

| Antibiotic Drug<br>and chemical<br>residue          | Products            | MRL   | References  |
|---|---------------------|---|---|
| Oxolinic acid                                       | Fin fish            | 100 μg/kg<br>(this MRL relates to<br>muscle and skin in<br>natural proportions) | - COUNCIL<br>REGULATION (EEC) No<br>2377/90 of 26 June 1990<br>laying down a Community<br>procedure for the       |
| Tetracyclines :<br>- Chlortetracycline              | Aquaculture product | 100 µg/kg   | establishment of maximum<br>residue limits of veterinary<br>medicinal products in                                 |
| - Oxytetracycline                                   | Aquaculture product | 100 µg/kg   | foodstuffs of animal origin<br>- COMMISSION   |
| - Tetracycline                                      | Aquaculture product | 100 µg/kg   | REGULATION (EU) No<br>37/2010 of 22 December  |
| Diamino pyrimidine<br>derivatives :<br>Trimethoprim | Aquaculture product | 50 µg/kg  | 2009 on pharmacologically<br>active substances and their<br>classification regarding<br>maximum residue limits in |
| Quinolones:<br>- Danofloxacin                       | Aquaculture product | 100 µg/kg   | foodstuffs of animal origin   |
| - Difloxacin  | Aquaculture product | 300 µg/kg   |   |
| - Sum of<br>Enrofloxacin<br>and<br>Ciprofloxacin    | Aquaculture product | 100 µg/kg   |   |
| - Flumequine  | Fin fish            | 600 μg/kg<br>(this MRL relates to<br>muscle and skin in<br>natural proportions) |   |
|   | Aquaculture product | 200 µg/kg   |   |
| - Sarafloxacin                                      | Salmonidae          | 30 µg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions)  |   |
| Macrolides:<br>- Erythromycin                       | Aquaculture product | 200 µg/kg   |   |
| - Tilmicosin  | Aquaculture product | 50 µg/kg  | 1   |
| - Tylosin   | Aquaculture product | 100 µg/kg   |   |



| Antibiotic Drug   | Products            | MRL  | References |
|---|---------------------|--|------------|
| and chemical  | 1 i ouucus          |  | References |
| residue   |                     |  |            |
| Florfenicol and<br>related compounds:<br>- Florfenicol      | Aquaculture product | 1000 µg/kg   | - do -     |
| Lincosamides:<br>- Lincomycin                               | Aquaculture product | 100 µg/kg  |            |
| Aminoglycosides:<br>- Neomycin<br>(including<br>framycetin) | Aquaculture product | 500 μg/kg  |            |
| - Paromomycin   | Aquaculture product | 500 μg/kg  |            |
| - Spectinomycin   | Aquaculture product | 300 µg/kg  |            |
| Polymyxins:<br>- Colistin                                   | Aquaculture product | 150 µg/kg  |            |
| Pyrethroids:<br>- Deltamethrin                              | Fin fish            | 10 μg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions)   |            |
| - Cypermethrin  | Salmonidae          | 50 μg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions)   |            |
| Acyl urea<br>derivatives:<br>- Diflubenzuron                | Salmonidae          | 1000 μg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions) |            |
| - Teflubenzuron   | Salmonidae          | 500 μg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions)  |            |



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|--|----------|---|------------|
| Avermectins:<br>- Emamectin                | Fin fish | 100 μg/kg<br>(This MRL relates to<br>muscle and skin in<br>natural proportions) | - do -     |

| Antibiotic Drug<br>and chemical<br>residue  | Products                     | MRPL                                     | References  |
|---|------------------------------|--|---|
| Sum of malachite<br>green and<br>leucomalachite<br>green  | Meat of aquaculture products | 2 µg/kg                                  | COMMISSION DECISION<br>of 22 December 2003<br>amending Decision<br>2002/657/EC as regards the |
| Chloramphenicol   | Aquaculture products         | 0.3 µg/kg                                | setting of minimum required performance limits  |
| Nitrofuran<br>metabolites of :<br>- Furazolidone<br>- Furaltadone<br>- Nitrofurantonin<br>- Nitrofurazone | Aquaculture products         | 1 μg/kg<br>1 μg/kg<br>1 μg/kg<br>1 μg/kg | (MRPLs) for certain residues<br>in food of animal origin                                      |

Maximum Residue Limits (MRL) means the maximum level of a residue of a chemical which is permitted to be present in food

