

## BPX-DXN(ダイオキシン類用分析カラム) 性能評価試験レポート

P/N : 054234

Test Date : 15/Jun/2026

Data ID : 2606151SZ0024

### 【測定機器】

Agilent 8890 GC / 7010B GC/TQ (Agilent Technologies)

### 【GC 条件】

オープン温度 : 130°C(1 min)→15°C/min→210°C→3°C/min→290°C→10°C/min→330°C(9 min hold)

注入法 : スプリットレス 2μL 注入

キャリアーガス : ヘリウム(純度&gt;99.9999%) 流速 1.0 mL/min

### 【MS 条件】

イオン化法 : EI

イオン源温度 : 350°C

イオン化電圧 : 70 eV

四重極温度(MS1、MS2) : 150°C

イオン化電流 : 100 μA

インターフェース温度 : 290°C

### 【PCDD/PCDF 標準品】

Native : Dioxin/Furan Native Mix All 17(EDF-5493, CIL)

Mass-Labelled : Two Column Dioxin &amp; Furan &amp; PCB Cleanup Spike (EDF-5444, CIL)

: 1, 2, 3, 4, 7-Pentachloro[<sup>13</sup>C<sub>12</sub>]dibenzo-*p*-dioxin(ED-4076, CIL)

: 1, 2, 3, 4-Tetrachloro[<sup>13</sup>C<sub>12</sub>]dibenzofuran(MDF-1234, Wellington Lab.)

: 1, 2, 3, 4, 6, 8, 9-Heptachloro[<sup>13</sup>C<sub>12</sub>]dibenzofuran(MDF-1234689-1, Wellington Lab.)

上記を decane で希釈調製して使用

\*CIL : Cambridge Isotope Laboratories, Wellington Lab. : Wellington Laboratories

### 測定質量数

| Native | 測定質量(1)   |         | 測定質量(2)   |         | Mass-Labelled                         | 測定質量(1)   |         | 測定質量(2)   |         |
|--------|-----------|---------|-----------|---------|---------------------------------------|-----------|---------|-----------|---------|
|        | Precursor | Product | Precursor | Product |                                       | Precursor | Product | Precursor | Product |
| TeCDDs | 321.9     | 258.9   | 319.9     | 256.9   | <sup>13</sup> C <sub>12</sub> -TeCDDs | 333.9     | 269.9   | 331.9     | 267.9   |
| PeCDDs | 355.9     | 292.9   | 353.9     | 290.9   | <sup>13</sup> C <sub>12</sub> -PeCDDs | 367.9     | 303.9   | 365.9     | 301.9   |
| HxCDDs | 389.8     | 326.8   | 391.8     | 328.8   | <sup>13</sup> C <sub>12</sub> -HxCDDs | 401.9     | 337.9   | 403.9     | 339.9   |
| HpCDDs | 423.8     | 360.8   | 425.8     | 362.8   | <sup>13</sup> C <sub>12</sub> -HpCDDs | 435.8     | 371.8   | 437.8     | 373.8   |
| OCDD   | 459.7     | 396.7   | 457.7     | 394.7   | <sup>13</sup> C <sub>12</sub> -OCDD   | 471.8     | 407.8   | 469.8     | 405.8   |
| TeCDFs | 305.9     | 242.9   | 303.9     | 240.9   | <sup>13</sup> C <sub>12</sub> -TeCDFs | 317.9     | 253.9   | 315.9     | 251.9   |
| PeCDFs | 339.9     | 276.9   | 337.9     | 274.9   | <sup>13</sup> C <sub>12</sub> -PeCDFs | 351.9     | 287.9   | 349.9     | 285.9   |
| HxCDFs | 373.8     | 310.8   | 375.8     | 312.8   | <sup>13</sup> C <sub>12</sub> -HxCDFs | 385.9     | 321.9   | 387.9     | 323.9   |
| HpCDFs | 407.8     | 344.8   | 409.8     | 346.8   | <sup>13</sup> C <sub>12</sub> -HpCDFs | 419.8     | 355.8   | 421.8     | 357.8   |
| OCDF   | 443.7     | 380.7   | 441.7     | 378.7   | <sup>13</sup> C <sub>12</sub> -OCDF   | 455.8     | 391.8   | 453.8     | 389.8   |

