



# 測試報告

## Test Report

號碼(No.): ETR24800291

日期(Date): 12-Aug-2024

頁數(Page): 1 of 50

乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as) :

送樣廠商(Sample Submitted By) : 乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

樣品名稱(Sample Name) : PVC BOOT (PVC護套)

收件日(Sample Receiving Date) : 02-Aug-2024

測試期間(Testing Period) : 02-Aug-2024 to 09-Aug-2024

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)

| 測試需求(Test Requested)  | 總結(Summary)                   |
|---|-------------------------------|
| <p>依據客戶要求，評估所選樣品中特定PFAS的風險。被評估的PFAS總項目數量為436項，包括131項檢測項和305項列表項 (see remark)。評估結果的總結請參考右表。(As requested by the client, the risk of specific PFAS in the selected sample is evaluated. The total amounts of evaluated PFAS are 436 items, concluding 131 tested items and 305 listed items (see remark). The summary of evaluated results are displayed in right table.)</p> | <p>未檢出<br/>(Not Detected)</p> |

*Troy Chang*

Troy Chang / Department Manager

Signed for and on behalf of

SGS TAIWAN LTD.

Chemical Laboratory - Taipei



PIN CODE: 4EEA9468

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## 測試部位敘述 (Test Part Description)

No.1 : 藍色塑膠 (BLUE PLASTIC)

## 測試結果 (Test Results)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 全氟/多氟烷基物質 (PFAS)  |   |              |      |                |
| PFHxA及其鹽類 (PFHxA and its salts)   |   |              |      |                |
| 全氟己酸及其鹽類 (PFHxA and its salts) (Perfluorohexane acid and its salts) (CAS No.: 307-24-4 and its salts)                                       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| PFHxA相關化合物 (PFHxA related compounds)  |   |              |      |                |
| 1H,1H,2H,2H-全氟-1-辛醇 (6:2 FTOH) (1H,1H,2H,2H-Perfluoro-1-octanol (6:2FTOH)) (CAS No.: 647-42-7)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟辛基丙烯酸酯 (6:2 FTA) (1H,1H,2H,2H-Perfluorooctylacrylate (6:2FTA)) (CAS No.: 17527-29-6)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟辛基甲基丙烯酸酯(6_2 FTMAC) (1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMAC)) (CAS No.: 2144-53-8)                                | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟辛磺酸及其鹽類 (6:2 FTS and its salts) (1H,1H,2H,2H-Perfluorooctanesulphonic acid and its salts) (CAS No.: 27619-97-2 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| 1-碘-1H,1H,2H,2H-全氟辛烷 (6:2 FTI)<br>(1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-8-iodooctane (6:2 FTI)) (CAS No.: 2043-57-4)              | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟己基碘 (PFHxI) (Perfluorohexyl iodide (PFHxI)) (CAS No.: 355-43-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2  | n.d.           |
| 全氟己基乙烯 (PFHxE) (Perfluorohexyl ethylene (PFHxE)) (CAS No.: 25291-17-2)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 1    | n.d.           |
| <b>PFHxS及其鹽類 (PFHxS and its salts)</b>   |   |              |      |                |
| 全氟己基磺酸及其鹽類 (PFHxS and its salts) (Perfluorohexane sulfonate and its salts (PFHxS and its salts)) (CAS No.: 355-46-4 and its salts)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| <b>PFHxS相關化合物 (PFHxS related compounds)</b>  |   |              |      |                |
| N-甲基全氟-1-己烷磺醯胺 (N-MeFHxSA) (N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA)) (CAS No.: 68259-15-4)                                | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟己烷磺醯胺 (PFHxSA) (Perfluorohexane sulfonamide (PFHxSA)) (CAS No.: 41997-13-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-[3-(二甲基氨基)丙基]十三氟己烷磺醯胺 (N-AP-FHxSA) (N-[3-(dimethylamino)propyl]tridecafluorohexanesulphonamide (N-AP-FHxSA)) (CAS No.: 50598-28-2) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| 2-[甲基[(十三氟己基)磺醯基]氨基]丙烯酸乙酯 (N-MeFHSEA) (2-[Methyl[(tridecafluorohexyl)sulphonyl]amino]ethyl acrylate (N-MeFHSEA)) (CAS No.: 67584-57-0)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2  | n.d.           |
| 2-[甲基[(十三氟己基)磺醯基]氨基]乙基甲基丙烯酸酯 (2-Propenoic acid, 2-methyl-, 2-[methyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester) (CAS No.: 67584-61-6)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 2-[乙基[(十三氟己基)磺醯基]氨基]乙基甲基丙烯酸酯 (2-Propenoic acid, 2-methyl-, 2-[ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester) (CAS No.: 67906-70-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 十三氟-N-(2-羥基乙基)-N-甲基己烷磺醯胺 (MeFHxSE) (1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-(MeFHxSE)) (CAS No.: 68555-75-9)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-乙基-N-[(十三氟己基)磺醯基]甘氨酸及其鹽類 (EtFHxSAA and its salts) (Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] and its salts (EtFHxSAA and its salts)) (CAS No.: 68957-32-4 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| <b>PFOS及其鹽類 (PFOS and its salts)</b>   |   |              |      |                |
| 全氟辛烷磺酸及其鹽類 (PFOS and its salts) (Perfluorooctane sulfonates and its salts) (CAS No.: 1763-23-1 and its salts)            | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| <b>PFOS相關化合物 (PFOS related compounds)</b>  |   |              |      |                |
| N-乙基全氟正辛磺醯胺 (EtFOSA) (N-ethylperfluoro-1-octanesulfonamide (EtFOSA)) (CAS No.: 4151-50-2)                                | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-甲基全氟正辛磺醯胺 (N-Me-FOSA) (N-Methyl-Perfluorooctanesulfonamide (N-Me-FOSA)) (CAS No.: 31506-32-8)                          | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-乙基全氟辛基磺醯胺乙醇 (N-Et-FOSE alcohol) (N-Ethyl-Perfluorooctanesulfonamidoethanol (N-Et-FOSE alcohol)) (CAS No.: 1691-99-2)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-甲基全氟辛基磺醯胺乙醇 (N-Me-FOSE alcohol) (N-Methyl-Perfluorooctanesulfonamidoethanol (N-Me-FOSE alcohol)) (CAS No.: 24448-09-7) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟辛基磺醯胺及其鹽類 (PFOSA and its salts) (Perfluorooctanesulfonamide and its salts) (CAS No.: 754-91-6 and its salts)           | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| <b>PFOA及其鹽類 (PFOA and its salts)</b>   |   |              |      |                |
| 全氟辛酸及其鹽類 (PFOA and its salts) (Perfluorooctanoic acid and its salts) (CAS No.: 335-67-1 and its salts)                   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| <b>PFOA相關化合物 (PFOA related compounds)</b>  |   |              |      |                |
| 全氟辛酸甲酯 (Me-PFOA) (Methyl perfluorooctanoate (Me-PFOA)) (CAS No.: 376-27-2)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 全氟辛酸乙酯 (Et-PFOA) (Ethyl perfluorooctanoate (Et-PFOA)) (CAS No.: 3108-24-5)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 全氟辛基碘烷 (PFOI) (Perfluoro-1-iodooctane (PFOI)) (CAS No.: 507-63-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 3-全氟庚基丙酸 (7:3 FTCA) (3-Perfluoroheptyl propanoic acid (7:3 FTCA)) (CAS No.: 812-70-4)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟癸磺酸及其鹽類 (8:2 FTS and its salts) (1H,1H,2H,2H-Perfluorodecanesulfonic acid and its salts (8:2 FTS and its salts)) (CAS No.: 39108-34-4 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟-1-癸醇 (8:2 FTOH) (1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)) (CAS No.: 678-39-7)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟癸基丙烯酸酯 (8:2 FTA) (1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)) (CAS No.: 27905-45-9)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

