Dicofol	115-32-2
*CAS_60-57-1	Dieldrin	60-57-1
*CAS_134-62-3	Diethyltoluamide (DEET)	134-62-3
*CAS_35367-38-5	Diflubenzuron	35367-38-5
*CAS_83164-33-4	Diflufenican	83164-33-4
*CAS_56507-37-0	Diketo-metribuzin	56507-37-0
*CAS_50563-36-5	Dimethachlor	50563-36-5

ID_Contaminant	Label	CAS Number
*CAS_87674-68-8	Dimethenamid	87674-68-8
*CAS_205939-58-8	Dimethenamid ESA	205939-58-8
*CAS_380412-59-9	Dimethenamid OA	380412-59-9
*CAS_60-51-5	Dimethoate	60-51-5
*CAS_110488-70-5	Dimethomorph	110488-70-5
*CAS_131-11-3	Dimethyl phthalate	131-11-3
*CAS_534-52-1	Dinitro-o-cresol (DNOC)	534-52-1
*CAS_88-85-7	Dinoseb	88-85-7
*CAS_2813-95-8	Dinoseb acetate	2813-95-8
*CAS_512-04-9	Diosgenin	512-04-9
EEA_33-54-5	Dioxin-like polychlorinated biphenyls (12 PCB-DLs: 77,81,105,114,118,123,126,156,157,167,169,189)	
EEA_33-58-9	Dioxins and dioxin-like compounds (7 PCDDs + 10 PCDFs + 12 PCB-DLs)	
*CAS_131-18-0	Dipentyl phthalate	131-18-0
*CAS_131-16-8	Dipropyl phthalate	131-16-8
*EEA_3133-05-9	Dissolved organic carbon (DOC)	
*EEA_3132-01-2	Dissolved oxygen	
*CAS_298-04-4	Disulfoton	298-04-4
*CAS_330-54-1	Diuron	330-54-1
*EEA_33-13-6	DOX	
*CAS_60-00-4	EDTA	60-00-4
*EEA_3142-01-6	Electrical conductivity	
*CAS_115-29-7	Endosulfan	115-29-7
*CAS_72-20-8	Endrin	72-20-8
*CAS_106-89-8	Epichlorohydrin	106-89-8
*CAS_133855-98-8	Epoiconazole	133855-98-8
*CAS_6108-10-7	Epsilon-HCH	6108-10-7
*CAS_114-07-8	Erythromycin	114-07-8
*CAS_53-16-7	Estrone (E1)	53-16-7
*CAS_135410-20-7	Ethanimidamide	135410-20-7
*CAS_29973-13-5	Ethiofencarb	29973-13-5
*CAS_563-12-2	Ethion	563-12-2
*CAS_23947-60-6	Ethirimol	23947-60-6
*CAS_26225-79-6	Ethofumesate	26225-79-6
*CAS_2104-64-5	Ethyl O-(p-nitrophenyl) phenyl phosphonothionate (EPN)	2104-64-5
*CAS_100-41-4	Ethylbenzene	100-41-4
*CAS_75-21-8	Ethylene oxide	75-21-8
*CAS_96-45-7	Ethylenethiourea (ETU)	96-45-7
*CAS_80844-07-1	Etofenprox	80844-07-1
*EEA_33-14-7	Extractable organically bound chlorine	
*CAS_120928-09-8	Fenazaquin	120928-09-8
*CAS_13356-08-6	Fenbutatin oxide	13356-08-6
*CAS_299-84-3	Fenclorphos	299-84-3
*CAS_122-14-5	Fenitrothion	122-14-5
*CAS_93-72-1	Fenoprop	93-72-1
*CAS_95617-09-7	Fenoxaprop	95617-09-7
*CAS_67564-91-4	Fenpropimorph	67564-91-4
*CAS_134098-61-6	Fenpyroximate	134098-61-6
*CAS_55-38-9	Fenthion	55-38-9
*CAS_101-42-8	Fenuron	101-42-8
*EEA_14-03-9	FishEQR_A	
*EEA_14-04-0	FishEQR_E	

