Příloha č. 1 zadávací dokumentace

**Specifikace vybraných rozpouštědel nejvyšší čistoty pro plynovou**

**a kapalinovou chromatografii**

veřejná zakázka malého rozsahu:

**„Dodávka vybraných rozpouštědel nejvyšší čistoty pro plynovou a kapalinovou chromatografii“**

**č.j.: ZU/33693/2018**

**1.1 Acetonitril pro HPLC/FLD/UV**

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| **Specifikace** | **1.1 Acetonitril HPLC/FLD/UV** |
| Purity (G, HPLC) | ≥ 99,9 % |
| Identity | conforms |
| Evaporation residue | ≤ 2,0 mg/l |
| Water | ≤ 0,02 % |
| Colour | ≤ 10 Hazen |
| Gradient grade (at 210 nm) | ≤ 1,0 mAU |
| Gradient grade (at 254 nm) | ≤ 0,5 mAU |
| Fluorescence (as quinine at 254 nm) | ≤ 1,0 ppb |
| Fluorescence (as quinine at 365 nm) | ≤ 0,5 ppb |
| Transmission (at 193 nm) | ≥ 60% |
| Transmission (at 195 nm) | ≥ 80 % |
| Transmission (from 230 nm) | ≥ 98% |
| Filtered by 0,2 um filter. | OK |
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| Pozn.: | pro ultrastopovou HPLC analýzu, UV + FL detekci |

**2.1 Aceton pro HPLC/FLD/UV a 2.2 Aceton pro GC/ECD**

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| **Specifikace** | **2.1 Aceton HPLC/FLD/UV** | **2.2 Aceton /GC/ECD** |
| Purity (GC) | ≥ 99,8 % | ≥ 99,8 % |
| Identity (IR) | conforms | conforms |
| Evaporation residue | ≤ 2,0 mg/l | ≤ 3mg/l |
| Water | ≤ 0,05 % | ≤ 0,05 % |
| Transmission (at 335 nm) | ≥ 50 % |  |
| Transmission (at 340 nm) | ≥ 80 % |  |
| Transmission (from 350 nm) | ≥ 98 % |  |
| Filtered by 0,2 um filter. | OK |  |
| GC/ECD, *( v ret.čase od trichlorbenzenu do decachlorbifenylu interference na lindan)* |  | ≤3 pg/ml |
| GC/FID *(v ret.čase od uhl. n- C11 - do n -C30 interference na tetradekan)* |  | ≤3 ng/ml |
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| Pozn.: | pro ultrastopovou HPLC analýzu, UV + FL detekci | pro ultrastopovou GC/ECD analýzu |

**3.1 Cyklohexan pro HPLC**

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| **Specifikace** | **3.1 Cyklohexan HPLC** |
| Purity (GC) | ≥ 99,9 % |
| Identity (IR) | conforms |
| Evaporation residue | ≤ 2,0 mg/l |
| Water | ≤ 0,01 % |
| transmission (at 230nm) | ≥ 75 % |
| transmission (at 240nm) | ≥ 90 % |
| transmission (from 260 nm) | ≥ 99 % |
| fltred 0,2um | OK |
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| Pozn.: | pro ultrastopovou analýzu HPLC a GC/ECD |

**4.1 Dichlormetan pro HPLC/FLD/UV a 4.2 Dichlormetan pro GC/ECD**

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| **Specifikace** | **4.1 Dichlormethan HPLC/UV/FLD** | **4.2 Dichlormetan GC/ECD** |
| Purity (GC) | ≥ 99,9 % | ≥ 99,8 % |
| Identity (IR) | conforms | conforms |
| Evaporation residue | ≤ 5,0 mg/l | ≤ 5 mg/l |
| Water | ≤ 0,01 % | ≤ 0,01 % |
| Colour (Hazen) |  | ≤ 10 |
| Filtered by 0,2 um filter. | OK |  |
| Transmission (at 240 nm) | ≥ 70 % |  |
| Transmission (at 245 nm) | ≥ 90 % |  |
| Transmission (from 260 nm) | ≥ 99 % |  |
| GC/ECD, *(v ret.čase od trichlorbenzenu do decachlorbifenylu interference na lindan)* |  | ≤3pg/ml |
| GC/FID *(v ret.čase od uhl. n- C11 - do n -C30 interference na tetradekan)* |  | ≤3 ng/ml |
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| Pozn.: | pro ultrastopovou HPLCanalýzu UV +Flu detekci | pro ultrastopovou GC/ECD analýzu |