日期(Date): 12-Aug-2024

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 1H,1H,2H,2H-全氟癸基甲基丙烯酸酯 (8:2 FTMA) (1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)) (CAS No.: 1996-88-9)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 2H,2H-全氟癸酸及其鹽類 (H2PFDA and its salts) (2H,2H-Perfluorodecane acid and its salts) (CAS No.: 27854-31-5 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟癸基碘 (8_2 FTI) (1H,1H,2H,2H-Perfluorodecyl iodide (8_2 FTI)) (CAS No.: 2043-53-0)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十七烷三甲基氧矽烷(8:2 FTSi(OC2H5)3) (1H,1H,2H,2H-Perfluorodecyltriethoxysilane (8:2 FTSi(OC2H5)3)) (CAS No.: 101947-16-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 2H,2H,3H,3H-全氟癸酸及其鹽類 (4HPFUnA and its salts) (2H,2H,3H,3H-Perfluoroundecanoic Acid and its salts (4HPFUnA and its salts)) (CAS No.: 34598-33-9 and its salts)           | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H-全氟-1-癸烯 (PFDE) (1H,1H,2H-Heptadecafluoro-1-decene (PFDE)) (CAS No.: 21652-58-4)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 雙(1H,1H,2H,2H-全氟癸基)磷酸酯及其鹽類 (8_2diPAP and its salts) (Bis(1H,1H,2H,2H-Perfluorodecyl)phosphate and its salts (8_2diPAP and its salts)) (CAS No.: 678-41-1 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| C9-C20 PFCAs及其鹽類與相關化合物<br>(C9-C20 PFCAs its salts and related compounds)   |   |              |      |                |
| 1H,1H,2H,2H-全氟癸磺酸及其鹽類 (8:2 FTS and its salts) (1H,1H,2H,2H-Perfluorodecanesulfonic acid and its salts (8:2 FTS and its salts)) (CAS No.: 39108-34-4 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟-1-癸醇 (8:2 FTOH) (1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)) (CAS No.: 678-39-7)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟癸基丙烯酸酯 (8:2 FTA) (1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)) (CAS No.: 27905-45-9)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟癸基甲基丙烯酸酯 (8:2 FTMA) (1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)) (CAS No.: 1996-88-9)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 2H,2H-全氟癸酸及其鹽類 (H2PFDA and its salts) (2H,2H-Perfluorodecane acid and its salts (H2PFDA and its salts)) (CAS No.: 27854-31-5 and its salts)                        | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟癸基碘 (8_2 FTI) (1H,1H,2H,2H-Perfluorodecyl iodide (8_2 FTI)) (CAS No.: 2043-53-0)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十七烷三甲基氧矽烷(8:2 FTSi(OC2H5)3) (1H,1H,2H,2H-Perfluorodecyltriethoxysilane (8:2 FTSi(OC2H5)3)) (CAS No.: 101947-16-4)                                    | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 2H,2H,3H,3H-全氟癸酸及其鹽類<br>(4HPFUnA and its salts) (2H,2H,3H,3H-Perfluoroundecanoic Acid and its salts (4HPFUnA and its salts)) (CAS No.: 34598-33-9 and its salts)              | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H-全氟-1-癸烯 (PFDE)<br>(1H,1H,2H-Heptadecafluoro-1-decene (PFDE)) (CAS No.: 21652-58-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 雙(1H,1H,2H,2H-全氟癸基)磷酸酯及其鹽類<br>(8_2diPAP and its salts)<br>(Bis(1H,1H,2H,2H-Perfluorodecyl)phosphate and its salts (8_2diPAP and its salts)) (CAS No.: 678-41-1 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟壬酸及其鹽類 (PFNA and its salts)<br>(Perfluorononan-1-oic acid and its salts (PFNA and its salts)) (CAS No.: 375-95-1 and its salts)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟-3,7-二甲基辛酸 (PF-3,7-DMOA)<br>(Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)) (CAS No.: 172155-07-6)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟癸酸及其鹽類 (PFDA and its salts)<br>(Perfluorodecane acid and its salts (PFDA and its salts)) (CAS No.: 335-76-2 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟十一烷酸及其鹽類 (PFUnDA and its salts)<br>(Perfluoroundecanoic acid and its salts (PFUnDA and its salts)) (CAS No.: 2058-94-8 and its salts)                                       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 全氟十二烷酸及其鹽類 (PFDoDA and its salts) (Perfluorododecanoic acid and its salts) (CAS No.: 307-55-1 and its salts)                                | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 全氟癸烷磺酸及其鹽類 (PFDS and its salts) (Perfluorodecane sulfonate and its salts) (CAS No.: 335-77-3 and its salts)                                 | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 全氟十三烷酸及其鹽類 (PFTrDA and its salts) (Pentacosfluorotridecanoic acid and its salts) (PFTrDA and its salts) (CAS No.: 72629-94-8 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 全氟十四烷酸及其鹽類 (PFTDA and its salts) (Perfluorotetradecanoic acid and its salts) (PFTDA and its salts) (CAS No.: 376-06-7 and its salts)        | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟-1-十二醇 (10:2 FTOH) (1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2FTOH)) (CAS No.: 865-86-1)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十二烷基丙烯酸酯 (10:2 FTA) (1H,1H,2H,2H-Perfluorododecylacrylate (10:2FTA)) (CAS No.: 17741-60-5)                                    | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十二烷基甲基丙烯酸酯 (10:2 FTMA) (1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)) (CAS No.: 2144-54-9)                           | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十四烷基醇 (12:2 FTOH) (1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)) (CAS No.: 39239-77-5)                                    | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 1H,1H,2H,2H-全氟十二烷磺酸及其鹽類 (10:2 FTS and its salts) (1H,1H,2H,2H-Perfluorododecane sulfonic acid and its salts) (CAS No.: 120226-60-0 and its salts)               | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟十二烷基碘 (10:2 FTI) (1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI)) (CAS No.: 2043-54-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟十四烷基碘 (12:2 FTI) (1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI)) (CAS No.: 30046-31-2)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟壬烷磺酸及其鹽類 (PFNS and its salts) (Perfluorononane sulfonic acid and its salts) (PFNS and its salts) (CAS No.: 68259-12-1 and its salts)                          | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟十一烷磺酸及其鹽類 (PFUnDS and its salts) (Perfluoroundecane sulfonic acid and its salts) (PFUnDS and its salts) (CAS No.: 749786-16-1 and its salts)                  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟十二烷磺酸及其鹽類 (PFDoDS and its salts) (Perfluorododecane sulfonic acid and its salts) (PFDoDS and its salts) (CAS No.: 79780-39-5 and its salts)                   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟十三烷磺酸及其鹽類 (PFTrDS and its salts) (Perfluorotridecane sulfonic acid and its salts) (PFTrDS and its salts) (CAS No.: 791563-89-8 and its salts)                 | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 雙[2-(全氟癸基)乙基]磷酸鹽及其鹽類 (10:2 diPAP and its salts) (10:2 Fluortelomerphosphatediester and its salts) (10:2 diPAP and its salts) (CAS No.: 1895-26-7 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 全氟碘代十二烷 (PFDoDI)<br>(Perfluorododecyl iodide (PFDoDI))<br>(CAS No.: 307-60-8)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 1-碘全氟癸烷 (PFDI) (Perfluorodecyl iodide (PFDI)) (CAS No.: 423-62-1)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟十五烷酸及其鹽類 (PFPeDA and its salts, C15) (Perfluoropentadecanoic acid and its salts (PFPeDA and its salts, C15)) (CAS No.: 141074-63-7 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 全氟十六烷酸及其鹽類 (PFHxDA and its salts, C16) (Perfluorohexadecanoic acid and its salts (PFHxDA and its salts, C16)) (CAS No.: 67905-19-5 and its salts)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟十八烷酸及其鹽類 (PFODA and its salts, C18) (Perfluorooctadecanoic acid and its salts (PFODA and its salts, C18)) (CAS No.: 16517-11-6 and its salts)     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| <b>其他PFAS (Other PFAS)</b>  |   |              |      |                |
| 全氟丁酸及其鹽類 (PFBA and its salts) (Perfluorobutane acid and its salts (PFBA and its salts)) (CAS No.: 375-22-4 and its salts)                           | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟丁磺酸及其鹽類 (PFBS and its salts) (Perfluorobutane sulfonate and its salts (PFBS and its salts)) (CAS No.: 375-73-5 and its salts)                     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟丁磺醯胺 (Perfluorobutane sulfon amides) (CAS No.: 30334-69-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| N-(2-羥乙基)-N-甲基全氟丁烷磺醯胺 (PFBS-NC3H8O) (1,1,2,2,3,3,4,4,4-nonafluoro-N-(2-hydroxyethyl)-N-methylbutane-1-sulphonamide (PFBS-NC3H8O)) (CAS No.: 34454-97-2) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-甲基丙烯酸全氟己酯 (4:2 FTMA) (1H,1H,2H,2H-Perfluorohexyl methacrylate (4:2 FTMA)) (CAS No.: 1799-84-4)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟戊酸及其鹽類 (PFPA and its salts) (Perfluoropentane acid and its salts (PFPA and its salts)) (CAS No.: 2706-90-3 and its salts)                             | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟庚酸及其鹽類 (PFHpA and its salts) (Perfluoroheptane acid and its salts (PFHpA and its salts)) (CAS No.: 375-85-9 and its salts)                            | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 7H-十二氟庚酸及其鹽類 (HPFHpA and its salts) (7H-Dodecanefluoroheptane acid and its salts (HPFHpA and its salts)) (CAS No.: 1546-95-8 and its salts)             | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟庚基磺酸及其鹽類 (PFHpS and its salts) (Perfluoroheptane sulfonate and its salts (PFHpS and its salts)) (CAS No.: 375-92-8 and its salts)                     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟-3-甲氧基丙酸 (PFMPA) (Perfluoro-3-methoxypropanoic acid (PFMPA)) (CAS No.: 377-73-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟 4-甲氧基丁酸 (PFMBA) (Perfluoro-4-methoxybutanoic acid (PFMBA)) (CAS No.: 863090-89-5)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 全氟-3,6-二氧雜庚酸 (NFDHA)<br>(Nonafluoro-3,6-dioxaheptanoic acid<br>(NFDHA)) (CAS No.: 151772-58-6)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.)                       | mg/kg        | 0.01 | n.d.           |
| 4,8-二氧雜-3H-全氟壬酸及其鹽類<br>(ADONA and its salts) (4,8-Dioxa-3H-<br>perfluorononanoic acid and its salts<br>(ADONA and its salts)) (CAS No.:<br>919005-14-4 and its salts)                                     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.)                       | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟-1-己醇 (4:2 FTOH)<br>(1H,1H,2H,2H-Perfluoro-1-hexanol<br>(4:2FTOH)) (CAS No.: 2043-47-2)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分<br>析。(Modified EN 17681-1: 2022 & EN<br>17681-2: 2022, analysis was performed by<br>GC/MS and LC/MS/MS.) | mg/kg        | 0.4  | n.d.           |
| 2,3,3,3-四氟-2-(七氟丙氧基)丙酸及其鹽類<br>(HFPO-DA and its salts) (2,3,3,3-<br>tetrafluoro-2-<br>(heptafluoropropoxy)propionic acide<br>and its salts (HFPO-DA and its salts))<br>(CAS No.: 13252-13-6 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.)                       | mg/kg        | 0.01 | n.d.           |
| 1H,1H,2H,2H-全氟己磺酸及其鹽類 (4:2<br>FTS and its salts) (1H,1H,2H,2H-<br>Perfluorohexanesulfonic acid and its<br>salts (4:2 FTS and its salts)) (CAS No.:<br>757124-72-4 and its salts)                          | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.)                       | mg/kg        | 0.01 | n.d.           |
| 全氟辛烷磺酰胺乙酸及其鹽類 (FOSAA<br>and its salts) (Perfluorooctane<br>sulfonamidoacetic acid and its salts<br>(FOSAA and its salts)) (CAS No.: 2806-<br>24-8 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.)                       | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| N-甲基全氟辛烷磺酰胺乙酸及其鹽類 (N-MeFOSAA and its salts) (N-methylperfluorooctane sulfonamidoacetic acid and its salts) (CAS No.: 2355-31-9 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| N-乙基全氟辛烷磺酰胺乙酸及其鹽類 (N-EtFOSAA and its salts) (N-ethylperfluorooctane sulfonamidoacetic acid and its salts) (CAS No.: 2991-50-6 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟戊磺酸及其鹽類 (PFPeS and its salts) (Perfluoropentane sulfonic acid and its salts) (CAS No.: 2706-91-4 and its salts)                             | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 3-全氟丙基丙酸 (3:3 FTCA) (3-Perfluoropropyl propanoic acid (3:3 FTCA)) (CAS No.: 356-02-5)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2-全氟己基乙酸 (6:2 FTCA) (2-Perfluorohexyl ethanoic acid (6:2 FTCA)) (CAS No.: 53826-12-3)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 3-全氟戊基丙酸 (5:3 FTCA) (3-Perfluoropentyl propanoic acid (5:3 FTCA)) (CAS No.: 914637-49-3)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 全氟(2-乙氧基乙烷)磺酸 (PFEEESA) (Perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)) (CAS No.: 113507-82-7)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