ID_Contaminant	Label	CAS Number
*EEA_14-01-7	FishEQR_G	
*EEA_14-02-8	FishEQR_H	
*CAS_79241-46-6	Fluazifop-P-butyl	79241-46-6
*CAS_70124-77-5	Flucythrinate	70124-77-5
*CAS_142459-58-3	Flufenacet	142459-58-3
*CAS_201668-32-8	Flufenacet ESA	201668-32-8
*CAS_206-44-0	Fluoranthene	206-44-0
*CAS_86-73-7	Fluorene	86-73-7
*CAS_16984-48-8	Fluoride	16984-48-8
*CAS_7782-41-4	Fluorine	7782-41-4
*CAS_144-49-0	Fluoroacetic acid	144-49-0
*CAS_54910-89-3	Fluoxetine	54910-89-3
*CAS_136426-54-5	Fluquinconazole	136426-54-5
*CAS_69377-81-7	Fluroxypyr	69377-81-7
*CAS_81406-37-3	Fluroxypyr-meptyl	81406-37-3
*CAS_133-07-3	Folpet	133-07-3
*CAS_72178-02-0	Fomesafen	72178-02-0
*CAS_944-22-9	Fonofos	944-22-9
*CAS_50-00-0	Formaldehyde	50-00-0
*CAS_2540-82-1	Formothion	2540-82-1
*CAS_57-12-5	Free cyanide	57-12-5
*CAS_121776-33-8	Furilazole	121776-33-8
*CAS_58-89-9	Gamma-HCH (Lindane)	58-89-9
*CAS_134237-52-8	gamma-Hexabromocyclododecane	134237-52-8
*CAS_1071-83-6	Glyphosate	1071-83-6
*EEA_34-02-6	Groundwater Directive Annex II pollutant	
*EEA_33-15-8	Halogenated organic compounds	
*EEA_31-01-6	Hardness	
*EEA_32-25-7	Heavy metals - aggregated	
*CAS_76-44-8	Heptachlor	76-44-8
*EEA_33-50-1	Heptachlor and heptachlor epoxide	
*CAS_1024-57-3	Heptachlor epoxide	1024-57-3
*CAS_32241-08-0	Heptachloronaphthalene	32241-08-0
*CAS_2440-02-0	Heptachloronorborene	2440-02-0
*CAS_36355-01-8	Hexabromobiphenyl	36355-01-8
*EEA_33-57-8	Hexabromocyclododecanes (HBCDD)	
*CAS_36483-60-0	Hexabromodiphenylether	36483-60-0
*CAS_118-74-1	Hexachlorobenzene	118-74-1
*CAS_87-68-3	Hexachlorobutadiene	87-68-3
*CAS_608-73-1	Hexachlorocyclohexane	608-73-1
*CAS_77-47-4	Hexachlorocyclopentadiene (HCCP)	77-47-4
*CAS_1335-87-1	Hexachloronaphthalene	1335-87-1
*CAS_107-46-0	Hexamethyldisiloxane (HMDS)	107-46-0
*CAS_51235-04-2	Hexazinone	51235-04-2
*EEA_33-17-0	Hydrocarbons	
*CAS_71-52-3	Hydrogen Carbonate (Bicarbonate) HCO ₃	71-52-3
*CAS_74-90-8	Hydrogen cyanide	74-90-8
*CAS_7783-06-4	Hydrogen sulphide	7783-06-4
*CAS_2163-68-0	Hydroxyatrazine	2163-68-0
*CAS_2599-11-3	Hydroxysimazine	2599-11-3
*CAS_66753-07-9	Hydroxyterbutylazine	66753-07-9
*CAS_15687-27-1	Ibuprofen	15687-27-1

ID_Contaminant	Label	CAS Number
*CAS_182636-13-1	Imazamox	182636-13-1
*CAS_138261-41-3	Imidacloprid	138261-41-3
*CAS_105827-78-9	Imidacloprid (Watch list only alternative code)	105827-78-9
*CAS_193-39-5	Indeno(1,2,3-cd)pyrene	193-39-5
*EEA_32-27-9	Industrial pollutants - aggregated	
*EEA_13-03-6	InvertebrateEQR_A	
*EEA_13-04-7	InvertebrateEQR_E	
*EEA_13-01-4	InvertebrateEQR_G	
*EEA_13-02-5	InvertebrateEQR_H	
*CAS_20461-54-5	Iodide	20461-54-5
*CAS_18181-70-9	Iodofenphos	18181-70-9
*CAS_185119-76-0	Iodosulfuron-methyl	185119-76-0
*CAS_1689-83-4	Ioxynil	1689-83-4
*CAS_36734-19-7	Iprodione	36734-19-7
*CAS_140923-17-7	Iprovalicarb	140923-17-7
*CAS_7439-89-6	Iron and its compounds	7439-89-6
*CAS_297-78-9	Isobenzane	297-78-9
*CAS_465-73-6	Isodrin	465-73-6
*EEA_123-07-9	Isoetides presence	
*CAS_98-82-8	Isopropylbenzene	98-82-8
*CAS_34123-59-6	Isoproturon	34123-59-6
*CAS_141112-29-0	Isoxaflutole	141112-29-0
*CAS_4234-79-1	Kelevan	4234-79-1
*EEA_3161-01-1	Kjeldahl nitrogen	
*CAS_143390-89-0	Kresoxim-methyl	143390-89-0
CAS_7439-92-1	Lead and its compounds	7439-92-1
*CAS_2164-08-1	Lenacil	2164-08-1
*CAS_330-55-2	Linuron	330-55-2
*CAS_7439-93-2	Lithium	7439-93-2
*CAS_108-38-3	M-xylene	108-38-3
*EEA_123-05-7	Macrophyte depth limit	
*EEA_123-03-5	MacrophyteEQR_A	
*EEA_123-04-6	MacrophyteEQR_E	
*EEA_123-01-3	MacrophyteEQR_G	
*EEA_123-02-4	MacrophyteEQR_H	
*CAS_7439-95-4	Magnesium	7439-95-4
*CAS_121-75-5	Malathion	121-75-5
*CAS_123-33-1	Maleinhydrazid	123-33-1
*CAS_7439-96-5	Manganese and its compounds	7439-96-5
*CAS_94-74-6	MCPA	94-74-6
*CAS_94-81-5	MCPB	94-81-5
*CAS_7085-19-0	Mecoprop	7085-19-0
*CAS_16484-77-8	Mecoprop-P (MCPP-P)	16484-77-8
CAS_7439-97-6	Mercury and its compounds	7439-97-6
*CAS_104206-82-8	Mesotrione	104206-82-8
*EEA_33-18-1	Meta xylene + para xylene	
*CAS_57837-19-1	Metalaxyl	57837-19-1
*CAS_70630-17-0	Metalaxyl-M	70630-17-0
*CAS_41394-05-2	Metamitron	41394-05-2
*CAS_67129-08-2	Metazachlor	67129-08-2
*CAS_172960-62-2	Metazachlor ESA	172960-62-2
*CAS_1231244-60-2	Metazachlor OA	1231244-60-2