**5.1 Dietyleter pro GC/FID/ECD a 5.2 Dietyleter pro HPLC/FLD/UV**

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| **Specifikace** | **5.1 Dietyleter GC/FID/ECD** | **5.2 Dietyleter HPLC/FLD/UV** |
| Purity (GC,HPLC) | ≥ 98% | ≥ 98% |
| Colour | max.10 Hazen | max.10 Hazen |
| Peroxide (as H2O2) |  | ≤0,0005% |
| Evaporation residue | ≤0,0003% (≤3,0 mg/l) | ≤0,0003% |
| Water | ≤0,05% | ≤0,03% |
| fluorescence/as quinine at 254nm |  | ≤1 ppb |
| fluorescence/as quinine at365nm |  | ≤ 1 ppb |
| transmission (at 220 nm) |  | ≥30% |
| transmission (at 270 nm) |  | ≥90% |
| transmission (from 300 nm) |  | ≥98% |
| Absorbance (at 220nm) |  | ≤0,52 |
| Absorbance (at 235 nm) |  | ≤0,26 |
| Absorbance (at 270 nm) |  | ≤0,05 |
| GC/ECD, *( v ret.čase od trichlorbenzenu do decachlorbifenylu interference na lindan)* | ≤3pg/ml |  |
| GC/FID *(v ret.čase od uhl. n- C11 - do n -C30 interference na tetradekan)* | ≤3 ng/ml |  |
| stabilized ( 2%ethanol) | OK | OK |
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| Pozn.: | pro ultrastopovou HPLC analýzu, UV+Flu detekci | pro ultrastopovou HPLC analýzu, UV+Flu detekci |

**6.1 Etanol pro HPLC/FLD/UV**

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| **Specifikace** | **6.1 Ethanol p.a. / HPLC/UV/FLD** |
| Purity (GC) | ≥ 99,9 % |
| Identity | conforms |
| Water | ≤ 0,1 % |
| Colour | ≤ 10 Hazen |
| Evaporation residue | ≤ 0,0005% |
| Aceton GC | ≤ 0,001 % |
| Aldehydes as Acetaldehyde | ≤ 0,001 % |
| 2-propanol GC | ≤ 0,003 % |
| Higher alcohols GC | ≤ 0,01 % |
| Volatile impurities GC Benzen | ≤ 2 ppm |
| Volatile impurities GC Methanol | ≤ 100 ppm |
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| Pozn.: | pro ultrastopovou HPLC analýzu, UV + Flu detekci |

**7.1 Etylacetat pro HPLC**

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| **Specifikace** | **7.1 Etylacetát HPLC** |
| Purity (GC) | ≥ 99,8 % |
| Identity (IR) | conforms |
| Evaporation residue | ≤ 2,0 mg/l |
| Water | ≤ 0,05 % |
| transmission (at 260nm) | ≥ 50 % |
| transmission (at 265nm) | ≥ 80 % |
| transmission (from 270 nm) | ≥ 98 % |
| fltred 0,2um | OK |
|  |  |
| Pozn.: | pro ultrastopovou analýzu HPLC |

**8.1 n-Hexan pro HPLC/FLD/UV, 8.2 n-Hexan pro GC/ECD a 8.3 n-Hexan p.a.**

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| **Specifikace** | **8.1 n-Hexan HPLC UV/FLD** | **8.2 n-Hexan GC/ECD** | **8.3 n-Hexan p.a.** |
| Purity (GC) | ≥ 98,0 % | min. 98% | ≥ 99,0 % |
| Identity (IR) | conforms | conforms | conforms |
| Evaporation residue | ≤ 1,0 mg/l | max. 3,0 mg/l | ≤ 0,001 % |
| Water | ≤ 0,01 % | ≤ 0,01 % | ≤ 0,005 % |
| Colour |  | ≤ 10 Hazen | ≤ 10 Hazen |
| GC/ECD*, ( v ret.čase od trichlorbenzenu do decachlorbifenylu interference na lindan)* |  | ≤3 pg/ml |  |
| GC/FID *(v ret.čase od uhl. n- C11 - do n -C30 intereference na tetradekan)* |  | ≤3 ng/ml |  |
| transmission (at210nm) | ≥ 50 % |  |  |
| transmission (at 220nm) | ≥ 85 % |  |  |
| transmission (at 245 nm) | ≥ 98 % |  |  |
| fltred 0,2um | OK |  |  |
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| Pozn.: | pro ultrastopovou analýzu HPLC a GC/ECD | pro GC/ECD |  |

