

3.6.a pielikums

Daugavas upju baseinu apgabala apsaimniekošanas plānam 2022. - 2027. gadam

Analītisko metožu veikspējas parametri biotas matricā (piekrastes un pārejas ūdeņos)

| Nr.p.k. | CAS Nr. | Vielas nosaukums | Matrica | Gads | Metodes nosaukums un analītiskais princips | Metodes QL, mērvienība | Cik % paraugu zem QL |
|---------|------------|------------------|-------------------|------|--|------------------------|----------------------|
| 1 | 7439-97-6 | Hg | biota, sausā masa | 2018 | US EPA 245.6. Determination of Mercury in tissues by cold vapour atomic absorptio spectrometry. Ķīmiskā mineralizācija ar H ₂ SO ₄ , HNO ₃ un KMnO ₄ , Hg aukstā tvaika ģenerēšana ar SnCl ₂ . Atomabsorciometrija. | 50 ug/kg | |
| 2 | 7440-43-9 | Cd | biota, sausā masa | 2018 | US EPA 3052Microwave assisted acid digestion of siliceous and organically based matrices. US EPA 7010 Graphite furnace atomic absorpton spectrophotometry. Mineralizācija ar HNO ₃ mikroviņos un elktrotermālās atomizācijas AAS. | 350 ug/kg | |
| 3 | 7439-92-1 | Pb | biota, sausā masa | 2018 | US EPA 3052Microwave assisted acid digestion of siliceous and organically based matrices. US EPA 7010 Graphite furnace atomic absorpton spectrophotometry. Mineralizācija ar HNO ₃ mikroviņos un elktrotermālās atomizācijas AAS. | 200 ug/kg | |
| 4 | 7440-50-8 | Cu | biota, sausā masa | 2018 | US EPA 3052Microwave assisted acid digestion of siliceous and organically based matrices. US EPA 7000B Flame atomic absoption spectrophotometry. Mineralizācija ar HNO ₃ mikroviņos un liesmas atomizācijas AAS. | 30 mg/kg | |
| 5 | 7440-66-6 | Zn | biota, sausā masa | 2018 | US EPA 3052Microwave assisted acid digestion of siliceous and organically based matrices. US EPA 7000B Flame atomic absoption spectrophotometry. Mineralizācija ar HNO ₃ mikroviņos un liesmas atomizācijas AAS. | 35 mg/kg | |
| 6 | 32534-81-9 | PBDE | biota, tauki | 2017 | mod US EPA 1614 Determination of selected brominated flammable retarders (BFR) by isotope dilution method using HRGC-HRMS and calculation of brominated flammable retarders sums from measured values. | pg/g fat | |
| | | BDE-28 | | | | 170 | 100 |
| | | BDE-47 | | | | 550 | |

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|---------|-----------|---|--------------|------|---|------------------------|----------------------|
| | | BDE-99 | | | | 180 | |
| | | BDE-100 | | | | 140 | |
| | | BDE-153 | | | | 75 | |
| | | BDE-154 | | | | 69 | |
| 7 | nepiemēro | <u>PCDD un PCDF</u> <u>(Polihlordibenzo-p-dioksīni un polihlordibenzofurāni)</u> | biota, tauki | 2017 | mod US EPA 1613B Determination of tetra-octa-chlorinated dioxins and furanes by isotope dilution method using HRGC-HRMS and calculation of TEQ parameters from measured values. | pg/g fat | |
| | | 2378-TCDD | | | | 1.7 | 100 |
| | | 12378-PeCDD | | | | 1 | 100 |
| | | 123478-HxCDD | | | | 4.1 | 100 |
| | | 123678-HxCDD | | | | 4.1 | 100 |
| | | 123789-HxCDD | | | | 4.1 | 100 |
| | | 1234678-HpCDD | | | | 7.1 | 100 |
| | | OCDD | | | | 7.3 | 100 |
| | | 2378-TCDF | | | | 3.2 | |
| | | 12378-PeCDF | | | | 3.1 | 100 |
| | | 23478-PeCDF | | | | 3.1 | |
| | | 123478-HxCDF | | | | 3 | 100 |
| | | 123678-HxCDF | | | | 3 | 100 |
| | | 123789-HxCDF | | | | 3 | 100 |
| | | 234678-HxCDF | | | | 3 | 100 |
| | | 1234678-HpCDF | | | | 3.6 | 100 |
| | | 1234789-HpCDF | | | | 3.6 | 100 |
| | | OCDF | | | | 5.9 | 100 |
| 8 | nepiemēro | <u>Dioksīnam līdzīgie PHB</u> <u>(polihlorbifenili)</u> | biota, tauki | 2017 | mod US EPA 1613B Determination of tetra-octa-chlorinated dioxins and furanes by isotope dilution method using HRGC-HRMS and calculation of TEQ parameters from measured values. | pg/g fat | |
| | | PCB 77 | | | | 210 | |
| | | PCB 81 | | | | 210 | 100 |
| | | PCB 105 | | | | 1000 | |
| | | PCB 114 | | | | 84 | |
| | | PCB 118 | | | | 2100 | |
| | | PCB 123 | | | | 35 | |
| | | PCB 126 | | | | 110 | |
| | | PCB 156 | | | | 310 | |
| | | PCB 157 | | | | 29 | |
| | | PCB 167 | | | | 150 | |
| | | PCB 169 | | | | 40 | 100 |