ID_Contaminant	Label	CAS Number
*CAS_18691-97-9	Methabenzthiazuron	18691-97-9
*CAS_10265-92-6	Methamidophos	10265-92-6
*CAS_950-37-8	Methidathion	950-37-8
*CAS_2032-65-7	Methiocarb	2032-65-7
*CAS_16752-77-5	Methomyl	16752-77-5
*CAS_72-43-5	Methoxychlor	72-43-5
*CAS_136-85-6	Methylbenzotriazol	136-85-6
*CAS_3060-89-7	Metobromuron	3060-89-7
*CAS_51218-45-2	Metolachlor	51218-45-2
*CAS_171118-09-5	Metolachlor ESA	171118-09-5
*CAS_152019-73-3	Metolachlor OA	152019-73-3
*CAS_37350-58-6	Metoprolol	37350-58-6
*CAS_139528-85-1	Metosulam	139528-85-1
*CAS_19937-59-8	Metoxuron	19937-59-8
*CAS_21087-64-9	Metribuzin	21087-64-9
*CAS_35045-02-4	Metribuzin-DA	35045-02-4
*CAS_74223-64-6	Metsulfuronmethyl	74223-64-6
*CAS_7786-34-7	Mevinphos	7786-34-7
*CAS_77238-39-2	Microcystin	77238-39-2
*CAS_2385-85-5	Mirex	2385-85-5
*CAS_2212-67-1	Molinate	2212-67-1
*CAS_7439-98-7	Molybdenum and its compounds	7439-98-7
*EEA_33-19-2	Mono basic phenols	
*EEA_33-20-5	Monochlorophenols	
*CAS_1746-81-2	Monolinuron	1746-81-2
*CAS_150-68-5	Monuron	150-68-5
*CAS_4636-83-3	Morfamquat	4636-83-3
*CAS_1634-04-4	MTBE	1634-04-4
*CAS_81-15-2	Musk xylene	81-15-2
*CAS_104-51-8	n-butylbenzene	104-51-8
*CAS_4245-76-5	N-methyl-N'-nitroguanidine	4245-76-5
*CAS_103-65-1	n-propylbenzene	103-65-1
*CAS_3984-14-3	N,N-dimethylsulfamide	3984-14-3
*CAS_91-20-3	Naphthalene	91-20-3
*CAS_70776-03-3	Naphthalene, chloro derivatives	70776-03-3
*CAS_15299-99-7	Napropamide	15299-99-7
*CAS_22204-53-1	Naproxen	22204-53-1
*CAS_555-37-3	Neburon	555-37-3
*CAS_7440-02-0	Nickel and its compounds	7440-02-0
*CAS_111991-09-4	Nicosulfuron	111991-09-4
*CAS_14797-55-8	Nitrate	14797-55-8
*EEA_3164-08-7	Nitrate to orthophosphate ratio	
*CAS_14797-65-0	Nitrite	14797-65-0
*EEA_33-21-6	Nitrobenzene	
*CAS_556-88-7	Nitroguanidine	556-88-7
*CAS_1836-75-5	Nitrophen	1836-75-5
*CAS_100-02-7	Nitrophenol	100-02-7
*EEA_31613-01-1	Non-ionised ammonia	
*EEA_33-59-0	Nonylphenol and nonylphenol ethoxylates (NP + NPEs)	
*CAS_9016-45-9	Nonylphenol ethoxylate	9016-45-9
*CAS_139-13-9	NTA	139-13-9
*CAS_95-47-6	O-xylene	95-47-6