日期(Date): 12-Aug-2024

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)   | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|--|---|--------------|------|----------------|
|  |   |              |      | No.1           |
| 9-氟十六氟-3-氧雜壬烷-1-磺酸及其鹽類 (9Cl-PF3ONS and its salts) (9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid and its salts (9Cl-PF3ONS and its salts)) (CAS No.: 756426-58-1 and its salts)       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 11-氟二十氟-3-氧雜十一烷-1-磺酸及其鹽類 (11Cl-PF3OUdS and its salts) (11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid and its salts (11Cl-PF3OUdS and its salts)) (CAS No.: 763051-92-9 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2-(N-乙基全氟辛烷磺醯胺基)丙烯酸乙酯 (EtFOSAC) (2-(N-ethylperfluorooctanesulfamido)ethyl acrylate (EtFOSAC)) (CAS No.: 423-82-5)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟辛基三乙氧基矽烷 (POTS) (Perfluorooctyl triethoxysilane (POTS)) (CAS No.: 51851-37-7)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 11H-全氟十一烷酸及其鹽類 (11H-PFUnDA and its salts) (11H-Perfluoroundecanoic acid and its salts (11H-PFUnDA and its salts)) (CAS No.: 1765-48-6 and its salts)                                       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 五氟丙酸及其鹽類 (PFPrA and its salts) (Pentafluoropropionate acid and its salts (PFPrA and its salts)) (CAS No.: 422-64-0 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 1H,1H,2H,2H-全氟癸基三氯矽烷<br>(1H,1H,2H,2H-Perfluorodecyltrichlorosilane) (CAS No.: 78560-44-8)     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟癸基三甲氧基矽烷<br>(1H,1H,2H,2H-Perfluorodecyltrimethoxysilane) (CAS No.: 83048-65-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      |              |      |                |
| 1H,1H,2H,2H-全氟辛基三氯矽烷<br>(1H,1H,2H,2H-Perfluorooctyltrichlorosilane) (CAS No.: 78560-45-9)     | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 1H,1H,2H,2H-全氟癸基甲基二氯矽烷<br>(1H,1H,2H,2H-Perfluorodecylmethylchlorosilane) (CAS No.: 3102-79-2) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 2H-全氟-2-癸烯酸 (8:2 FTUCA) (2H-Perfluoro-2-decenoic acid (8:2 FTUCA)) (CAS No.: 70887-84-2)      | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2H-全氟-2-辛烯酸 (6:2 FTUCA) (2H-Perfluoro-2-octenoic acid (6:2 FTUCA)) (CAS No.: 70887-88-6)      | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2H-全氟-2-十二烯酸 (10:2 FTUCA) (2H-Perfluoro-2-dodecenoic acid (10:2 FTUCA)) (CAS No.: 70887-94-4) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2-全氟癸基乙酸 (10:2 FTCA) (2-Perfluorodecyl ethanoic acid (10:2 FTCA)) (CAS No.: 53826-13-4)       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 6:6 全氟次磷酸及其鹽類 (6:6 PFPi and its salts) (6:6 Perfluorophosphinic acid and its salts) (CAS No.: 40143-77-9 and its salts)                       | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 6:8全氟次磷酸 (6:8 PFPi) (6:8 Perfluorophosphinic acid (6:8 PFPi)) (CAS No.: 610800-34-5)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 8:8全氟次磷酸及其鹽類 (8:8 PFPi and its salts) (8:8 Perfluorophosphinic acid and its salts) (CAS No.: 40143-79-1 and its salts)                        | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 2-全氟辛基乙基乙酸酯 (8:2 FTOAc) (1H,1H,2H,2H-Heptadecafluorodecyl acetate (8:2 FTOAc)) (CAS No.: 37858-04-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 單[2-(全氟乙烷)乙基]磷酸鹽及其鹽類 (6:2 monoPAP and its salts) (Mono[2-(perfluorohexyl)ethyl] Phosphate and its salts) (CAS No.: 57678-01-0 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 單-[2-(全氟辛基)乙基]磷酸酯及其鹽類 (8:2 monoPAP and its salts) (Mono-[2-(perfluorooctyl)ethyl]phosphate and its salts) (CAS No.: 57678-03-2 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1  | n.d.           |
| 2-碘-1H,1H,1H,2H,3H,3H-全氟壬烷 (2-Iodo-1H,1H,1H,2H,3H,3H-perfluorononane) (CAS No.: 38550-34-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2  | n.d.           |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL | 結果<br>(Result) |
|---|---|--------------|-----|----------------|
|   |   |              |     | No.1           |
| N-[3-(二甲基氨基)丙基]-3,3,4,4,5,5,6,6,7,7,8,8,8-十三氟辛基磺醯胺N-氧化物 (N-[3-(dimethylamino)propyl]-3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctanesulphonamide N-oxide) (CAS No.: 80475-32-7) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1 | n.d.           |
| 硫氰酸, 3,3,4,4,5,5,6,6,7,7,8,8,8-十三氟辛酯 (Thiocyanic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester) (CAS No.: 26650-09-9)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2 | n.d.           |
| 2H,2H,3H,3H-全氟壬酸 (6:3 FTCA) (2H,2H,3H,3H-Perfluorononanoic acid (6:3 FTCA)) (CAS No.: 27854-30-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.) | mg/kg        | 0.1 | n.d.           |
| 1H,1H,2H,2H-全氟辛硫醇(6:2 FTSH) (1H,1H,2H,2H-Perfluorooctanethiol (6:2 FTSH)) (CAS No.: 34451-26-8)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2 | n.d.           |
| 1H,1H,2H,2H-全氟辛基二甲基氯矽烷 (6:2 FTSiMe2Cl) (1H,1H,2H,2H-Perfluorooctyldimethylchlorosilane (6:2 FTSiMe2Cl)) (CAS No.: 102488-47-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2 | n.d.           |
| 1-碘-1H,1H-全氟庚烷 (6:1 FTI) (1-Iodo-1H,1H-Perfluoroheptane (6:1 FTI)) (CAS No.: 212563-43-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2 | n.d.           |
| 1H,1H,2H,2H,3H,3H-全氟壬基碘化物 (6:3 FTI) (3-(Perfluorohexyl)propyl iodide (6:3 FTI)) (CAS No.: 89889-20-3)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)      | mg/kg        | 0.2 | n.d.           |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL | 結果<br>(Result) |
|---|---|--------------|-----|----------------|
|   |   |              |     | No.1           |
| 1H,1H,2H,2H-全氟辛烷磷酸及其鹽類 (6:2 FTPA and its salts) (1H,1H,2H,2H-Perfluorooctanephosphonic acid and its salts) (CAS No.: 252237-40-4 and its salts) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by LC/MS/MS.)                   | mg/kg        | 0.1 | n.d.           |
| 十一氟正己烷-1-醇 (5:1 FTOH) (1H,1H-perfluorohexan-1-ol (5:1 FTOH)) (CAS No.: 423-46-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.2 | n.d.           |
| 全氟-1-庚醇 (6:1 FTOH) (1H,1H-perfluoro-1-heptanol (6:1 FTOH)) (CAS No.: 375-82-6)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.2 | n.d.           |
| 3-全氟己基丙醇 (6:3 FTOH) (3-(perfluorohexyl)propanol (6:3 FTOH)) (CAS No.: 80806-68-4)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.2 | n.d.           |
| 3,3,4,4,5,5,6,6,7,7,7-十一氟-2-庚醇 (3,3,4,4,5,5,6,6,7,7,7-undecafluoro-2-heptanol) (CAS No.: 914637-05-1)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀及液相層析串聯質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS and LC/MS/MS.) | mg/kg        | 0.2 | n.d.           |
| 全氟己基辛烷 (1-(perfluorohexyl)octane) (CAS No.: 133331-77-8)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.2 | n.d.           |
| 1H,1H-全氟庚基胺 (6:1 FTNH <sub>2</sub> ) (1H,1H-Perfluoroheptylamine (6:1 FTNH <sub>2</sub> )) (CAS No.: 423-49-4)                                  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.)                        | mg/kg        | 0.2 | n.d.           |

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# 測試報告

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)  | 單位<br>(Unit) | MDL  | 結果<br>(Result) |
|---|---|--------------|------|----------------|
|   |   |              |      | No.1           |
| 1-十二烷醇,<br>3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,<br>12-二十二碳氟-, 1-醋酸鹽 (10:2 FTOAc)<br>(1-Dodecanol,<br>3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,<br>12-heneicosafuoro-, 1-acetate (10:2<br>FTOAc)) (CAS No.: 37858-05-2) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by GC/MS.)      | mg/kg        | 0.1  | n.d.           |
| 全氟-2,5-二甲基-3,6-二氧雜壬酸及其鹽類<br>(HFPO-TA and its salts) (Perfluoro-2,5-<br>dimethyl-3,6-dioxanonanoic acid and<br>its salts (HFPO-TA and its salts)) (CAS<br>No.: 13252-14-7 and its salts)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.) | mg/kg        | 0.2  | n.d.           |
| 五氟乙烷磺酸 (PFtS)<br>(Pentafluoroethane sulfonic acid<br>(PFtS)) (CAS No.: 354-88-1)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 雙[2 - (全氟己基)乙基]磷酸鹽及其鹽類<br>(6:2 diPAP and its salts) (Bis[2-<br>(perfluorohexyl)ethyl] Phosphate and<br>its salts (6:2 diPAP and its salts)) (CAS<br>No.: 57677-95-9 and its salts)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 雙三氟甲烷磺酰亞胺及其鹽類 (TFSI and<br>its salts) (Trifluoromethanesulfonimide<br>and its salts) (TFSI and its salts)) (CAS<br>No.: 82113-65-3 and its salts)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以液相層析串聯質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by LC/MS/MS.) | mg/kg        | 0.01 | n.d.           |
| 乙基九氟丁基及其異構體 (Ethyl<br>perfluoroisobutyl ether and its isomers)<br>(CAS No.: 163702-05-4 and others)   | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by GC/MS.)      | mg/kg        | 10   | n.d.           |
| 1,1,1,2,2,3,4,5,5,5-十氟戊烷<br>(1,1,1,2,2,3,4,5,5,5,-decafluoro-<br>Pentane) (CAS No.: 138495-42-8)  | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN<br>17681-1: 2022 & EN 17681-2: 2022,<br>analysis was performed by GC/MS.)      | mg/kg        | 10   | n.d.           |

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## 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 測試項目<br>(Test Items)  | 測試方法<br>(Method)   | 單位<br>(Unit) | MDL | 結果<br>(Result) |
|---|--|--------------|-----|----------------|
|   |  |              |     | No.1           |
| 三氟甲苯 (Trifluorotoluene) (CAS No.: 98-08-8)                      | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.) | mg/kg        | 1   | n.d.           |
| 對氯三氟甲苯 (1-Chloro-4 (Trifluoromethyl)Benzene) (CAS No.: 98-56-6) | 修改EN 17681-1: 2022 & EN 17681-2: 2022<br>· 以氣相層析質譜儀分析。(Modified EN 17681-1: 2022 & EN 17681-2: 2022, analysis was performed by GC/MS.) | mg/kg        | 1   | n.d.           |

## 備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL

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### Remark :

現有PFAS定量技術是分析PFAS物質的特定結構，但同碳數族群之PFAS酸及鹽類物質，其可被辨識的特定結構相同，因此無法區別所分析的特定結構是來自酸或者鹽類，故測試結果為同碳數族群之PFAS之酸及鹽類物質的濃度總合。下表PFAS物質濃度皆已包含在測試結果中，相關資訊請參見下表：(下表列舉PFAS物質僅為範例，並不包含所有同碳數族群之PFAS鹽類。)

(The quantitative technology of PFAS is to analyze the specific structure of PFAS substances. However, PFAS acid and its salts with the same carbon number group have the same specific structure that can be identified. The tested results of the analyzed specific structure cannot be distinguished to identify the contribution from PFAS acid or its salts.

Therefore, the tested results display the sum of concentrations of PFAS acids and its salts with the same carbon number group. The concentration of PFAS substances in the below table have been included in the tested results, please refer to the table for relevant information: (The listed PFAS substances are examples only, it do not include all PFAS salts with the same carbon number group.)

| 群組名稱<br>(Group Name)  | 物質名稱<br>(Substance Name)   | CAS No.   |            |
|---|--|---|------------|
| PFBA, 及其鹽<br>(PFBA, its salts)                                    | 全氟丁酸 (Perfluorobutane acid) (PFBA)   | 375-22-4  |            |
|   | 全氟丁酸銨 (PFBA-NH <sub>4</sub> )<br>Ammonium perfluorobutanoate (PFBA-NH <sub>4</sub> ) | 10495-86-0  |            |
|   | 全氟丁酸鈉 (PFBA-Na)<br>Sodium perfluorobutanoate (PFBA-Na)                               | 2218-54-4   |            |
|   | 全氟丁酸鉀 (PFBA-K)<br>Potassium heptafluorobutanoate (PFBA-K)                            | 2966-54-3   |            |
|   | 全氟丁酸銀 (PFBA-Ag)<br>Silver perfluorobutanoate (PFBA-Ag)                               | 3794-64-7   |            |
|   | 全氟丁酸鋰 (PFBA-Li)<br>Lithium perfluorobutanoate (PFBA-Li)                              | 4146-76-3   |            |
|   | 全氟丁酸哌嗪 (1:1)<br>Heptafluorobutanoic acid-piperazine (1:1)                            | 375-04-2  |            |
|   | 全氟丁酸鹽<br>Perfluorobutanoate (anion)  | 45048-62-2  |            |
|   | PFBS, 及其鹽&衍生物<br>(PFBS, its salts & derivatives)                                     | 全氟丁磺酸 (Perfluorobutane sulfonate) (PFBS)  | 375-73-5   |
|   |  | 全氟丁基磺酸鈉 (PFBS-Na)<br>1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, sodium salt (1:1)<br>(PFBS-Na) | 60453-92-1 |
| 全氟丁基磺酸鋰 (PFBS-Li)<br>Lithium perfluorobutanesulfonate (PFBS-Li)   |  | 131651-65-5   |            |
| 全氟丁基磺酸鎂 (PFBS-Mg)<br>Magnesium perfluorobutanesulfonate (PFBS-Mg) |  | 507453-86-3   |            |
| 全氟丁基磺酸鉀 (PFBS-K)<br>Perfluorobutane Sulfonate K-salt (PFBS-K)     |  | 29420-49-3  |            |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                             | 物質名稱<br>(Substance Name)  | CAS No.     |
|--|---|-------------|
| PFBS, 及其鹽&衍生物<br>(PFBS, its salts & derivatives) | 全氟丁基磺酸氟 (PFBS-F)<br>Perfluorobutane sulfonyl fluoride (PFBS-F)  | 375-72-4    |
|  | 全氟丁基磺酸四乙基銨 (PFBS-N(CH <sub>3</sub> CH <sub>2</sub> ) <sub>4</sub> )<br>Tetraethylammonium perfluorobutanesulfonate (PFBS-N(CH <sub>3</sub> CH <sub>2</sub> ) <sub>4</sub> )   | 25628-08-4  |
|  | 全氟丁基磺酸三苯基銨 (TPS-PFBS)<br>Triphenylsulfanium perfluorobutane sulfonate (TPS-PFBS)  | 144317-44-2 |
|  | 全氟丁基磺酸二甲基(苯基)硫<br>Dimethyl(phenyl)sulfanium perfluorobutane sulfonate   | 220133-51-7 |
|  | 全氟丁基磺酸四丁基磷<br>Tetrabutyl-phosphonium nonafluoro-butane-1-sulfonate  | 220689-12-3 |
|  | 全氟丁基磺酸嗎啉<br>Morpholinium perfluorobutanesulfonate   | 503155-89-3 |
|  | 全氟丁基磺酸銨 (PFBS-NH <sub>4</sub> )<br>Ammonium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonate (PFBS-NH <sub>4</sub> )   | 68259-10-9  |
|  | 全氟丁基磺酸水合物<br>Nonafluorobutanesulfonic acidHydrate   | 59933-66-3  |
|  | 全氟丁基磺酸氯 (PFBS-Cl)<br>Nonafluoro-1-butanesulfonyl chloride (PFBS-Cl)   | 2991-84-6   |
|  | 全氟-1-丁磺酸雙(4-叔丁基苯基)碘鎰 (PFBS-I(C <sub>6</sub> H <sub>4</sub> ) <sub>2</sub> (C <sub>4</sub> H <sub>9</sub> ) <sub>2</sub> )<br>Bis(4-tert-butylphenyl)iodonium perfluoro-1-butanesulfonate (PFBS-I(C <sub>6</sub> H <sub>4</sub> ) <sub>2</sub> (C <sub>4</sub> H <sub>9</sub> ) <sub>2</sub> ) | 194999-85-4 |
|  | 1,1,2,2,3,3,4,4,4-一氟丁烷-1-磺酸與2,2'-亞氨基二乙醇的化合物 (1:1)<br>(PFBS-NH(C <sub>2</sub> H <sub>5</sub> O) <sub>2</sub> )<br>1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonic acid, compound with 2,2'-iminodiethanol (1:1) (PFBS-NH(C <sub>2</sub> H <sub>5</sub> O) <sub>2</sub> )                        | 70225-18-2  |
|  | 1-(4-丁氧基-1-萘基)四氫噻吩九氟丁烷-1-磺酸鹽 (PFBS-SC <sub>18</sub> H <sub>23</sub> O)<br>1-(4-butoxy-1-naphthyl)tetrahydrothiophenium nonafluorobutane-1-sulfonate (PFBS-SC <sub>18</sub> H <sub>23</sub> O)   | 209482-18-8 |
|  | 全氟丁基磺酸四丁基銨 ((PFBS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )<br>Tetrabutylammonium nonafluorobutanesulfonate ((PFBS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> ))   | 108427-52-7 |
|  | 全氟丁基磺酸二苯碘 ((PFBS-I(C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> )<br>Diphenyliodonium nonafluorobutane-1-sulfonate((PFBS-I(C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> ))  | 194999-82-1 |