**9.1 n-Heptan pro ultrastopovou analýzu**

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| **Specifikace** | **9.1 n-Heptan GC /ECD** |
| Purity (GC) | ≥ 99,3 % |
| Evaporation residue | ≤ 0,0002 % |
| Water | ≤ 0,005 % |
| Colour | ≤ 10 Hazen |
| Transmission (at 210nm) | ≥ 55 % |
| Transmission (at 220nm) | ≥ 80 % |
| Transmission (from 245 nm) | ≥ 98 % |
|  |  |
| Pozn.: | pro ultrastopovou analýzu |

**10.1 Metanol pro HPLC/FLD/UV, 10.1a Metanol pro HPLC/FLD/UV a 10.2 Metanol pro LC/MS**

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| **Specifikace** | **10.1 Methanol HPLC/FLD/UV** | **10.1a Methanol HPLC/FLD/UV** | **10.2 Methanol LC/MS** |
| Purity (GC, HPLC) | ≥ 99,9 % | ≥ 99,9 % | ≥99,9% |
| Identity | conforms | conforms | conforms |
| Evaporation residue | ≤ 2,0 mg/l | ≤ 2,0 mg/l | ≤ 1 mg/l |
| Water | ≤ 0,02 % | ≤ 0,02 % | ≤0,01 % |
| Gradient grade | ≤ 2,0 mAU (at 235nm) | ≤ 2,0 mAU (at 235nm) | ≤ 5,0 mAU (at 220nm) |
| Gradient grade | ≤1,0 mAU (at 254 nm) | ≤1,0 mAU (at 254 nm) | ≤ 2,0 mAU (at 235 nm) |
| Fluorescence (as quinine at 254 nm) | ≤ 1,0 ppb | ≤ 1,0 ppb | ≤ 1,0 ppb |
| Fluorescence (as quinine at 365 nm) | ≤ 0,5 ppb | ≤ 0,5 ppb | ≤ 0,5 ppb |
| Transmission (at 210 nm) | ≥ 20 % | ≥ 20 % | ≥ 35% |
| Transmission (at 220 nm) | ≥ 60 % | ≥ 60 % | ≥ 60% |
| Transmission (at 235 nm) | ≥ 83 % | ≥ 83 % |  |
| Transmission (from 260 nm) | ≥ 98 % | ≥ 98 % | ≥ 98% |
| Suitable for LC-MS/tested with ion trap MS)(Intensity of background mass peak based on reserpine(APCI/ESI positiv)) |  |  | ≤ 2 ppb |
| Suitable for LC-MS/tested with ion trap MS)(Intensity of background mass peak based on reserpine(APCI/ESI negative)) |  |  | ≤ 20 ppb |
| Filtered by 0,2 um filter. | OK | OK | OK |
|  |  |  |  |
| Pozn.: | metanol pro ultrastopovou analýzu HPLC, | metanol pro ultrastopovou analýzu HPLC, | metanol pro ultrastopovou analýzu LC/MS |
| vyhovující pro UV a FL detekci | vyhovující pro UV a FL detekci |  |
|  | **balení 30L sud** |  |

**11.1 Tetrachloretylen pro IČ a 11.2 Tetrachloretylen p.a.**

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| **Specifikace** | **11.1 Tetrachlorethylen pro IČ** | **11.2 Tetrachlorethylen p.a.** |
| Purity (GC) | ≥ 99,9 % | ≥ 99,0 % |
| Evaporation residue | ≤ 0,0005 % | ≤ 0,001 % |
| Water | ≤ 0,01 % | ≤ 0,005 % |
| Colour | ≤ 10 Hazen |  |
| Hydrocarbons(jako Squalane 3050-2900cm-1) | ≤ 10 ppm |  |
| Fluorescence (as quinine at 365 nm) | ≤ 1,0 ppb |  |
| Transmission (at 290 nm) | ≥ 20 % |  |
| Transmission (at 295 nm) | ≥ 65 % |  |
| Transmission (from 305 nm) | ≥ 85 % |  |
| Absorbance (at 290 nm) | ≤ 0,7 |  |
| Absorbance (at 295 nm) | ≤ 0,19 |  |
| Absorbance (from 305 nm) | ≤ 0,07 |  |

**12.1 Toluen pro GC/ECD**

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| **Specifikace** | **12.1 Toluen GC/ECD** |
| Purity (GC.,HPLC) | min. 99,8 % |
| Evaporation residue | ≤ 3 mg/l |
| Water | ≤ 0,03% |
| Colour | ≤ 10 Hazen |
| GC/ECD*, ( v ret.čase od trichlorbenzenu do decachlorbifenylu interference na lindan)* | ≤ 3 pg/ml |
| GC/FID *(v ret.čase od uhlovodíku n- C11 - minimálně do n -C30 interference na tetradekan)* | ≤ 3 ng/ml |
|  |  |
| Pozn.: | pro ultrastopovou analýzu GC/ECD |