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|---------|---------------------|--|-------------------|------|--|------------------------|----------------------|
| | | PCB 189 | | | | 36 | |
| 9 | nepiemēro | <i>Polihlorbifenīlu indikatori</i> | biota, tauki | 2017 | US EPA 1668A Determination of polychlorinated biphenyls by isotope dilution method using HRGC-HRMS and calculation of PCB sums and TEQ parameter from measured values | ng/g fat | |
| | | PCB 28 | | | | 4.7 | 100 |
| | | PCB 52 | | | | 4.2 | |
| | | PCB 101 | | | | 4.5 | |
| | | PCB 138 | | | | 4.2 | |
| | | PCB 153 | | | | 5.5 | |
| | | PCB 180 | | | | 2.1 | |
| | | <i>PAH (Poliaromātiskie oglūdenraži)</i> | biota, mitrā masa | 2017 | US EPA 429, STN EN16619. Determination of polycyclic aromatic hydrocarbons by isotope dilution method using HRGC-HRMS and calculation of polyaromatic hydrocarbons sums from measured values | ug/kg ww | |
| 10 | 50-32-8 | Benz(a)pirēns | | | | 0.12 | 100 |
| 11 | 91-20-3 | Naftalīns | | | | 5.3 | 100 |
| 12 | 56-55-3 | Benz(a)antracēns | | | | 0.12 | 100 |
| 13 | 205-99-2 | Benz(b)fluorantēns | | | | 0.12 | 100 |
| 14 | 120-12-7 | Antracēns | | | | 0.22 | 100 |
| 15 | 206-44-0 | Fluorantēns | | | | 1.7 | 100 |
| 16 | 207-08-9 | Benz(k)fluorantēns | | | | 0.12 | 100 |
| 17 | 193-39-5 | Inden(1,2,3-cd)pirēns | | | | 0.12 | 100 |
| 18 | 191-24-2 | Benz(g,h,i)perilēns | | | | 0.12 | 100 |
| | | <i>Perfluo savienojumi</i> | biota, mitrā masa | 2017 | neakreditēta | ug/kg ww | |
| 19 | 335-67-1 | Perfluoroktānskābe (PFOS) | | | | 0.1 | 100 |
| 20 | 1763-23-1 | Perfluoroktānsulfonāts (LPFOS) | | | | 0.1 | |
| | | <i>Farmaceitiskās vielas</i> | biota, mitrā masa | 2017 | HPLC/MS/MS | ug/kg ww | |
| 21 | 15307-86-5 | Diklofenaks | | | | 2.5 | 100 |
| 22 | 15687-27-1 | Ibuprofēns | | | | 2.5 | 100 |
| | | <i>Hlororganiskie pesticīdi (pārtikas normatīvie regulējumi)</i> | biota, mitrā masa | 2017 | AM/R/110 using GC-MS; flame photometric detection; HPLC fluorescence | mg/ kg ww | |
| 23 | 76-44-8 / 1024-57-3 | Heptahlors (heptahlora un heptahlorepoksīda summa, izteikta kā heptahlors) | | | | 0.01 | 100 |

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|---------|-----------|------------------------------------|-------------------|------|---|------------------------|----------------------|
| | | <u><i>GC Pesticide Screen</i></u> | biota, mitrā masa | 2017 | AM/R/110 using GC-MS; flame photometric detection; HPLC fluorescence | mg/ kg ww | |
| 24 | 115-32-2 | Dikofols | | | | 0.02 | 100 |
| 25 | 118-74-1 | Heksahlorbenzols | | | | 0.01 | 100 |
| 26 | 87-68-3 | Heksahlorbutadiēns | biota, mitrā masa | 2017 | GC-MS | 0.05 | 100 |
| 27 | 3194-55-6 | <u><i>Heksabromciklodekāns</i></u> | biota, mitrā masa | 2017 | LC-MS/MS | ng/kg ww | |
| | | alfa - HBCD | | | | 0.006 | |
| | | beta-HBCD | | | | 0.006 | |
| | | gamma - HBCD | | | | 0.006 | |