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| 群組名稱<br>(Group Name)   | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| PFBS, 及其鹽&衍生物<br>(PFBS, its salts & derivatives)   | 全氟丁基磺酸三(4-叔丁基苯基)鎂<br>Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)  | 241806-75-7  |
|  | 全氟丁基磺酸(4-環己基苯基)(二苯基)鎂<br>Sulfonium, (4-cyclohexylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)   | 425670-64-0  |
|  | 全氟丁基磺酸1-(1-甲基-1H-吲哚-3-基)硫醇-1-鎂<br>Thiophenium, tetrahydro-1-(1-methyl-1H-indol-3-yl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)                         | 867373-18-0  |
|  | 全氟丁基磺酸1-乙基-3-甲基吡啶鎂<br>Pyridinium, 1-ethyl-3-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)   | 1015420-87-7 |
|  | 全氟丁基磺酸1-甲基-3-辛基咪唑鎂<br>1H-Imidazolium, 1-methyl-3-octyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)   | 905972-83-0  |
|  | 全氟丁基磺酸1-己基-3-甲基咪唑鎂<br>1H-Imidazolium, 3-hexyl-1-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)   | 1001557-05-6 |
|  | 全氟丁基磺酸N,N-二甲基-N-(丙-2-基)丙-2-胺<br>2-Propanaminium, N,N-dimethyl-N-(1-methylethyl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)                              | 374571-81-0  |
|  | 全氟丁基磺酸[4-(2-叔丁氧基-2-氧代乙氧基)苯基](二苯基) (1:1)<br>Sulfonium, [4-[2-(1,1-dimethylethoxy)-2-oxoethoxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1) | 857285-80-4  |
|  | 全氟丁基磺酸N,N-二丁基-N-甲基丁烷-1-胺 (1:1)<br>1-Butanaminium, N,N-dibutyl-N-methyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)                                       | 124472-66-8  |
|  | 全氟丁基磺酸鋅 (2:1) (PFBS-Zn)<br>1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, zinc salt (2:1) (PFBS-Zn)  | 502457-69-4  |
|  | 全氟丁基磺酸N,N,N-三丙基戊烷 (1:1)<br>1-Pentanaminium, N,N,N-tripropyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanefulfonate (1:1)  | 56773-55-8   |
| 全氟丁基磺酸四甲基銨鹽 (PFBS-N(CH <sub>3</sub> ) <sub>4</sub> )<br>Perfluorobutanefulfonic acid tetramethylammonium salt (PFBS-N(CH <sub>3</sub> ) <sub>4</sub> ) | 25628-17-5  |              |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                             | 物質名稱<br>(Substance Name)  | CAS No.          |
|--|---|------------------|
| PFBS, 及其鹽&衍生物<br>(PFBS, its salts & derivatives) | 全氟丁烷磺酸酐<br>1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, 1,1'-anhydride   | 36913-91-4       |
|  | 全氟丁基磺酸鹽<br>Perfluorobutane sulfonate (anion)  | 45187-15-3       |
|  | 1-(4-丁氧基-1-萘基)四氫噻吩鎘-1,1,2,2,3,3,4,4,4-九氟-1-丁磺酸鹽<br>1-(4-butoxy-1-naphthalenyl)tetrahydrothiophenium -<br>1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate                     | EC No. 468-770-4 |
|  | 1-丁磺酸 · 1,1,2,2,3,3,4,4,4-九氟-化合物與 N,N-二乙基乙胺 (1:1)<br>1-Butanesulfonic acid, 1,1,2,2,3,3,4,4,4-nonafluoro-, compd. with<br>N,N-diethylethanamine (1:1)                       | 182059-38-7      |
|  | 1-辛胺 · N-(2-羥乙基)-N,N-二甲基-與1,1,2,2,3,3,4,4,4-九氟-1-丁磺酸鹽<br>(1:1)<br>1-Octanaminium, N-(2-hydroxyethyl)-N,N-dimethyl-,<br>1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate (1:1) | 334529-55-4      |
|  | 1-十六烷基-1,1,2,2,3,3,4,4,4-九氟-1-丁磺酸吡啶鎘 (1:1)<br>Pyridinium, 1-hexadecyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-<br>butanesulfonate (1:1)  | 334529-62-3      |
|  | 1-丁基-1,1,2,2,3,3,4,4,4-九氟-1-丁磺酸吡啶鎘鹽 (1:1)<br>Pyridinium, 1-butyl-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate<br>(1:1)  | 334529-64-5      |
|  | 1-辛胺 · N-甲基-N,N-二辛基 · 1,1,2,2,3,3,4,4,4-九氟-1-丁磺酸鹽 (1:1)<br>1-Octanaminium, N-methyl-N,N-dioctyl-, 1,1,2,2,3,3,4,4,4-<br>nonafluoro-1-butanesulfonate (1:1)                  | 495417-51-1      |
|  | 三(4-甲基苯基)鎘全氟丁磺酸鹽<br>Sulfonium, tris(4-methylphenyl)-, 1,1,2,2,3,3,4,4,4-nonafluoro-1-<br>butanesulfonate (1:1)  | 722538-68-3      |
| PFPA, 及其鹽<br>(PFPA, its salts)                   | 全氟戊酸 (Perfluoropentane acid) (PFPA)   | 2706-90-3        |
|  | 全氟戊酸鈉 (PFPA-Na)<br>Sodium perfluoropentanoate (PFPA-Na)   | 2706-89-0        |
|  | 全氟戊酸鉀 (PFPA-K)<br>Potasium perfluoropentanoate (PFPA-K)   | 336-23-2         |
|  | 全氟戊酸銨 (PFPA-NH <sub>4</sub> )<br>Ammonium perfluoropentanoate (PFPA-NH <sub>4</sub> )   | 68259-11-0       |
|  | 全氟戊酸鋰 (PFPA-Li)<br>Lithium perfluoropentanoate (PFPA-Li)  | 198482-22-3      |
|  | 全氟戊酸銀 (PFPA-Ag)<br>Silver perfluoropentanoate (PFPA-Ag)   | 2795-30-4        |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                               | 物質名稱<br>(Substance Name)   | CAS No.     |
|--|--|-------------|
| PFPA, 及其鹽<br>(PFPA, its salts)                     | 全氟戊酸鹽<br>Perfluoropentanoate (anion)   | 45167-47-3  |
|  | 全氟戊酸與苯甲基硫代氨基甲酸酯 (1:1) (PFPeA-C <sub>8</sub> H <sub>10</sub> N <sub>2</sub> S)<br>Pentanoic acid, 2,2,3,3,4,4,5,5,5-nonafluoro-, compd. with<br>phenylmethyl carbamimidothioate (1:1) (PFPeA-C <sub>8</sub> H <sub>10</sub> N <sub>2</sub> S) | 64808-55-5  |
|  | 全氟戊酸酐 (PFPeAA)<br>Nonafluoropentanoic anhydrid (PFPeAA)  | 308-28-1    |
| PFHxA, 及其鹽&衍生物<br>(PFHxA, its salts & derivatives) | 全氟己酸 (Perfluorohexane acid) (PFHxA)  | 307-24-4    |
|  | 全氟己酸銨 (PFHxA-NH <sub>4</sub> )<br>Ammonium perfluorohexanoate (PFHxA-NH <sub>4</sub> )   | 21615-47-4  |
|  | 全氟己酸鈉 (PFHxA-Na)<br>Sodium perfluorohexanoate (PFHxA-Na)   | 2923-26-4   |
|  | 全氟己酸鉀 (PFHxA-K)<br>Potassium perfluorohexanoate (PFHxA-K)  | 3109-94-2   |
|  | 全氟己酸氟 (PFHxA-F)<br>Perfluorohexanoyl fluoride (PFHxA-F)  | 355-38-4    |
|  | 全氟己酸銀 (PFHxA-Ag)<br>Silver perfluorohexanoate (PFHxA-Ag)   | 336-02-7    |
|  | 全氟己酸鋰 (PFHxA-Li)<br>Lithium perfluorohexanoate (PFHxA-Li)  | 90430-61-8  |
|  | 全氟己酸酐<br>Perfluorohexanoic anhydride   | 308-13-4    |
|  | 全氟己酸哌嗪 (2:1)<br>Hexanoic acid, undecafluoro-, compd. with piperazine (2:1) (8Cl,9Cl)   | 423-47-2    |
|  | 全氟己酸鹽<br>Perfluorohexanoate (anion)  | 92612-52-7  |
|  | 全氟己酰氯 (PFHxA-Cl)<br>Perfluorohexanoyl chloride (PFHxA-Cl)  | 335-53-5    |
|  | 全氟己酸與1-己胺 (1:1) (PFHxA-C <sub>6</sub> H <sub>15</sub> N)<br>Hexanoic acid, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-, compd. with 1-<br>hexanamine (1:1) (PFHxA-C <sub>6</sub> H <sub>15</sub> N)  | 565225-91-4 |
|  | 全氟己酸與1-苯基哌嗪 (1:1) (PFHxA-C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> )<br>Hexanoic acid, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-, compd. with 1-<br>phenylpiperazine (1:1) (PFHxA-C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> )            | 985-60-4    |