| No. | Name                | プロダクトイオン |         | RT   | 面積      |         |
|-----|---------------------|----------|---------|------|---------|---------|
|     |                     | 測定質量(1)  | 測定質量(2) |      | 測定質量(1) | 測定質量(2) |
| 1   | 1368-TeCDD          | 258.9    | 256.9   | 25.7 | 45415   | 47373   |
| 2   | 1379-TeCDD          | 258.9    | 256.9   | 26.0 | 44291   | 47340   |
| 3   | 2378-TeCDD          | 258.9    | 256.9   | 28.3 | 41641   | 43865   |
| 4   | 12378-PeCDD         | 292.9    | 290.9   | 33.0 | 28630   | 22637   |
| 5   | 123478-HxCDD        | 326.8    | 328.8   | 36.6 | 34484   | 21681   |
| 6   | 123678-HxCDD        | 326.8    | 328.8   | 36.7 | 33653   | 21562   |
| 7   | 123789-HxCDD        | 326.8    | 328.8   | 36.9 | 35140   | 22013   |
| 8   | 1234678-HpCDD       | 360.8    | 362.8   | 39.7 | 25192   | 20245   |
| 9   | OCDD                | 396.7    | 394.7   | 42.9 | 31943   | 33306   |
| 10  | 1368-TeCDF          | 242.9    | 240.9   | 24.7 | 81370   | 86852   |
| 11  | 2378-TeCDF          | 242.9    | 240.9   | 27.8 | 66175   | 69649   |
| 12  | 12378-PeCDF         | 276.9    | 274.9   | 31.7 | 50182   | 39276   |
| 13  | 23478-PeCDF         | 276.9    | 274.9   | 32.8 | 51053   | 40254   |
| 14  | 123478-HxCDF        | 310.8    | 312.8   | 35.8 | 58258   | 37309   |
| 15  | 123678-HxCDF        | 310.8    | 312.8   | 36.0 | 58286   | 37290   |
| 16  | 234678-HxCDF        | 310.8    | 312.8   | 36.5 | 59080   | 37469   |
| 17  | 123789-HxCDF        | 310.8    | 312.8   | 37.4 | 48652   | 30867   |
| 18  | 1234678-HpCDF       | 344.8    | 346.8   | 38.6 | 41012   | 32549   |
| 19  | 1234789-HpCDF       | 344.8    | 346.8   | 40.4 | 30625   | 24854   |
| 20  | OCDF                | 380.7    | 378.7   | 43.3 | 32389   | 34196   |
| 21  | 13C12-2378-TeCDD    | 269.9    | 267.9   | 28.3 | 33205   | 36515   |
| 22  | 13C12-12347-PeCDD   | 303.9    | 301.9   | 32.5 | 21136   | 17056   |
| 23  | 13C12-12378-PeCDD   | 303.9    | 301.9   | 33.0 | 24558   | 18838   |
| 24  | 13C12-123478-HxCDD  | 337.9    | 339.9   | 36.6 | 14944   | 9688    |
| 25  | 13C12-123678-HxCDD  | 337.9    | 339.9   | 36.7 | 14921   | 9732    |
| 26  | 13C12-123789-HxCDD  | 337.9    | 339.9   | 36.9 | 16837   | 10753   |
| 27  | 13C12-1234678-HpCDD | 371.8    | 373.8   | 39.7 | 11212   | 8770    |
| 28  | 13C12-OCDD          | 407.8    | 405.8   | 42.9 | 12460   | 12955   |
| 29  | 13C12-1368-TeCDF    | 253.9    | 251.9   | 24.7 | 76536   | 81716   |
| 30  | 13C12-1234-TeCDF    | 253.9    | 251.9   | 26.9 | 61437   | 66636   |
| 31  | 13C12-2378-TeCDF    | 253.9    | 251.9   | 27.8 | 52398   | 56130   |
| 32  | 13C12-12378-PeCDF   | 287.9    | 285.9   | 31.7 | 40460   | 33268   |
| 33  | 13C12-23478-PeCDF   | 287.9    | 285.9   | 32.8 | 41211   | 33337   |
| 34  | 13C12-123478-HxCDF  | 321.9    | 323.9   | 35.8 | 27282   | 16923   |
| 35  | 13C12-123678-HxCDF  | 321.9    | 323.9   | 35.9 | 26289   | 16298   |
| 36  | 13C12-234678-HxCDF  | 321.9    | 323.9   | 36.5 | 26737   | 16892   |
| 37  | 13C12-123789-HxCDF  | 321.9    | 323.9   | 37.4 | 22262   | 13951   |
| 38  | 13C12-1234678-HpCDF | 355.8    | 357.8   | 38.6 | 16588   | 13032   |
| 39  | 13C12-1234689-HpCDF | 355.8    | 357.8   | 39.1 | 15874   | 12962   |
| 40  | 13C12-1234789-HpCDF | 355.8    | 357.8   | 40.4 | 13860   | 10890   |
| 41  | 13C12-OCDF          | 391.8    | 389.8   | 43.3 | 13212   | 13962   |