ID_Contaminant	Label	CAS Number
*CAS_53-19-0	o,p'-DDD	53-19-0
*CAS_3424-82-6	o,p'-DDE	3424-82-6
*CAS_32536-52-0	Octabromodiphenyl ether	32536-52-0
*CAS_2234-13-1	Octachloronaphthalene	2234-13-1
*CAS_1806-26-4	Octylphenol	1806-26-4
*CAS_140-66-9	Octylphenol (4-(1,1',3,3'-tetramethylbutyl)-phenol)	140-66-9
*EEA_33-55-6	Octylphenols (CAS 1806-26-4) including isomer 4-(1,1',3,3'-tetramethylbutyl)-phenol (CAS 140-66-9)	
*EEA_33-22-7	Oil fractions (C10-40)	
*CAS_1113-02-6	Omethoate	1113-02-6
*CAS_34622-58-7	Orbencarb	34622-58-7
*EEA_33-60-3	Organotin compounds (as total Sn)	
*EEA_00-00-0	Other chemical parameter	
*EEA_34-03-7	Other pollutants - aggregated	
*CAS_19666-30-9	Oxadiazon	19666-30-9
*CAS_23135-22-0	Oxamyl	23135-22-0
*EEA_3131-01-9	Oxygen saturation	
*CAS_79-57-2	Oxytetracycline	79-57-2
*CAS_106-42-3	P-xylene	106-42-3
*CAS_72-54-8	p,p'-DDD	72-54-8
*CAS_72-55-9	p,p'-DDE	72-55-9
*CAS_56-38-2	Parathion	56-38-2
*CAS_298-00-0	Parathion-methyl	298-00-0
*EEA_3161-04-4	Particulate organic nitrogen	
CAS_37680-73-2	PCB 101 (2,2',4,5,5'-pentachlorobiphenyl)	37680-73-2
*CAS_60145-21-3	PCB 103 (2,2',4,5',6-pentachlorobiphenyl)	60145-21-3
*CAS_32598-14-4	PCB 105 (2,3,3',4,4'-pentachlorobiphenyl)	32598-14-4
*CAS_70362-41-3	PCB 106 (2,3,3',4,5'-pentachlorobiphenyl)	70362-41-3
*CAS_74472-37-0	PCB 114 (2,3,4,4',5-pentachlorobiphenyl)	74472-37-0
*CAS_31508-00-6	PCB 118 (2,3',4,4',5-pentachlorobiphenyl)	31508-00-6
*CAS_65510-44-3	PCB 123 (1,2,3-trichloro-5-(2,4-dichlorophenyl)benzene)	65510-44-3
*CAS_57465-28-8	PCB 126 (3,3',4,4',5-pentachlorobiphenyl)	57465-28-8
CAS_35065-28-2	PCB 138 (2,2',3,4,4',5'-hexachlorobiphenyl)	35065-28-2
CAS_35065-27-1	PCB 153 (2,2',4,4',5,5'-hexachlorobiphenyl)	35065-27-1
*CAS_38380-08-4	PCB 156 (2,3,3',4,4',5-hexachlorobiphenyl)	38380-08-4
*CAS_69782-90-7	PCB 157 (2,3,3',4,4',5'-hexachlorobiphenyl)	69782-90-7
*CAS_52663-72-6	PCB 167 (1,2,3-trichloro-5-(2,4,5-trichlorophenyl)benzene)	52663-72-6
*CAS_32774-16-6	PCB 169 (3,3',4,4',5,5'-hexachlorobiphenyl)	32774-16-6
*CAS_35065-30-6	PCB 170 (1,2,3,4-tetrachloro-5-(2,3,4-trichlorophenyl)benzene)	35065-30-6
CAS_35065-29-3	PCB 180 (2,2',3,4,4',5,5'-heptachlorobiphenyl)	35065-29-3
*CAS_39635-31-9	PCB 189 (1,2,3,4-tetrachloro-5-(3,4,5-trichlorophenyl)benzene)	39635-31-9
*CAS_35694-08-7	PCB 194 (1,2,3,4-tetrachloro-5-(2,3,4,5-tetrachlorophenyl)benzene)	35694-08-7
*CAS_2051-24-3	PCB 209 (5,5',6,6'-decachlorobiphenyl)	2051-24-3
CAS_7012-37-5	PCB 28 (2,4,4'-trichlorobiphenyl)	7012-37-5
CAS_35693-99-3	PCB 52 (2,2',5,5'-tetrachlorobiphenyl)	35693-99-3
*CAS_41464-42-0	PCB 72 (2,3',5,5'-Tetrachlorobiphenyl)	41464-42-0
*CAS_32598-13-3	PCB 77 (3,3',4,4'-tetrachlorobiphenyl)	32598-13-3
*CAS_70362-50-4	PCB 81 (3,4,4',5-tetrachlorobiphenyl)	70362-50-4
*CAS_66246-88-6	Penconazole	66246-88-6