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# 測試報告

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                               | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| 6:2 FTS, 及其鹽<br>(6:2 FTS, its salts)               | 1H,1H,2H,2H-全氟辛磺酸 (1H,1H,2H,2H-Perfluorooctanesulphonic acid) (6:2 FTS)   | 27619-97-2   |
|  | 1H, 1H, 2H, 2H-全氟辛烷磺酸鈉 (6:2 FTS-Na)<br>Sodium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-Na)   | 27619-94-9   |
|  | 1H, 1H, 2H, 2H-全氟辛烷磺酸鉀 (6:2 FTS-K)<br>Potassium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-K)  | 59587-38-1   |
|  | 1H, 1H, 2H, 2H-全氟辛烷磺酸銨 (6:2 FTS-NH <sub>4</sub> )<br>Ammonium 1H,1H,2H,2H-Perfluorooctanesulfonate (6:2 FTS-NH <sub>4</sub> )                                     | 59587-39-2   |
|  | 1H, 1H, 2H, 2H-全氟辛烷磺酸銨銕 (6:2 FTS-Ba)<br>1-Octanesulfonic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-, barium salt (2:1) (6:2 FTS-Ba)                           | 1807944-82-6 |
|  | 1H,1H,2H,2H-全氟辛磺酸鹽 (6:2 FTS(anion))<br>3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctane-1-sulfonate (6:2 FTS(anion))   | 425670-75-3  |
| PFHxS, 及其鹽&衍生物<br>(PFHxS, its salts & derivatives) | 全氟己基磺酸 (Perfluorohexane sulfonate) (PFHxS)  | 355-46-4     |
|  | 全氟己基磺酸鈉 (PFHxS-Na)<br>Perfluorohexanesulfonate Na-salt (PFHxS-Na)   | 82382-12-5   |
|  | 全氟己基磺酸鉀 (PFHxS-K)<br>Perfluorohexanesulfonate K-salt (PFHxS-K)  | 3871-99-6    |
|  | 全氟己基磺酸銨 (PFHxS-NH <sub>4</sub> )<br>Ammonium perfluorohexanesulfonate (PFHxS-NH <sub>4</sub> )  | 68259-08-5   |
|  | 全氟己基磺酸鋰 (PFHxS-Li)<br>Perfluorohexanesulfonate Li-salt (PFHxS-Li)   | 55120-77-9   |
|  | 全氟己基磺酸鋅 (PFHxS-Zn)<br>Perfluorohexanesulfonate Zn-salt (PFHxS-Zn)   | 70136-72-0   |
|  | 全氟己基磺醯氟 (PFHxS-F)<br>Perfluorohexanesulfonate sulfonyl fluoride (PFHxS-F)   | 423-50-7     |
|  | 三苯基(苯甲基)磷-, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) | 1000597-52-3 |
|  | N,N,N-三丁基-1-丁銨與十三氟-1-己烷磺酸的鹽<br>N,N,N-tributylbutan-1-aminium tridecafluorohexane-1-sulfonate  | 108427-54-9  |
|  | N,N,N-三乙基乙銨與十三氟-1-己烷磺酸的鹽 (1:1)<br>N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate (1:1)  | 108427-55-0  |

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                               | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| PFHxS, 及其鹽&衍生物<br>(PFHxS, its salts & derivatives) | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸與吡咯烷的化合物 (1:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1)  | 1187817-57-7 |
|  | N-[4-[[4-(二乙基氨基)苯基][4-(乙基氨基)-1-萘基]亞甲基]-2,5-環己二-1-基]-N-乙基乙銨, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)                 | 1310480-24-0 |
|  | N-[4-[[4-(二甲基氨基)苯基][4-(乙基氨基)-1-萘基]亞甲基]-2,5-環己二-1-基]-N-甲基甲銨, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)              | 1310480-27-3 |
|  | N-[4-[[4-(二甲基氨基)苯基][4-(苯基氨基)-1-萘基]亞甲基]-2,5-環己二-1-基]-N-甲基甲銨, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)             | 1310480-28-4 |
|  | β-環糊精, 與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸離子(1-)的化合物 (1:1)<br>Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-) (1:1)  | 1329995-45-0 |
|  | γ-環糊精, 與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸離子(1-)的化合物 (1:1)<br>Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-) (1:1)   | 1329995-69-8 |
|  | 三苯基銨, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | 144116-10-9  |
|  | 喹啉鎰, 1-(羧甲基)-4-[2-[4-[4-(2,2-二苯基乙基)苯基]-1,2,3,3a,4,8b-六氫環戊[b]吲哚-7-基]乙基]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Quinolinium, 1-(carboxymethyl)-4-[2-[4-[4-(2,2-diphenylethenyl)phenyl]-1,2,3,3a,4,8b-hexahydrocyclopent[b]indol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) | 1462414-59-0 |

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| 群組名稱<br>(Group Name)                               | 物質名稱<br>(Substance Name)   | CAS No.     |
|--|--|-------------|
| PFHxS, 及其鹽&衍生物<br>(PFHxS, its salts & derivatives) | 二苯基碘鎊, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Iodonium, diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | 153443-35-7 |
|  | N,N,N-三甲基甲銨與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸的鹽 (1:1)<br>Methanaminium, N,N,N-trimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1)                         | 189274-31-5 |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸與2-甲基-2-丙胺的化合物 (1:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd.with 2-methyl-2-propanamine (1:1)                               | 202189-84-2 |
|  | 雙[4-(1,1-二甲基乙基)苯基]碘鎊, 1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)                    | 213740-81-9 |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鎂鹽 (9Cl)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, gallium salt (9Cl)  | 341035-71-0 |
|  | 雙(4-甲基苯基)苯基硫磺酸, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)                              | 341548-85-4 |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸釷(3+)鹽 (3:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium(3+) salt (3:1) (PFHxS-Sc)  | 350836-93-0 |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸釹(3+)鹽 (3:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1) (PFHxS-Nd)   | 41184-65-0  |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸釷(3+)鹽 (3:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1) (PFHxS-Y)  | 41242-12-0  |
|  | (硫代二-4,1-亞苯基)雙[二苯基硫磺酸與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸 (1:2)<br>Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:2) | 421555-73-9 |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                               | 物質名稱<br>(Substance Name)   | CAS No.     |
|--|--|-------------|
| PFHxS, 及其鹽&衍生物<br>(PFHxS, its salts & derivatives) | 雙[4-(1,1-二甲基丙基)苯基]碘鎗鹽與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸<br>Iodonium, bis[4-(1,1-dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid                                  | 421555-74-0 |
|  | 三[4-(1,1-二甲基乙基)苯基]鎗-,1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)                                   | 425670-70-8 |
|  | 十三氟己烷磺酸與二乙醇胺的化合物<br>Tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1)   | 70225-16-0  |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸與N·N-二乙基乙胺的化合物 (1:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1)   | 72033-41-1  |
|  | 雙[(1,1-二甲基乙基)苯基]碘鎗鹽-與1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸 (1:1) (9Cl)<br>Iodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9Cl)              | 866621-50-3 |
|  | (4-甲基苯基)二苯基鎗-,1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | 910606-39-2 |
|  | [4-[(2-甲基-1-氧-2-丙烯-1-基)氧基]苯基]二苯基鎗-,1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) | 911027-68-4 |
|  | 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸銣鹽 (1:1)<br>1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, cesium salt (1:1) (PFHxS-CsH)   | 92011-17-1  |

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# 測試報告

## Test Report

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)  | 物質名稱<br>(Substance Name)  | CAS No.  |
|---|---|--|
| PFHxS, 及其鹽&衍生物<br>(PFHxS, its salts & derivatives)  | 二苯並[k,n][1,4,7,10,13]四氧噻吩基環戊二烯鎗, 19-[4-(1,1-二甲基乙基)苯基]-6,7,9,10,12,13-六氫-, 1,1,2,2,3,3,4,4,5,5,6,6,6-十三氟-1-己烷磺酸鹽 (1:1)<br>Dibenzo[k,n][1,4,7,10,13]tetraoxathiacyclopentadecinium, 19-[4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | 928049-42-7  |
|   | 全氟己基磺酸氯 (PFHxS-Cl)<br>Perfluorohexylsulfonyl chloride (PFHxS-Cl)  | 55591-23-6   |
|   | PFHxS-磺酸酯聚合物<br>Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.1 <sup>3,7</sup> ]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate | 911027-69-5  |
|   | 全氟己基磺酸鹽<br>Perfluorohexane sulfonate (anion)  | 108427-53-8  |
|   | 十三氟己烷-1-磺酸四丁基鎗 (PFHxS-P (C4H9)4)<br>Tetrabutylphosphonium tridecafluoro-hexane-1-sulfonate (PFHxS-P (C4H9)4)  | 2310194-12-6   |
|   | EtFHxSAA, 及其鹽<br>(EtFHxSAA, its salts)  | N-乙基-N-[(十三氟己基)磺醯基]甘氨酸 (Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-hexyl)sulfonyl]) (EtFHxSAA) |
| N-乙基-N-[(十三氟己基)磺醯基]甘氨酸鉀 (EtFHxSAA-K)<br>Potassium N-ethyl-n-[(tridecafluoro-hexyl)sulfonyl]glycinate (EtFHxSAA-K) |   | 67584-53-6   |
| N-乙基-N-[(十三氟己基)磺醯基]甘氨酸鈉 (EtFHxSAA-Na)<br>Sodium N-ethyl-N-[(tridecafluoro-hexyl)sulphonyl]glycinate (EtFHxSAA-Na) |   | 68555-70-4   |
| PFHpA, 及其鹽<br>(PFHpA, its salts)  | 全氟庚酸 (Perfluoroheptane acid) (PFHpA)  | 375-85-9   |
|   | 全氟庚酸鈉 (PFHpA-Na)<br>Sodium perfluoroheptanoate (PFHpA-Na)   | 20109-59-5   |
|   | 全氟庚酸鉀 (PFHpA-K)<br>Potassium perfluoroheptanoate (PFHpA-K)  | 21049-36-5   |
|   | 全氟庚酸銨 (PFHpA-NH <sub>4</sub> )<br>Ammonium perfluoroheptanoate (PFHpA-NH <sub>4</sub> )   | 6130-43-4  |
|   | 全氟庚酸銫 (PFHpA-Cs)<br>Cesium perfluoroheptanoate (PFHpA-Cs)   | 171198-24-6  |

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# 測試報告

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)               | 物質名稱<br>(Substance Name)   | CAS No.     |
|------------------------------------|--|-------------|
| PFHpA, 及其鹽<br>(PFHpA, its salts)   | 全氟庚酸銀 (PFHpA-Ag)<br>Silver perfluoroheptanoate (PFHpA-Ag)  | 424-05-5    |
|                                    | 全氟庚酸鋰 (PFHpA-Li)<br>Lithium perfluoroheptanoate (PFHpA-Li)   | 60871-90-1  |
|                                    | 全氟庚酸鹽<br>Perfluoroheptanoate (anion)   | 120885-29-2 |
| HPFHpA, 及其鹽<br>(HPFHpA, its salts) | 7H-十二氟庚酸 (7H-Dodecafluoroheptane acid) (HPFHpA)  | 1546-95-8   |
|                                    | 7H-十二氟庚酸鈉 (HPFHpA-Na)<br>Sodium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-Na)   | 2264-25-7   |
|                                    | 7H-十二氟庚酸銨 (HPFHpA-NH <sub>4</sub> )<br>Ammonium 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoroheptanoate (HPFHpA-NH <sub>4</sub> )                                       | 376-34-1    |
|                                    | 全氟庚酸鹽 (HPFHpA(anion))<br>7H-Perfluoroheptanoate (HPFHpA(anion))  | 69681-35-2  |
| PFHpS, 及其鹽<br>(PFHpS, its salts)   | 全氟庚基磺酸 (Perfluoroheptane sulfonate) (PFHpS)  | 375-92-8    |
|                                    | 全氟庚基磺酸鈉 (PFHpS-Na)<br>Perfluoroheptanesulfonate Na-salt (PFHpS-Na)   | 21934-50-9  |
|                                    | 全氟庚基磺酸鉀 (PFHpS-K)<br>Potassium perfluoroheptanesulfonate (PFHpS-K)   | 60270-55-5  |
|                                    | 全氟庚基磺酸銨 (PFHpS-NH <sub>4</sub> )<br>Ammonium perfluoroheptanesulfonate (PFHpS-NH <sub>4</sub> )  | 68259-07-4  |
|                                    | 全氟庚基磺酸鋰 (PFHpS-Li)<br>Lithium perfluoroheptanesulfonate (PFHpS-Li)   | 117806-54-9 |
|                                    | 全氟庚基磺酸-雙(2-羥乙基)銨 (1:1)<br>1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, compd. with 2,2'-iminobis[ethanol] (1:1)                     | 70225-15-9  |
|                                    | 全氟庚基磺酸鹽<br>Perfluoroheptane sulfonate (anion)  | 146689-46-5 |
|                                    | 全氟庚烷磺酸三乙銨<br>Triethylammonium perfluoroheptane sulfonate   | 72033-40-0  |
|                                    | 全氟庚烷磺酸四乙銨<br>Tetraethylammonium perfluoroheptane sulfonate   | 439863-97-5 |
|                                    | 1-庚磺酸 · 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-十五氟酸酐 (9Cl) (PFHpSA)<br>1-Heptanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-, anhydride (9Cl) (PFHpSA) | 140429-92-1 |