Minimum Required Performance Limits (MRPL) are defined as "minimum content of an analyst in a sample, which at least has to be detected and confirmed

eq. = equivalents

<sup>a</sup> For OA, dinophysistoxins and PTX, current regulation specifies a combination; however the CONTAM Panel concluded that PTX should be considered separately

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| Toxin  | Products   | Maximum limits   | References   |
|--|--|--|--|
| Total paralytic<br>shellfish poison<br>(PSP)   | Edible parts of<br>molluscs (the whole<br>body or any part   | 800 μg PSP/kg SM   | - Regulation (EC) No<br>853/2004 of the European<br>Parliament and of the  |
| Sum of Okadaic<br>acid<br>(OA),Dinophysisto<br>xins (DTX) and<br>Pectenotoxin (PTX)<br>Azaspiracid (AZA) | edible separately)   | 160 μg OA eq./kg SM <sup><b>a</b></sup><br>160 μg AZA eq. <b>b</b> /kg SM                        | Council of 29 April 2004<br>les for food of animal<br>origin<br>COMMISSION<br>REGULATION (EC) No<br>786/2013 of 16 August<br>2013  |
| Yessotoxin (YTX)   |  | 3.75 mg YTX eq./kg SM  |  |
| Amnesic shellfish<br>poison (ASP)  |  | 20 mg DA/kg SM   |  |
| Histamine D  | Fishery products<br>from fish species<br>associated<br>with a high amount of<br>histidine $^{\underline{c}}$<br>Fishery products,<br>except fish sauce,<br>which have<br>undergone<br>enzyme maturation<br>treatment in brine,<br>manufactured from<br>fish species<br>associated<br>with a high amount of<br>histidine $^{\underline{c}}$ | n = 9, c = 2<br>m = 100 mg/kg<br>M = 200 mg/kg<br>n = 9, c = 2<br>m = 200 mg/kg<br>M = 400 mg/kg | <ul> <li>COMMISSION<br/>REGULATION (EC) No<br/>2073/2005 of 15<br/>November 2005<br/>on microbiological criteria<br/>for foodstuffs</li> <li>COMMISSION<br/>REGULATION (EC) No<br/>1019/2013 of 23 October<br/>2013 amending Annex I to<br/>Regulation (EC) No<br/>2073/2005 as regards<br/>histamine in fishery<br/>products</li> </ul> |
|  | Fish sauce produced<br>by fermentation of<br>fishery products  | 400 mg/kg  |  |
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- **b** The CONTAM Panel assumed that AZA equivalent should refer to AZA1 equivalents
- <sup>c</sup> Particularly fish species of the families: Scombridae, Clupeidae, Engraulidae, Coryfenidae, Pomatomidae, Scombresosidae
- D Histamine in fishery products from fish species associated with a high amount of histidine except fish sauce produced by fermentation of fishery product :
  - Satisfactory, if the following requirements are fulfilled
    - 1. The mean values observed is  $\leq m$
    - 2. A maximum of c/n values observed are between m and M
    - 3. No values observed excess the limit of M
  - Unsatisfactory, if the mean value observed exceeds m or more than c/n valued are between m and M or one or more of the values observed are > M