ID_Contaminant	Label	CAS Number
*CAS_40487-42-1	Pendimethalin	40487-42-1
*CAS_32534-81-9	Pentabromodiphenylether	32534-81-9
*CAS_85-22-3	Pentabromoethylbenzene	85-22-3
*CAS_1825-21-4	Pentachloroanisole	1825-21-4
*CAS_608-93-5	Pentachlorobenzene	608-93-5
*CAS_16478-18-5	Pentachloroiodobenzene	16478-18-5
*CAS_1321-64-8	Pentachloronaphthalene	1321-64-8
*CAS_87-86-5	Pentachlorophenol	87-86-5
*CAS_1763-23-1	Perfluorooctane sulfonic acid (PFOS) and its derivatives	1763-23-1
*CAS_52645-53-1	Permethrin-cis+trans	52645-53-1
*EEA_32-26-8	Pesticides - aggregated	
*EEA_34-01-5	Pesticides (Active substances in pesticides, including their relevant metabolites, degradation and reaction products)	
*CAS_106700-29-2	Pethoxamid	106700-29-2
*EEA_33-23-8	Petroleum hydrocarbons	
*EEA_33-24-9	Petroleum products	
*CAS_335-67-1	PFOA	335-67-1
*EEA_3152-01-0	pH	
*CAS_85-01-8	Phenanthrene	85-01-8
*CAS_108-95-2	Phenol	108-95-2
*CAS_64743-03-9	Phenols	64743-03-9
*CAS_298-02-2	Phorate	298-02-2
*CAS_2310-17-0	Phosalone	2310-17-0
*CAS_14265-44-2	Phosphate	14265-44-2
*EEA_124-03-8	PhytobenthosEQR_A	
*EEA_124-04-9	PhytobenthosEQR_E	
*EEA_124-01-6	PhytobenthosEQR_G	
*EEA_124-02-7	PhytobenthosEQR_H	
*EEA_11-03-0	PhytoplanktonEQR_A	
*EEA_11-04-1	PhytoplanktonEQR_E	
*EEA_11-01-8	PhytoplanktonEQR_G	
*EEA_11-02-9	PhytoplanktonEQR_H	
*CAS_1918-02-1	Picloram	1918-02-1
*CAS_137641-05-5	Picolinafen	137641-05-5
*CAS_23103-98-2	Pirimicarb	23103-98-2
*CAS_23505-41-1	Pirimiphos-ethyl	23505-41-1
*CAS_29232-93-7	Pirimiphos-methyl	29232-93-7
*CAS_1336-36-3	Polychlorinated biphenyls	1336-36-3
EEA_33-38-5	Polychlorinated biphenyls(7 PCB: 28,52,101,118,138,153,180)	
*EEA_33-26-1	Polychlorinated dibenzodioxins (PCDD)	
*CAS_136677-10-6	Polychlorinated dibenzofurans (10 PCDFs)	136677-10-6
*CAS_7440-09-7	Potassium	7440-09-7
*CAS_86209-51-0	Primisulfuron-methyl	86209-51-0
*CAS_67747-09-5	Prochloraz	67747-09-5
*CAS_32809-16-8	Procymidone	32809-16-8
*CAS_1610-18-0	Prometon	1610-18-0
*CAS_7287-19-6	Prometryn	7287-19-6
*CAS_1918-16-7	Propachlor	1918-16-7
*CAS_709-98-8	Propanil	709-98-8
*CAS_139-40-2	Propazine	139-40-2
*CAS_31218-83-4	Propetamphos	31218-83-4
*CAS_60207-90-1	Propiconazole	60207-90-1

ID_Contaminant	Label	CAS Number
*CAS_114-26-1	Propoxur	114-26-1
*CAS_525-66-6	Propranolol	525-66-6
*CAS_23950-58-5	Propyzamide	23950-58-5
*CAS_52888-80-9	Prosulfocarb	52888-80-9
*CAS_94125-34-5	Prosulfuron	94125-34-5
*CAS_129-00-0	Pyrene	129-00-0
*CAS_96489-71-3	Pyridaben	96489-71-3
*CAS_55512-33-9	Pyridate	55512-33-9
*CAS_53112-28-0	Pyrimethanil	53112-28-0
*CAS_124495-18-7	Quinoxifen	124495-18-7
*CAS_82-68-8	Quintozene	82-68-8
*CAS_76578-12-6	Quizalofop	76578-12-6
*CAS_100646-51-3	Quizalofop-P-ethyl	100646-51-3
EEA_33-27-2	Radionuclides	
*CAS_122931-48-0	Rimsulfuron	122931-48-0
*CAS_7286-69-3	Sebuthylazine	7286-69-3
*CAS_135-98-8	sec-butylbenzene	135-98-8
*CAS_26259-45-0	Secbumeton	26259-45-0
*EEA_3111-01-1	Secchi depth	
*CAS_7782-49-2	Selenium and its compounds	7782-49-2
*EEA_3163-01-7	Silicate	
*CAS_7440-21-3	Silicon	7440-21-3
*CAS_7440-22-4	Silver	7440-22-4
*CAS_122-34-9	Simazine	122-34-9
*CAS_7440-23-5	Sodium	7440-23-5
*CAS_151-21-3	Sodium dodecyl sulfate	151-21-3
*CAS_118134-30-8	Spiroxamine	118134-30-8
*CAS_7440-24-6	Strontium	7440-24-6
*CAS_100-42-5	Styrene	100-42-5
*CAS_99105-77-8	Sulcotrione	99105-77-8
*CAS_723-46-6	Sulfamethoxazol	723-46-6
*CAS_141776-32-1	Sulfosulfuron	141776-32-1
*CAS_18785-72-3	Sulphate	18785-72-3
*EEA_33-28-3	Surfactants (anionic and nonionic)	
*EEA_33-29-4	Surfactants (anionic)	
*CAS_994-05-8	TAME	994-05-8
*CAS_1746-01-6	TCDD (2,3,7,8-tetrachlorodibenzo-p-dioxin)	1746-01-6
*CAS_107534-96-3	Tebuconazole	107534-96-3
*CAS_112410-23-8	Tebufenozide	112410-23-8
*CAS_13071-79-9	Terbufos	13071-79-9
*CAS_33693-04-8	Terbumeton	33693-04-8
*CAS_5915-41-3	Terbuthylazine	5915-41-3
*CAS_886-50-0	Terbutryn	886-50-0
*CAS_98-06-6	tert-butylbenzene	98-06-6
*CAS_79-94-7	Tetrabromobisphenol A (TBBP-A)	79-94-7
*CAS_40088-47-9	Tetrabromodiphenylether	40088-47-9
*CAS_1461-25-2	Tetrabutyltin	1461-25-2
*CAS_127-18-4	Tetrachloroethylene	127-18-4
*CAS_1335-88-2	Tetrachloronaphthalene	1335-88-2
*CAS_25167-83-3	Tetrachlorophenols	25167-83-3
*CAS_2227-13-6	Tetrasul	2227-13-6
*CAS_7440-28-0	Thallium	7440-28-0