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| 群組名稱<br>(Group Name)                             | 物質名稱<br>(Substance Name)   | CAS No.     |
|--|--|-------------|
| PFOS, 及其鹽&衍生物<br>(PFOS, its salts & derivatives) | 全氟辛烷磺酸 (Perfluorooctane sulfonates) (PFOS)   | 1763-23-1   |
|  | 全氟辛基磺酸鉀 (PFOS-K)<br>Potassium perfluorooctanesulfonate (PFOS-K)  | 2795-39-3   |
|  | 全氟辛基磺酸鋰 (PFOS-Li)<br>Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)  | 29457-72-5  |
|  | 全氟辛基磺酸銨 (PFOS-NH <sub>4</sub> )<br>Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH <sub>4</sub> )   | 29081-56-9  |
|  | 全氟辛基磺酸二乙醇銨 (PFOS-NH(OH) <sub>2</sub> )<br>Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) <sub>2</sub> )  | 70225-14-8  |
|  | 全氟辛基磺酸四乙基銨 (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )<br>Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )  | 56773-42-3  |
|  | 全氟辛基磺酸二癸二甲基銨 (PFOS-DDA)<br>N-decyl-N,N-dimethyldecyl-1-aminium<br>1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1-sulfonate (PFOS-DDA)   | 251099-16-8 |
|  | 全氟辛基磺酸四丁基銨 (PFOS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )<br>Tetrabutylammonium perfluorooctanesulfonate (PFOS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )  | 111873-33-7 |
|  | 全氟辛基磺酰氟 (POSF)<br>Perfluorooctane sulfonyl fluoride (POSF)   | 307-35-7    |
|  | 全氟辛基磺酸鎂 (PFOS-Mg)<br>Perfluorooctanesulfonic acid, magnesium salt (PFOS-Mg)  | 91036-71-4  |
|  | 全氟辛基磺酸鈉 (PFOS-Na)<br>Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)   | 4021-47-0   |
|  | 全氟辛烷磺酸哌啶<br>Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctanesulfonate  | 71463-74-6  |
|  | 全氟辛烷磺酸鹽<br>Perfluorooctanesulfonate (anion)  | 45298-90-6  |
|  | 全氟辛烷磺酸與 N,N-二乙基乙胺 (1:1) (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )<br>1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )    | 54439-46-2  |
|  | N,N,N-三甲基-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸甲銨 (1:1) (PFOS-N(CH <sub>3</sub> ) <sub>4</sub> )<br>Methanaminium, N,N,N-trimethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1) (PFOS-N(CH <sub>3</sub> ) <sub>4</sub> ) | 56773-44-5  |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                             | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| PFOS, 及其鹽&衍生物<br>(PFOS, its salts & derivatives) | 1-五胺·N,N,N-三丙基-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1) (PFOS-N(C <sub>3</sub> H <sub>7</sub> ) <sub>3</sub> (C <sub>5</sub> H <sub>11</sub> ))<br>1-Pentanaminium, N,N,N-tripropyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1) (PFOS-N(C <sub>3</sub> H <sub>7</sub> ) <sub>3</sub> (C <sub>5</sub> H <sub>11</sub> )) | 56773-56-9   |
|  | 1-丁銨·N,N-二丁基-N-甲基-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1) (PFOS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>3</sub> (CH <sub>3</sub> ))<br>1-Butanaminium, N,N-dibutyl-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1) (PFOS-N(C <sub>4</sub> H <sub>9</sub> ) <sub>3</sub> (CH <sub>3</sub> ))                        | 124472-68-0  |
|  | 碘鎘·雙[4-(1,1-二甲基乙基)苯基]-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1)<br>Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)  | 213740-80-8  |
|  | 二苯基鎘(2,4,6-三甲基苯基)-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1)<br>Sulfonium, diphenyl(2,4,6-trimethylphenyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)  | 258341-99-0  |
|  | 吡啶鎘·1-十六烷基-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1)<br>Pyridinium, 1-hexadecyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)  | 334529-63-4  |
|  | 1-癸胺·N,N,N-三乙基-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-1-辛烷磺酸鹽(1:1)<br>1-Decanaminium, N,N,N-triethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)   | 773895-92-4  |
|  | 全氟辛烷磺酸四丁基鎘 (PFOS-P(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )<br>Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-P(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> )   | 2185049-59-4 |
|  | 全氟辛烷磺酸二乙胺鹽 (PFOS-C <sub>4</sub> H <sub>11</sub> N)<br>Perfluorooctanesulfonic acid diethylamine salt (PFOS-C <sub>4</sub> H <sub>11</sub> N)  | 2205029-08-7 |
|  | 庚基二甲基{2-[(2-甲基丙-2-烯酰基)氧基]乙基}全氟辛烷磺酸氮鎘鹽 (PFOS-C <sub>15</sub> H <sub>30</sub> NO <sub>2</sub> )<br>Heptyldimethyl{2-[(2-methylprop-2-enoyl)oxy]ethyl}azanium perfluorooctanesulfonate (PFOS-C <sub>15</sub> H <sub>30</sub> NO <sub>2</sub> )   | 1203998-97-3 |
|  | 1-辛烷磺酸·1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-, 1,1'-酸酐 (PFOSAN)<br>1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, 1,1'-anhydride (PFOSAN)   | 423-92-7     |

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)  | 物質名稱<br>(Substance Name)  | CAS No.                              |
|---|---|--------------------------------------|
| PFOSA, 及其鹽<br>(PFOSA, its salts)  | 全氟辛基磺醯胺 (Perfluorooctanesulfonamide) (PFOSA)  | 754-91-6                             |
|   | 全氟辛基磺醯胺鋰鹽 (1:1) (PFOSA-Li)<br>Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)  | 76752-79-9                           |
|   | 全氟辛基磺醯胺鈉鹽 (1:1) (PFOSA-Na)<br>Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)   | 76752-78-8                           |
|   | 全氟辛基磺醯胺鉀鹽 (1:1) (PFOSA-K)<br>Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)  | 76752-70-0                           |
|   | 全氟辛基磺醯胺銨鹽 (1:1) (PFOSA-NH <sub>4</sub> )<br>Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH <sub>4</sub> )   | 76752-72-2                           |
|   | 全氟辛基磺醯胺三乙胺的化合物(1:1) (PFOSA-C <sub>6</sub> H <sub>15</sub> N)<br>heptadecafluorooctane-1-sulphonamide, compound with triethylamine(1:1) (PFOSA-C <sub>6</sub> H <sub>15</sub> N) | 76752-82-4                           |
|   | PFOA, 及其鹽&衍生物<br>(PFOA, its salts & derivatives)  | 全氟辛酸 (Perfluorooctanoic acid) (PFOA) |
| 全氟辛酸鈉 (PFOA-Na)<br>Sodium perfluorooctanoate (PFOA-Na)  |   | 335-95-5                             |
| 全氟辛酸鉀 (PFOA-K)<br>Potassium perfluorooctanoate (PFOA-K)   |   | 2395-00-8                            |
| 全氟辛酸銀 (PFOA-Ag)<br>Silver perfluorooctanoate (PFOA-Ag)  |   | 335-93-3                             |
| 全氟辛氟 (PFOA-F)<br>Perfluorooctanoyl fluoride (PFOA-F)  |   | 335-66-0                             |
| 全氟辛酸銨 (APFO)<br>Ammonium pentadecafluorooctanoate (APFO)  |   | 3825-26-1                            |
| 全氟辛酸鋰 (PFOA-Li)<br>Lithium perfluorooctanoate (PFOA-Li)   |   | 17125-58-5                           |
| 全氟辛酸鈷 (PFOA-Co)<br>Cobalt perfluorooctanoate (PFOA-Co)  |   | 35965-01-6                           |
| 全氟辛酸銫 (PFOA-Cs)<br>Cesium perfluorooctanoate (PFOA-Cs)  |   | 17125-60-9                           |
| 全氟辛酸鉻 (PFOA-Cr(3+))<br>Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, chromium(3+) (PFOA-Cr(3+))                                  |   | 68141-02-6                           |
| 全氟辛酸-哌嗪(2:1) PFOA-NH(C <sub>4</sub> H <sub>10</sub> N)<br>Pentadecafluorooctanoic acid--piperazine (2/1)PFOA-NH(C <sub>4</sub> H <sub>10</sub> N) |   | 423-52-9                             |

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                             | 物質名稱<br>(Substance Name)   | CAS No.   |             |
|--|--|---|-------------|
| PFOA, 及其鹽&衍生物<br>(PFOA, its salts & derivatives) | 全氟辛酸鹽<br>Pentadecafluorooctanoate (anion)  | 45285-51-6  |             |
|  | 全氟辛酸酐<br>Perfluorooctanoic Anhydride   | 33496-48-9  |             |
|  | 乙銨 · N,N,N-三乙基-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十五氟辛酸 (1:1)<br>Ethanaminium, N,N,N-triethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)  | 98241-25-9  |             |
|  | 全氟辛酸四甲銨鹽<br>Tetramethylammoniumperfluorooctanoat   | 32609-65-7  |             |
|  | 1-丙銨 · N,N,N-三丙基-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十五氟辛酸(1:1)<br>1-Propanaminium, N,N,N-tripropyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)   | 277749-00-5   |             |
|  | 辛酸 · 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十五氟-鉀鹽 · 水合物 (1:1:2) (PFOA-K(H <sub>2</sub> O) <sub>2</sub> )<br>Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, potassium salt, hydrate (1:1:2) (PFOA-K(H <sub>2</sub> O) <sub>2</sub> )        | 98065-31-7  |             |
|  | 辛酸 · 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十五氟- · 化合物 · 與乙胺 (1:1) (PFOA-C <sub>2</sub> H <sub>7</sub> N)<br>Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, compd. with ethanamine (1:1) (PFOA-C <sub>2</sub> H <sub>7</sub> N)             | 1376936-03-6  |             |
|  | 十五氟辛酸化合物與吡啶 (1:1) (9Cl) (PFOA-C <sub>5</sub> H <sub>5</sub> N)<br>Octanoic acid, pentadecafluoro-, compd. with pyridine (1:1) (9Cl) (PFOA-C <sub>5</sub> H <sub>5</sub> N)   | 95658-47-2  |             |
|  | 十五氟辛酸-1-苯基哌嗪(1:1) (PFOA-C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> )<br>Pentadecafluorooctanoic acid- 1-phenylpiperazine(1:1) (PFOA-C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> )   | 1514-68-7   |             |
|  | 1-辛胺 · N,N,N-三甲基- · 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十五氟辛酸(1:1) (PFOA- C <sub>11</sub> H <sub>26</sub> N)<br>1-Octanaminium, N,N,N-trimethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1) (PFOA- C <sub>11</sub> H <sub>26</sub> N) | 927835-01-6   |             |
|  | 8:2 FTS, 及其鹽<br>(8:2 FTS, its salts)   | 1H,1H,2H,2H-全氟癸磺酸 (1H,1H,2H,2H-Perfluorodecanesulfonic acid) (8:2 FTS)                                      | 39108-34-4  |
|  |  | 1H, 1H, 2H, 2H-全氟癸磺酸鉀 (8:2 FTS-K)<br>1H,1H,2H,2H-Perfluorodencane sulfonate acid Potassium salt (8:2 FTS-K) | 438237-73-1 |