| Contaminant  | Products  | Maximum level           | References   |
|--|---|-------------------------|--|
| Dioxins and PCBs :<br>- Sum of dioxins<br>(WHO-PCDD/<br>F-TEQ) <sup><u>d</u></sup>       | Muscle meat of fish and fishery<br>products and products thereof,<br>excluding eel $\frac{\mathbf{a}, \mathbf{b}}{\mathbf{b}}$ . The maximum<br>level for crustaceans applies to<br>muscle meat from appendages<br>and abdomen $\frac{\mathbf{c}}{\mathbf{c}}$ . In case of crabs<br>and crab-like crustaceans<br>( <i>Brachyura and Anomura</i> ) it<br>applies to muscle meat from<br>appendages. | 4.0 pg/g wet<br>weight  | COMMISSION<br>REGULATION (EU)<br>No 420/2011<br>of 29 April 2011<br>amending Regulation<br>(EC) No 1881/2006<br>setting maximum<br>levels for certain<br>contaminants in<br>foodstuffs                   |
|  | Muscle meat of eel ( <i>Anguilla anguilla</i> ) and products thereof  | 4.0 pg/g wet<br>weight  |  |
| - Sum of dioxins and<br>dioxin-like PCBs<br>(WHO-PCDD/<br>F-PCB-TEQ) <sup><u>d</u></sup> | Muscle meat of fish and fishery<br>products and products thereof,<br>excluding eel $\frac{\mathbf{a}, \mathbf{b}}{\mathbf{b}}$ . The maximum<br>level for crustaceans applies to<br>muscle meat from appendages<br>and abdomen $\frac{\mathbf{c}}{\mathbf{c}}$ . In case of crabs<br>and crab-like crustaceans<br>( <i>Brachyura and Anomura</i> ) it<br>applies to muscle meat from<br>appendages. | 8.0 pg/g wet<br>weight  |  |
|  | Muscle meat of eel ( <i>Anguilla anguilla</i> ) and products thereof  | 12.0 pg/g wet<br>weight |  |
| Polycyclic aromatic<br>hydrocarbons:<br>- Benzo(a)pyrene                                 | Muscle meat of smoked fish and<br>smoked fishery products,<br>excluding fishery products listed<br>below. The maximum level for<br>smoked crustaceans applies to<br>muscle meat from appendages<br>and abdomen. In case of smoked<br>crabs and crab-like crustaceans<br>( <i>Brachyura</i> and <i>Anomura</i> ) it<br>applies to muscle meat from<br>appendages.                                    | 2.0 ppb                 | COMMISSION<br>REGULATION (EU)<br>No 835/2011<br>of 19 August 2011<br>amending Regulation<br>(EC) No 1881/2006<br>as regards maximum<br>level for polycyclic<br>aromatic<br>hydrocarbons in<br>foodstuffs |



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| Contaminant  | Products   | Maximum level | References |
|--|--|---------------|------------|
| Polycyclic aromatic<br>hydrocarbons:<br>- Benzo(a)pyrene<br>(continued)                        | Smoked sprats and canned<br>smoked sprats ( <i>sprattus sprattus</i> );<br>bivalve molluscs (fresh, chilled or<br>frozen)  | 5.0 ppb       | - do -     |
|  | Bivalve molluscs (smoked)  | 6.0 ppb       |            |
| - Sum of<br>benzo(a)pyrene,<br>benz(a)anthracene,<br>benzo(b)fluoranthene<br>and chrysene (45) | Muscle meat of smoked fish and<br>smoked fishery products,<br>excluding fishery products listed<br>below. The maximum level for<br>smoked crustaceans applies to<br>muscle meat from appendages<br>and abdomen. In case of smoked<br>crabs and crab-like crustaceans<br>( <i>Brachyura</i> and <i>Anomura</i> ) it<br>applies to muscle meat from<br>appendages. | 12.0 ppb      |            |
|  | Smoked sprats and canned<br>smoked sprats ( <i>sprattus sprattus</i> );<br>bivalve molluscs (fresh, chilled or<br>frozen)  | 30.0 ppb      |            |
|  | Bivalve molluscs (smoked)  | 35.0 ppb      |            |
| 3-MCPD   | Oyster sauce, Fish sauce   | 0.02 ppm      |            |

 $\frac{a}{a}$  Where fish are intended to be eaten whole, the maximum level shall apply to the whole fish.

<sup>b</sup> Foodstuffs listed in this category as defined in categories (a), (b), (c), (e) and (f) of the list in Article 1 of Regulation (EC) No 104/2000 with the exclusion of fish liver falling under code CN 0302 70 00

 $\mathbf{\underline{c}}$  This definition excludes the cephalothorax of crustaceans

**d** 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 WHO meeting in Stockholm, Sweden, 15 to 18 June 1997 (Van den Berg et al., (1998) Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and for Wildlife