ID_Contaminant	Label	CAS Number
*CAS_111988-49-9	Thiacloprid	111988-49-9
*CAS_153719-23-4	Thiamethoxam	153719-23-4
*CAS_79277-27-3	Thifensulfuron-methyl	79277-27-3
*CAS_28249-77-6	Thiobencarb	28249-77-6
*CAS_23564-05-8	Thiophanate-methyl	23564-05-8
*CAS_137-26-8	Thiram	137-26-8
*CAS_7440-31-5	Tin and its compounds	7440-31-5
*CAS_36756-79-3	Tiocarbazil	36756-79-3
*CAS_7440-32-6	Titanium	7440-32-6
*CAS_108-88-3	Toluene	108-88-3
*CAS_13351-73-0	Tolyltriazole	13351-73-0
*EEA_32-23-5	Total Benzo(b)fluor-anthene (CAS_205-99-2) + Benzo(k)fluor-anthene (CAS_207-08-9)	
*EEA_32-24-6	Total Benzo(g,h,i)perylene (CAS_191-24-2) + Indeno(1,2,3-cd)pyrene (CAS_193-39-5)	
*EEA_33-63-6	Total brominated diphenylethers (penta-BDE + octa-BDE + deca-BDE)	
*EEA_33-31-8	Total chrysene + triphenylene	
*EEA_33-64-7	Total cyanide	
*EEA_32-02-0	Total cyclodiene pesticides (aldrin + dieldrin + endrin + isodrin)	
*EEA_33-32-9	Total DDD (DDD, o,p' + DDD, p,p')	
*EEA_32-03-1	Total DDT (DDT, p,p' + DDT, o,p' + DDE, p,p' + DDD, p,p')	
EEA_33-40-9	Total dioxins and furans (PCDD + PCDF)	
*EEA_31-03-8	Total dissolved solids	
*EEA_33-53-4	Total Estrone (E1) + 17beta-estradiol (E2)	
*EEA_33-44-3	Total highly volatile halogenated hydrocarbons	
*EEA_33-36-3	Total hydrocarbons	
*EEA_3161-05-5	Total inorganic nitrogen	
*EEA_33-51-2	Total macrolide antibiotics (erythromycin + clarithromycin + azithromycin)	
*EEA_33-52-3	Total neonicotinoid insecticides (imidacloprid + thiacloprid + thiamethoxam + clothianidin + acetamiprid)	
*EEA_31615-01-7	Total nitrogen	
*EEA_3164-07-6	Total nitrogen to total phosphorus ratio	
*EEA_3133-06-0	Total organic carbon (TOC)	
*EEA_3161-03-3	Total organic nitrogen	
*EEA_3161-02-2	Total oxidised nitrogen	
EEA_33-62-5	Total PAHs (4 PAHs: Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene)	
EEA_33-56-7	Total PAHs (Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)perylene, Indeno(1,2,3-cd)pyrene)	
*CAS_7723-14-0	Total phosphorus	7723-14-0
*EEA_11-05-2	Total phytoplankton biomass	
*EEA_31-02-7	Total suspended solids	
*EEA_33-41-0	Total tri-, tetra- and pentachlorophenol	
*EEA_33-42-1	Total trichloroethylene + tetrachloroethylene	
*EEA_33-43-2	Total trihalomethanes	
*CAS_8001-35-2	Toxaphene	8001-35-2
*CAS_87820-88-0	Tralkoxydim	87820-88-0
*CAS_156-60-5	trans-1,2-dichloroethene	156-60-5
*CAS_10061-02-6	trans-1,3-dichloropropene	10061-02-6
*CAS_39765-80-5	trans-Nonachlor	39765-80-5
*CAS_2303-17-5	Tri-allate	2303-17-5
*CAS_43121-43-3	Triadimefon	43121-43-3