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| 群組名稱<br>(Group Name)                 | 物質名稱<br>(Substance Name)   | CAS No.                |
|--------------------------------------|--|------------------------|
| 8:2 FTS, 及其鹽<br>(8:2 FTS, its salts) | 1H, 1H, 2H, 2H-全氟癸磺酸銨 (8:2 FTS-NH <sub>4</sub> )<br>1H,1H,2H,2H-Perfluorododecane sulfonate acid Ammonium salt (8:2 FTS-NH <sub>4</sub> )  | 149724-40-3            |
|                                      | 1H, 1H, 2H, 2H-全氟癸磺酸鈉 (8:2 FTS-Na)<br>1H,1H,2H,2H-Perfluorododecane sulfonate acid Sodium salt (8:2 FTS-Na)  | 27619-96-1             |
|                                      | 1H,1H,2H,2H-全氟癸磺酸鹽 (8:2 FTS(anion))<br>8:2 Fluorotelomer sulfonate (anion) (8:2 FTS(anion))  | 481071-78-7            |
|                                      | 全氟壬酸 (Perfluorononanoic acid) (PFNA)<br>Perfluorononanoate Na-salt (PFNA-Na)   | 375-95-1<br>21049-39-8 |
| PFNA, 及其鹽<br>(PFNA, its salts)       | 全氟壬酸銨 (APFN)<br>Perfluorononanoate ammonium salt (APFN)  | 4149-60-4              |
|                                      | 全氟壬酸鉀 (PFNA-K)<br>Potassium perfluorononanoate (PFNA-K)  | 21049-38-7             |
|                                      | 全氟壬酸鋰 (PFNA-Li)<br>Perfluorononanoate Li-Salt (PFNA-Li)  | 60871-92-3             |
|                                      | 全氟壬酸銀 (PFNA-Ag)<br>Silver perfluorononanoate (PFNA-Ag)   | 7358-16-9              |
|                                      | 全氟壬酸甲烷銨 (PFNA-NH <sub>3</sub> (CH <sub>3</sub> ))<br>Methanaminium perfluorononanoate (PFNA-NH <sub>3</sub> (CH <sub>3</sub> ))  | 77032-23-6             |
|                                      | 全氟壬酸-N-乙基乙胺 (1:1) (PFNA-NH <sub>2</sub> (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> )<br>Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with N-ethylethanamine (1:1) PFNA-NH <sub>2</sub> (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> | 77032-27-0             |
|                                      | 全氟壬酸-N-甲基甲胺 (1:1) (PFNA-NH <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub> )<br>Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with N-methylmethanamine (1:1) (PFNA-NH <sub>2</sub> (CH <sub>3</sub> ) <sub>2</sub> )                        | 77032-24-7             |
|                                      | 全氟壬酸-N · N-二乙基乙胺 (1:1) (9Cl) (PFNA-NH(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )<br>Nonanoic acid, heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (9Cl) (PFNA-NH(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> )                                       | 327176-80-7            |
|                                      | 全氟壬酸-哌啶 (1:1) (9Cl) (PFNA-NH <sub>2</sub> (C <sub>5</sub> H <sub>10</sub> ))<br>Nonanoic acid, heptadecafluoro-, compd. with piperidine (1:1) (9Cl) (PFNA-NH <sub>2</sub> (C <sub>5</sub> H <sub>10</sub> ))   | 95682-66-9             |
|                                      | 全氟壬酸-苯胺 (1:1) (PFNA-NH <sub>3</sub> (C <sub>6</sub> H <sub>5</sub> ))<br>Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro-, compd. with benzenamine (1:1) (PFNA-NH <sub>3</sub> (C <sub>6</sub> H <sub>5</sub> ))                                    | 95682-67-0             |

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)               | 物質名稱<br>(Substance Name)  | CAS No.     |
|------------------------------------|---|-------------|
| PFNA, 及其鹽<br>(PFNA, its salts)     | 全氟壬酸-環己胺 (1:1) (9Cl) ((PFNA-NH <sub>3</sub> (C <sub>6</sub> H <sub>11</sub> )))<br>Nonanoic acid, heptadecafluoro-, compd. with cyclohexanamine (1:1) (9Cl) (PFNA-NH <sub>3</sub> (C <sub>6</sub> H <sub>11</sub> )))                                   | 328531-06-2 |
|                                    | 全氟壬酸鹽<br>Perfluorononanoate (anion)   | 72007-68-2  |
|                                    | 4-[(6-甲氧基-3-噁嗪基)氨基酰基]苯胺十七氟壬酸酯 (PFNA-C <sub>11</sub> H <sub>12</sub> N <sub>4</sub> O <sub>3</sub> S)<br>4-[(6-Methoxy-3-pyridazinyl)sulfamoyl]anilinium heptadecafluorononanoate (PFNA-C <sub>11</sub> H <sub>12</sub> N <sub>4</sub> O <sub>3</sub> S) | 298703-33-0 |
|                                    | 全氟壬酸酐 (PFNAA)<br>Perfluorononanoic anhydride (PFNAA)  | 228407-54-3 |
| PFDA, 及其鹽<br>(PFDA, its salts)     | 全氟癸酸 (Perfluorodecane acid) (PFDA)  | 335-76-2    |
|                                    | 全氟癸酸鈉 (PFDA-Na)<br>Perfluorodecanoate Na-salt (PFDA-Na)   | 3830-45-3   |
|                                    | 全氟癸酸銨 (APFDA)<br>Perfluorodecanoate ammonium salt (APFDA)   | 3108-42-7   |
|                                    | 全氟癸酸鉀 (PFDA-K*)<br>Potassium perfluorodecanoate (PFDA-K*)   | 51604-85-4  |
|                                    | 全氟癸酸銀 (PFDA-Ag)<br>Silver perfluorodecanoate (PFDA-Ag)  | 5784-82-7   |
|                                    | 全氟癸酸鋰 (PFDA-Li)<br>Lithium perfluorodecanoate (PFDA-Li)   | 84743-32-8  |
|                                    | 全氟癸酸鹽<br>Perfluorodecanoate (anion)   | 73829-36-4  |
|                                    | 全氟癸酸酐 (PFDA)<br>Perfluorodecanoic anhydride (PFDA)  | 942199-24-8 |
| PFUnDA, 及其鹽<br>(PFUnDA, its salts) | 全氟十一烷酸 (Perfluoroundecanoic acid) (PFUnDA)  | 2058-94-8   |
|                                    | 全氟十一烷酸銨 (PFUnDA-NH <sub>4</sub> )<br>Ammonium perfluoroundecanoate (PFUnDA-NH <sub>4</sub> )  | 4234-23-5   |
|                                    | 全氟十一烷酸鈉 (PFUnDA-Na)<br>Perfluoroundecanoic acid sodium salt (PFUnDA-Na)   | 60871-96-7  |
|                                    | 全氟十一烷酸鉀 (PFUnDA-K)<br>Potassium perfluoroundecanoate (PFUnDA-K)   | 30377-53-8  |
|                                    | 全氟十一烷酸鈣 (PFUnDA-Ca)<br>Calcium perfluoroundecanoate (PFUnDA-Ca)   | 97163-17-2  |
|                                    | 全氟十一烷酸鹽<br>Perfluoroundecanoate (anion)   | 196859-54-8 |

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# 測試報告

## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                   | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| PFDoDA, 及其鹽<br>(PFDoDA, its salts)     | 全氟十二烷酸 (Perfluorododecanoic acid) (PFDoDA)   | 307-55-1     |
|  | 全氟十二烷酸銨 (APFDoDA)<br>Ammonium perfluorododecanoate (APFDoDA)   | 3793-74-6    |
|  | 全氟十二烷酸鈉 (PFDoDA-Na)<br>Sodium perfluorododecanoate (PFDoDA-Na)   | 60872-01-7   |
|  | 全氟十二烷酸鹽<br>Perfluorododecanoate (anion)  | 171978-95-3  |
| PFTrDA, 及其鹽<br>(PFTrDA, its salts)     | 全氟十三烷酸 (Pentacosfluorotridecanoic acid) (PFTrDA)   | 72629-94-8   |
|  | 全氟十三烷酸銨 (PFTrDA-NH <sub>4</sub> )<br>Ammonium perfluorotridecanoate (PFTrDA-NH <sub>4</sub> )                | 4288-72-6    |
|  | 全氟十三烷酸鹽<br>Perfluorotridecanoate (anion)   | 862374-87-6  |
| PFTDA, 及其鹽<br>(PFTDA, its salts)       | 全氟十四烷酸 (Perfluorotetradecanoic acid) (PFTDA)   | 376-06-7     |
|  | 全氟十四烷酸鹽<br>Perfluorotetradecanoate (anion)   | 365971-87-5  |
| 10:2 FTS, 及其鹽<br>(10:2 FTS, its salts) | 1H,1H,2H,2H-全氟十二烷磺酸 (1H,1H,2H,2H-Perfluorododecane sulfonic acid) (10:2 FTS)                                 | 120226-60-0  |
|  | 1H,1H,2H,2H-全氟十二烷磺酸鈉鹽 (10:2 FTS-Na)<br>1H,1H,2H,2H-Perfluorododecane sulfonic acid Sodium Salt (10:2 FTS-Na) | 108026-35-3  |
| PFNS, 及其鹽<br>(PFNS, its salts)         | 全氟壬烷磺酸 (Perfluorononane sulfonic acid) (PFNS)  | 68259-12-1   |
|  | 全氟壬烷磺酸鈉 (PFNS-Na*)<br>Sodium perfluoro-1-nonanesulfonate (PFNS-Na*)  | 98789-57-2   |
|  | 全氟壬烷磺酸銨 (PFNS-NH <sub>4</sub> )<br>Ammonium nonadecafluorononanesulphonate (PFNS-NH <sub>4</sub> )           | 17202-41-4   |
|  | 全氟壬烷磺酸鉀 (PFNS-K*)<br>Potassium perfluorononanesulfonate (PFNS-K*)  | 29359-39-5   |
|  | 全氟壬烷磺酸鹽<br>Perfluorononane sulfonate (anion)   | 474511-07-4  |
| PFUnDS, 及其鹽<br>(PFUnDS, its salts)     | 全氟十一烷磺酸 (Perfluoroundecane sulfonic acid) (PFUnDS)   | 749786-16-1  |
|  | 全氟十一烷磺酸鹽<br>Perfluoroundecanesulfonate (anion)   | 441296-91-9  |
| PFDoDS, 及其鹽<br>(PFDoDS, its salts)     | 全氟十二烷磺酸 (Perfluorododecane sulfonic acid) (PFDoDS)   | 79780-39-5   |
|  | 全氟十二烷磺酸鈉 (PFDoDS-Na*)<br>Sodium perfluoro-1-dodecanesulfonate (PFDoDS-Na*)                                   | 1260224-54-1 |