| Food additive  | Products  | Maximum level  | References   |
|--|---|--|--|
| Sulphur dioxide and sulphites                        | Dried salted fish of the<br>'Gadidae' species                                       | 200 mg/kg<br>(or mg/l)                                 | COMMISSION<br>REGULATION (EU) No<br>1129/2011 of 11  |
|  | Crustaceans and<br>cephalopods:<br>- fresh, frozen and deep-<br>frozen              | 150 <sup><b>a</b></sup>                                | November 2011<br>amending Annex II to<br>Regulation (EC) No<br>1333/2008 of the                |
|  | Crustaceans and<br>cephalopods:<br>- cooked   | 50 mg/kg <sup><b>a</b></sup>                           | European Parliament and<br>of the Council by<br>establishing a Union list<br>of food additives |
|  | Crustaceans, <i>panaeidae</i><br><i>solenceridae</i> , <i>aristeidae</i><br>family: | a  | of food additives  |
|  | <ul> <li>o up to 80 units</li> <li>o between 80 and 120 units</li> </ul>            | 150 mg/kg <mark>-a</mark><br>200 mg/kg <mark>-a</mark> |  |
|  | $_{\circ}$ over 120 units   | 300 mg/kg <mark>-a</mark>                              |  |
| The combination of phosphoric acid-                  | Surimi and similar products   | 1 g/kg   |  |
| phosphates di, tri<br>and polyphosphate              | Fish and crustacean paste   | 5 g/kg   |  |
| Polyphosphates :<br>Calcium<br>polyphosphates        | Fillets of unprocessed fish, frozen and deep-frozen                                 | 5 g/kg   |  |
|  | Unprocessed and processed<br>molluscs and crustaceans<br>frozen and deep-frozen     | 5 g/kg   |  |
|  | Canned crustacean products  | 1 g/kg   |  |
| Calcium disodium<br>ethylene diamine<br>tetraacetate | Canned and bottled<br>crustaceans and molluscs                                      | 75 mg/kg   |  |
| (EDTA)   | Canned and bottled fish   | 75 mg/kg   |  |
|  | Frozen and deep-frozen crustaceans  | 75 mg/kg   |  |
| Benzoic acid   | Only cooked crustaceans<br>and mollusks   | 1000 mg/kg<br>(or mg/l)                                |  |
|  |   |  | <u> </u>   |

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| Food additive                          | Products   | Maximum level           | References |
|--|--|-------------------------|------------|
| Sum of Sorbic acid<br>and Benzoic acid | Only salted, dried fish  | 200 mg/kg<br>(or mg/l)  | - do -     |
|  | Only semi-preserved fish<br>and fisheries products<br>including crustaceans,<br>molluscs, surimi and<br>fish/crustacean paste;<br>cooked crustaceans and<br>mollusks | 2000 mg/kg<br>(or mg/l) |            |
|  | Only cooked Crangon<br>crangon and Crangon<br>vulgaris   | 6000 mg/kg<br>(or mg/l) |            |

<sup>**a**</sup> Maximum levels are expressed as  $SO_2$  in mg/kg or mg/l as appropriate and relate to the total quantity, available from all sources.

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| Metal   | Products  | Maximum level                  | References   |
|---------|---|--------------------------------|--|
| Lead    | Muscle meat of fish <sup><b>a</b>,<b>b</b></sup>  | 0.30 mg/kg wet<br>weight       | - COMMISSION<br>REGULATION (EC) No<br>1881/2006  |
|         | Crustaceans <sup>c</sup> : muscle meat from<br>appendages and abdomen <sup>d</sup><br>In case of crabs and crab-like<br>crustaceans ( <i>Brachyura and</i><br><i>Anomura</i> ) muscle meat from<br>appendages       | 0.50 mg/kg wet<br>weight       | of 19 December 2006<br>setting maximum levels for<br>certain contaminants in<br>foodstuffs<br>- COMMISSION |
|         | Bivalve molluscs <sup>c</sup>   | 1.5 mg/kg wet<br>weight        | REGULATION (EU) No<br>420/2011<br>of 29 April 2011   |
|         | Cephalopods (without viscera) <sup><b>c</b></sup>   | 1.0 mg/kg wet<br>weight<br>2.0 | amending Regulation (EC)<br>No 1881/2006 setting<br>maximum levels for certain                             |
| Cadmium | Muscle meat of fish <sup><b>a</b></sup> , <b><u>b</u></b><br>excluding fish species listed<br>below   | 0.05 mg/kg wet<br>weight       | <ul> <li>contaminants in foodstuffs</li> <li>COMMISSION</li> </ul>   |
|         | Muscle meat of the following fish $\underline{\mathbf{a}}, \underline{\mathbf{b}}$ :  | 0.10 mg/kg wet<br>weight       | REGULATION (EU) No<br>488/2014<br>of 12 May 2014   |
|         | mackerel (Scomber species), tuna<br>(Thunnus species, Katsuwonus<br>pelamis, Euthynnus species),<br>bichique (Sicyopterus<br>lagocephalus)  |                                | amending Regulation (EC)<br>No 1881/2006 as regards<br>maximum levels of cadmium<br>in foodstuffs          |
|         | Muscle meat of the following fish<br><u><b>a</b></u> , <u><b>b</b></u> :  | 0.15 mg/kg wet<br>weight       |  |
|         | bullet tuna ( <i>Auxis species</i> )<br>Muscle meat of the following fish<br><b>a</b> , <b>b</b><br>:   | 0.25 mg/kg wet<br>weight       |  |
|         | anchovy ( <i>Engraulis species</i> )<br>swordfish ( <i>Xiphias gladius</i> )  |                                |  |
|         | sardine (Sardina pilchardus)Crustaceans $^{\underline{c}}$ : muscle meat fromappendages and abdomen $^{\underline{d}}$ . Incase of crabs and crab-likecrustaceans (Brachyura andAnomura)muscle meat fromappendages. | 0.50 mg/kg wet<br>weight       |  |