ID_Contaminant	Label	CAS Number
*CAS_55219-65-3	Triadimenol	55219-65-3
*CAS_82097-50-5	Triasulfuron	82097-50-5
*CAS_24017-47-8	Triazophos	24017-47-8
*CAS_36643-28-4	Tributyltin-cation	36643-28-4
*CAS_76-03-9	Trichloroacetic acid	76-03-9
*CAS_12002-48-1	Trichlorobenzenes (all isomers)	12002-48-1
*CAS_79-01-6	Trichloroethylene	79-01-6
*CAS_75-69-4	Trichlorofluoromethane	75-69-4
*CAS_67-66-3	Trichloromethane	67-66-3
*CAS_1321-65-9	Trichloronaphthalene	1321-65-9
*CAS_55335-06-3	Triclopyr	55335-06-3
*CAS_3380-34-5	Triclosan	3380-34-5
*CAS_1912-26-1	Trietazine	1912-26-1
*CAS_1582-09-8	Trifluralin	1582-09-8
*CAS_126535-15-7	Triflurosulfuron-methyl	126535-15-7
*CAS_738-70-5	Trimethoprim	738-70-5
*CAS_603-35-0	Triphenyl phosphine	603-35-0
*EEA_33-61-4	Triphenyltin and compounds	
*CAS_10028-17-8	Tritium	10028-17-8
*CAS_7440-33-7	Tungsten and its compounds	7440-33-7
*EEA_3112-01-4	Turbidity	
*CAS_7440-61-1	Uranium	7440-61-1
*CAS_7440-62-2	Vanadium and its compounds	7440-62-2
*CAS_50471-44-8	Vinclozolin	50471-44-8
*CAS_51000-52-3	Vinyl neodecanoate	51000-52-3
*EEA_33-45-4	Volatile halogenated hydrocarbons (VHH)	
*EEA_33-46-5	Volatile organic halogens (VOX)	
*EEA_3121-01-5	Water temperature	
*CAS_1330-20-7	Xylene	1330-20-7
*CAS_7440-66-6	Zinc and its compounds	7440-66-6
*CAS_137-30-4	Ziram	137-30-4

* non-mandatory under IMAP Guidance Factsheets

Table 4: DSs & DDs Module PSF1 (Levels of contaminants in seafood) for CI 20: List of species

ID_Species	Label
Alosa spp	125715
Argyrosomus regius	127007
Aristeus antennatus	107083
Auxis rokei	127015
Boops boops	127047
Brevoortia pectinata	275501
Dicentrarchus labrax	126975
Engraulis encrasicolus	126426
Epinephelus spp	126068
Loligo vulgaris	140271
Lophius piscatorius	126555
Merluccius merluccius	126484
Micromesistius poutassou	126439
Mugil cephalus	126983
Mullus barbatus	126985
Mullus spp.	126034

ID_Species	Label
Mullus surmuletus	126986
Mytilus galloprovincialis	140481
Nephrops norvegicus	107254
Octopus vulgaris	140605
Pagellus bogaraveo	127059
Pagellus erythrinus	127060
Pagrus pagrus	127063
Parapenaeus longirostris	107109
Penaeus kerathurus	246388
Ruditapes decussates	231749
Ruditapes philippinarum	231750
Sarda sarda	127021
Sardina pilchardus	126421
Sardinella aurita	126422
Sardinella spp	125721
Scomber japonicus	127022
Scomber scombrus	127023
Scomber spp	126063
Scomberesox saurus	126392
Sepia officinalis	141444
Sparus aurata	151523
Sphyraena spp	126084
Spicara spp	125949
Squilla mantis	136137
Thunnus thynnus	127029
Trachurus mediterraneus	126820
Trachurus spp	125946
Trachurus trachurus	126822
Xiphias gladius	127094

Table 5: DSs & DDs Module PSF1 (Levels of contaminants in seafood) for CI 20: List of GSA

Value	Description
1	Northern Alboran Sea
2	Alboran Island
3	Southern Alboran Sea
4	Algeria
5	Balearic Islands
6	Northern Spain
7	Gulf of Lion
8	Corsica
9	Ligurian Sea and Northern Tyrrhenian Sea
10	Southern and Central Tyrrhenian Sea
11.1	Western Sardinia
11.2	Eastern Sardinia
12	Northern Tunisia
13	Gulf of Hammamet
14	Gulf of Gabes
15	Malta

Value	Description
16	Southern Sicily
17	Northern Adriatic Sea
18	Southern Adriatic Sea
19	Western Ionian Sea
20	Eastern Ionian Sea
21	Southern Ionian Sea
22	Aegean Sea
23	Crete
24	Northern Levant Sea
25	Cyprus
26	Southern Levant Sea
27	Eastern Levant Sea
28	Marmara Sea
29	Black Sea
30	Azov Sea

Annex I:

**The concentration limits for the regulated contaminants in the EU used for preparation
of Data Standards and Data Dictionaries for
IMAP Common Indicator 20**

The elements of Data Standards (DS) and Data Dictionaries (DDs) specific for CI 20 are based on the concentration limits for the contaminants regulated in the EU, as defined in EU Commission Regulations (EC) No 1881/2006³, (EC) No 835/2011⁴ and EC No 1259/2011⁵.