| Metal                  | Products   | Maximum level           | References |
|------------------------|--|-------------------------|------------|
| Cadmium<br>(continued) | Bivalve molluscs <sup>£</sup>  | 1.0 mg/kg wet<br>weight | - do -     |
|                        | Cephalopods (without viscera) <sup><b>c</b></sup>  | 1.0 mg/kg wet<br>weight |            |
| Mercury                | Fishery products <sup><b>C</b></sup> and muscle<br>meat of fish <sup><b>a</b></sup> , <sup><b>b</b></sup> , excluding<br>species listed below. The<br>maximum level for crustaceans<br>applies to muscle meat from<br>appendages and abdomen <sup><b>d</b></sup> . In<br>case of crabs and crab-like<br>crustaceans ( <i>Brachyura and</i><br><i>Anomura</i> ) it applies to muscle<br>meat from appendages.   | 0.5 mg/kg wet<br>weight |            |
|                        | Muscle meat of the following fish<br><b>a</b> , <b>b</b><br>:<br>anglerfish (Lophius species)<br>atlantic catfish (Anarhichas<br>lupus)<br>bonito (Sarda sarda)<br>eel (Anguilla species)<br>emperor, orange roughy, rosy<br>soldierfish (Hoplostethus species)<br>grenadier (Coryphaenoides<br>rupestris)<br>halibut (Hippoglossus<br>hippoglossus)<br>marlin (Makaira species)<br>megrim (Lepidorhombus species)<br>mullet (Mullus species)<br>pike (Esox lucius)<br>plain bonito (Orcynopsis<br>unicolor)<br>poor cod (Tricopterus minutes)<br>portuguese dogfish<br>(Centroscymnus coelolepis)<br>rays (Raja species)<br>redfish (Sebastes marinus, S.<br>mentella, S. viviparus)<br>sail fish (Istiophorus platypterus) | 1.0 mg/kg wet<br>weight |            |



| Metal                  | Products  | Maximum level | References |
|------------------------|---|---------------|------------|
| Mercury<br>(continued) | scabbard fish (Lepidopus<br>caudatus, Aphanopus carbo)<br>seabream, pandora (Pagellus<br>species)<br>shark (all species)<br>snake mackerel or butterfish<br>(Lepidocybium flavobrunneum,<br>Ruvettus pretiosus, Gempylus<br>serpens)<br>sturgeon (Acipenser species)<br>swordfish (Xiphias gladius)<br>tuna (Thunnus species, Euthynnus<br>species, Katsuwonus pelamis) |               | - do -     |

- <sup>a</sup> Fish listed in this category as defined in category (a), with the exclusion of fish liver falling under code CN 0302 70 00, of the list in Article 1 of Council Regulation (EC) No 104/2000 (OJ L 17, 21.1.2000, p. 22) as last amended by the Act concerning the conditions of accession of the Czech Republic, the Republic of Estonia, the Republic of Cyprus, the Republic of Latvia, the Republic of Lithuania, the Republic of Hungary, the Republic of Malta, the Republic of Poland, the Republic of Slovenia and the Slovak Republic and the adjustments to the Treaties on which the European Union is founded (OJ L 236, 23.9.2003, p. 33). In case of dried, diluted, processed and/or compound foodstuffs Article 2(1) and 2(2) apply.
- $\mathbf{b}$  Where fish are intended to be eaten whole, the maximum level shall apply to the whole fish.
- <sup>c</sup> Foodstuffs falling within category (c) and (f) of the list in Article 1 of Regulation (EC) No 104/2000, as appropriate (species as listed in the relevant entry). In case of dried, diluted, processed and/or compound foodstuffs Article 2(1) and 2(2) apply.
- $\underline{\mathbf{d}}$  This definition excludes the cephalothorax of crustaceans.