Maximum Levels of Heavy Metals – (EC) Regulation 1881/2006

	Foodstuffs	Maximum levels mg kg ⁻¹ wet weight		
		Cadmium	Lead	Mercury
1	Muscle meat of fish ⁽¹⁾	0.050 Excluding species listed in 2 and 3	0.30	0.50 Excluding species listed in 4
2	Muscle meat of the following fish ⁽¹⁾ anchovy (<i>Engraulis species</i>) bonito (<i>Sarda sarda</i>) common two-banded seabream (<i>Diplodus vulgaris</i>) eel (<i>Anguilla anguilla</i>) grey mullet (<i>Mugil labrosus labrosus</i>) horse mackerel or scad (<i>Trachurus species</i>) louvar or luvar (<i>Luvarus imperialis</i>) sardine (<i>Sardina pilchardus</i>) sardinops (<i>Sardinops species</i>) tuna (<i>Thunnus species</i> , <i>Euthynnus species</i> , <i>Katsuwonus pelamis</i>) wedge sole (<i>Dicologlossa cuneata</i>)	0.10		
3	Muscle meat of swordfish (<i>Xiphias gladius</i>) ⁽¹⁾	0.30		
4	Muscle meat of the following fish: anglerfish (<i>Lophius species</i>) atlantic catfish (<i>Anarhichas lupus</i>) bonito (<i>Sarda sarda</i>) eel (<i>Anguilla species</i>) emperor, orange roughy, rosy soldierfish (<i>Hoplostethus species</i>) grenadier (<i>Coryphaenoides rupestris</i>)			1.0

³ Commission Regulation (EC) No 1881/2006, setting maximum levels for certain contaminants in seafood

⁴ Commission Regulation (EC) No 835/2011 amending Regulation (EC) No 1881/2006 as regards maximum levels for polycyclic aromatic hydrocarbons in foodstuffs;

⁵ Commission Regulation (EC) No 1259/2011, amending Regulation (EC) No 1881/2006 as regards maximum levels for dioxins, dioxin-like PCBs and non-dioxin-like PCBs in foodstuffs

	halibut (<i>Hippoglossus hippoglossus</i>) marlin (<i>Makaira species</i>) megrim (<i>Lepidorhombus species</i>) mullet (<i>Mullus species</i>) pike (<i>Esox lucius</i>) plain bonito (<i>Orcynopsis unicolor</i>) poor cod (<i>Tricopterus minutes</i>) portuguese dogfish (<i>Centroscymnus coelolepis</i>) rays (<i>Raja species</i>) redfish (<i>Sebastes marinus</i> , <i>S. mentella</i> , <i>S. viviparus</i>) sail fish (<i>Istiophorus platypterus</i>) scabbard fish (<i>Lepidopus caudatus</i> , <i>Aphanopus carbo</i>) seabream, pandora (<i>Pagellus species</i>) shark (all species) snake mackerel or butterfish (<i>Lepidocybium flavobrunneum</i> , <i>Ruvettus pretiosus</i> , <i>Gempylus serpens</i>) sturgeon (<i>Acipenser species</i>) swordfish (<i>Xiphias gladius</i>) tuna (<i>Thunnus species</i> , <i>Euthynnus species</i> , <i>Katsuwonus pelamis</i>)			
5	Crustaceans, excluding brown meat of crab and excluding head and thorax meat of lobster and similar large crustaceans	0.50	0.50	0.50
6	Bivalve molluscs	1.0	1.5	
7	Cephalopods (without viscera)	1.0	1.0	

(1) Exclusion of liver. Where fish are intended to be eaten whole, the maximum level shall apply to the whole fish

Maximum Levels of Benzo(a)pyrene and sum of four PAHs (benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene) Regulation No 835/2011 amending Regulation (EC) 1881/2006

Foodstuffs	Maximum levels ($\mu\text{g kg}^{-1}$)	
	Benzo(a)pyrene	Sum of benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene *
Bivalve molluscs (fresh, chilled or frozen)	5.0	30.0

* Lower bound concentrations are calculated on the assumption that all the values of the four substances below the limit of quantification are zero

Maximum Levels of Dioxins and PCBs - Regulation (EC) 1259/2011 amending Regulation (EC) 1881/2006

Foodstuffs	Maximum levels		
	Sum of dioxins (WHO-PCDD/F-TEQ) ⁽¹⁾	Sum of dioxins and dioxin-like PCBs (WHO-PCDD/F-PCB-TEQ) ⁽¹⁾	Sum of PCB28, PCB52, PCB101, PCB138, PCB153 and PCB180 (ICES 6)
Muscle meat of fish and fishery products and products thereof ⁽²⁾ with the exemption of: <ul style="list-style-type: none"> • wild caught eel • wild caught freshwater fish, with the exception of diadromous fish species caught in fresh water • fish liver and derived products • marine oils The maximum level for crustaceans applies to muscle meat from appendages and abdomen. In case of crabs and crab-like crustaceans (<i>Brachyura</i> and <i>Anomura</i>) it applies to muscle meat from appendages.	3.5 pg g^{-1} wet weight	6.5 pg g^{-1} wet weight	75 ng g^{-1} wet weight

(1) Dioxins (sum of polychlorinated dibenzo-para-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), expressed as World Health Organisation (WHO) toxic equivalent using the WHO-toxic equivalency factors (WHO-TEFs)) and sum of dioxins and dioxin-like PCBs (sum of PCDDs, PCDFs and polychlorinated biphenyls (PCBs), expressed as WHO toxic equivalent using the WHO-TEFs). WHO-TEFs for human risk assessment based on the conclusions of the World Health Organization (WHO) (For TEF values see note 31, (EC) Regulation 1259/2011 – Annex 1.1.9.).

(2) Where fish are intended to be eaten whole, the maximum level shall apply to the whole fish.