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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                       | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| PFDoDS, 及其鹽<br>(PFDoDS, its salts)         | 全氟十二烷磺酸鉀 (PFDoDS-K)<br>Potassium perfluorododecanesulfonate (PFDoDS-K)   | 85187-17-3   |
|  | 全氟十二烷磺酸鹽<br>Perfluorododecane sulfonate (anion)  | 343629-43-6  |
| PFTrDS, 及其鹽<br>(PFTrDS, its salts)         | 全氟十三烷磺酸 (Perfluorotridecane sulfonic acid) (PFTrDS)  | 791563-89-8  |
|  | 全氟十三烷磺酸鈉 (PFTrDS-Na*)<br>Sodium perfluoro-1-tridecanesulfonate (PFTrDS-Na*)  | 174675-49-1  |
| 10:2 diPAP, 及其鹽<br>(10:2 diPAP, its salts) | 雙[2-(全氟癸基)乙基]磷酸鹽 (10:2 Fluortelomerphosphatediester) (10:2 diPAP)  | 1895-26-7    |
|  | 雙[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-二十一氟十二烷基]磷酸氫鹽化合物與 2,2'-亞氨基二乙醇 (1:1) (10:2 diPAP-C <sub>4</sub> H <sub>11</sub> O <sub>2</sub> )<br>bis[3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafuorododecyl] hydrogen phosphate, compound with 2,2'-iminodiethanol (1:1) (10:2 diPAP-C <sub>4</sub> H <sub>11</sub> O <sub>2</sub> ) | 57677-98-2   |
| PFPeDA, 及其鹽<br>(PFPeDA, its salts)         | 全氟十五烷酸 (Perfluoropentadecanoic acid) (PFPeDA, C15)   | 141074-63-7  |
|  | 全氟十五烷酸鹽 (PFPeDA (anion))<br>Nonacosafuoropentadecanoate (PFPeDA (anion))   | 1214264-29-5 |
| PFHxDA, 及其鹽<br>(PFHxDA, its salts)         | 全氟十六烷酸及其鹽類 (Perfluorohexadecanoic acid) (PFHxDA, C16)  | 67905-19-5   |
|  | 全氟十六烷酸鹽 (PFHxDA (anion))<br>Hentriacontafuorohexadecanoate anion (PFHxDA (anion))  | 1214264-30-8 |
| PFODA, 及其鹽<br>(PFODA, its salts)           | 全氟十八烷酸及其鹽類 (Perfluorooctadecanoic acid) (PFODA, C18))  | 16517-11-6   |
|  | 全氟十八烷酸鹽 (PFODA (anion))<br>Perfluorooctadecanoate anion (PFODA (anion))  | 798556-82-8  |
| PFDS, 及其鹽<br>(PFDS, its salts)             | 全氟癸烷磺酸 (Perfluorodecane sulfonate) (PFDS)  | 335-77-3     |
|  | 全氟癸烷磺酸鈉 (PFDS-Na)<br>Perfluorodecanesulfonate Na-salt (PFDS-Na)  | 2806-15-7    |
|  | 全氟癸烷磺酸鉀 (PFDS-K)<br>Perfluorodecanesulfonate K-salt (PFDS-K)   | 2806-16-8    |
|  | 全氟癸基磺酸銨 (PFDS-NH <sub>4</sub> )<br>Perfluoroaliphatic decan-sulfonate salt of NH <sub>4</sub> (PFDS-NH <sub>4</sub> )  | 67906-42-7   |
|  | 全氟癸基磺酸鹽<br>Perfluorodecane sulfonate (anion)   | 126105-34-8  |
|  | 全氟癸磺酸酐 (PFDSA)<br>Perfluorodecane sulfonic anhydride (PFDSA)   | 51667-62-0   |

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## Test Report

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                                   | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| H2PFDA, 及其鹽<br>(H2PFDA, its salts)                     | 2H,2H-全氟癸酸 (2H,2H-Perfluorodecane acid) (H2PFDA)  | 27854-31-5   |
|  | 四丁基磷2H,2H-全氟癸酸酯<br>Tetrabutylphosphonium 2H,2H-Perfluorodecanoate   | 882489-14-7  |
| ADONA, 及其鹽<br>(ADONA, its salts)                       | 4,8-二氧雜-3H-全氟壬酸 (4,8-Dioxa-3H-perfluorononanoic acid) (ADONA)   | 919005-14-4  |
|  | 4,8-二氧雜-3H-全氟壬酸銨 (ADONA-NH <sub>4</sub> )<br>Ammonium 4,8-dioxa-3H-perfluorononanoate (ADONA-NH <sub>4</sub> )  | 958445-44-8  |
|  | 4,8-二氧雜-3H-全氟壬酸鈉 (ADONA-Na)<br>Sodium 4,8-dioxa-3H-perfluorononanoate (ADONA-Na)  | 2250081-67-3 |
| HFPO-DA, 及其鹽&衍生物<br>(HFPO-DA, its salts & derivatives) | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸 (2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid) (HFPO-DA)   | 13252-13-6   |
|  | 丙酸 · 2,3,3,3-四氟-2-(1,1,2,2,3,3,3-七氟丙氧基)-(2R)-<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-(2R)-                                   | 75579-39-4   |
|  | 丙酸 · 2,3,3,3-四氟-2-(1,1,2,2,3,3,3-七氟丙氧基)-(2S)-<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-(2S)-                                   | 75579-40-7   |
|  | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸鉀<br>2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, K- salts  | 67118-55-2   |
|  | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸銨<br>2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, ammonium salts  | 62037-80-3   |
|  | 丙酸 · 2,3,3,3-四氟-2-(1,1,2,2,3,3,3-七氟丙氧基)-鈉鹽 (1:1)<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, sodium salt (1:1)                  | 67963-75-1   |
|  | 丙酸 · 2,3,3,3-四氟-2-(1,1,2,2,3,3,3-七氟丙氧基)-離子(1-)<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, ion(1-)                              | 122499-17-6  |
|  | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸化合物與 N-丙基-1-丙胺 (1:1)<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-, compd. with N-propyl-1-propanamine (1:1) | 165951-17-7  |
|  | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸化合物與 N,N-二乙基乙胺 (1:1) (9CI)<br>Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, compd. with N,N-diethylethanamine (1:1) (9CI)    | 165951-18-8  |

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| 群組名稱<br>(Group Name)                                   | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| HFPO-DA, 及其鹽&衍生物<br>(HFPO-DA, its salts & derivatives) | 4-[(6-甲氧基-3-噁嗪基)氮磺酰]2,3,3,3-四氟-2-(七氟丙氧基)丙酸苯銨<br>4-[(6-Methoxy-3-pyridazinyl)sulfamoyl]anilinium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate   | 298703-31-8  |
|  | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸醯基氟化物<br>2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its acyl halides   | 2062-98-8    |
|  | 苯甲酸·2,3,6-三碘-,(1-甲基-3-哌啶基)甲酯化合物與 2,3,3,3-四氟-2-(1,1,2,2,3,3,3-七氟丙氧基)丙酸酯 (1:1) (HFPO-C <sub>14</sub> H <sub>16</sub> F <sub>3</sub> NO <sub>2</sub> )<br>Benzoic acid, 2,3,6-triiodo-, (1-methyl-3-piperidiny)methyl ester, compd. with 2,3,3,3-tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoro propoxy)propanoate (1:1) (HFPO-C <sub>14</sub> H <sub>16</sub> F <sub>3</sub> NO <sub>2</sub> ) | 2412106-69-3 |
| 4:2 FTS, 及其鹽<br>(4:2 FTS, its salts)                   | 1H,1H,2H,2H-全氟己磺酸 (1H,1H,2H,2H-Perfluorohexanesulfonic acid) (4:2 FTS)   | 757124-72-4  |
|  | 1H,1H,2H,2H-全氟己烷磺酸鈉<br>1H,1H,2H,2H-perfluorohexane sulfonate acid sodium salt  | 27619-93-8   |
|  | 1H,1H,2H,2H-全氟己磺酸鹽 (4:2FTS(anion))<br>4:2 Fluorotelomer sulfonate (4:2FTS(anion))  | 414911-30-1  |
| FOSAA, 及其鹽<br>(FOSAA, its salts)                       | 全氟辛烷磺酰胺乙酸 (Perfluorooctane sulfonamidoacetic acid) (FOSAA)   | 2806-24-8    |
|  | 全氟辛烷磺酰胺乙酸鹽 (FOSAA(anion))<br>N-[(Perfluorooctyl)sulfonyl]glycinate (FOSAA(anion))  | 909405-47-6  |
|  | 全氟辛烷磺酰胺乙酸鉀 (FOSAA-K)<br>N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)   | 75260-69-4   |
|  | 全氟辛烷磺酰胺乙酸鈉 (FOSAA-Na)<br>N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)  | 115716-87-5  |
| N-MeFOSAA, 及其鹽<br>(N-MeFOSAA, its salts)               | N-甲基全氟辛烷磺酰胺乙酸 (N-methylperfluorooctane sulfonamidoacetic acid) (N-MeFOSAA)   | 2355-31-9    |
|  | N-甲基全氟辛烷磺酰胺乙酸鹽 (N-Me-FOSAA(anion))<br>2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA(anion))  | 909405-48-7  |
|  | N-甲基全氟辛烷磺酰胺乙酸鉀 (N-Me-FOSAA-K)<br>Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)  | 70281-93-5   |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                     | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| N-EtFOSAA, 及其鹽<br>(N-EtFOSAA, its salts) | N-乙基全氟辛烷磺酰胺乙酸及其鹽類 (N-ethylperfluorooctane sulfonamidoacetic) (N-EtFOSAA)                                       | 2991-50-6    |
|  | N-乙基全氟辛烷磺酰胺乙酸鉀 (N-Et-FOSAA-K)<br>Potassium N-ethyl-N-((heptadecafluorooctyl)sulphonyl)glycinate (N-Et-FOSAA-K) | 2991-51-7    |
|  | N-乙基全氟辛烷磺酰胺乙酸鹽 (N-Et-FOSAA(anion))<br>2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA(anion))        | 909405-49-8  |
|  | N-乙基全氟辛烷磺酰胺乙酸銨 (N-Et-FOSAA-NH4)<br>Ammonium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-NH4)      | 2991-52-8    |
|  | N-乙基全氟辛烷磺酰胺乙酸鈉 (N-Et-FOSAA-Na)<br>Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)          | 3871-50-9    |
| 4HPFUa, 及其鹽<br>(4HPFUa, its salts)       | 2H,2H,3H,3H-全氟癸酸 (2H,2H,3H,3H-Perfluoroundecanoic Acid) (4HPFUa)   | 34598-33-9   |
|  | 2H,2H,3H,3H-全氟癸酸鉀 (H4PFUa-K)<br>Potassium 2H,2H,3H,3H-Perfluoroundecanoate (H4PFUa-K)                          | 83310-58-1   |
|  | 2H,2H,3H,3H-全氟癸酸鋰 (H4PFUa-Li)<br>Lithium 3-(perfluorooctyl)propanoate (H4PFUa-Li)                              | 67304-23-8   |
| PFPeS, 及其鹽<br>(PFPeS, its salts)         | 全氟戊磺酸 (Perfluoropentane sulfonic acid) (PFPeS)   | 2706-91-4    |
|  | 全氟戊磺酸鈉 (PFPeS-Na*)<br>Sodium perfluoro-1-pentanesulfonate (PFPeS-Na*)  | 630402-22-1  |
|  | 全氟戊磺酸鉀 (PFPeS-K)<br>Potassium perfluoropentane-1-sulphonate (PFPeS-K)  | 3872-25-1    |
|  | 全氟戊磺酸銨 (PFPeS-NH <sub>4</sub> *)<br>Ammonium perfluoropentanesulfonate (PFPeS-NH <sub>4</sub> *)               | 68259-09-6   |
|  | 全氟戊磺酸-雙(2-羥乙基)銨<br>Bis(2-hydroxyethyl) ammonium 1,1,2,2,3,3,4,4,5,5,5-undecafluoropentane-1-sulphonate         | 70225-17-1   |
|  | 全氟戊磺酸鋰 (PFPeS-Li)<br>Undecafluoropentane-1-sulfonic acid lithium salt (PFPeS-Li)                               | 1046864-81-6 |
|  | 全氟戊磺酸鹽<br>Perfluoropentane sulfonate (anion)   | 175905-36-9  |

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)   | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| PFPeS, 及其鹽<br>(PFPeS, its salts)   | 全氟戊磺酸三乙銨<br>Triethylammonium perfluoropentane sulfonate  | 72033-42-2   |
|  | 全氟戊磺酸酐 (PFPeSA)<br>Perfluoropentane sulfonic anhydride (PFPeSA)  | 161877-72-1  |
| 9Cl-PF <sub>3</sub> ONS, 及其鹽<br>(9Cl-PF <sub>3</sub> ONS, its salts)     | 9-氯十六氟-3-氧雜壬烷-1-磺酸及其鹽類 (9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid) (9Cl-PF <sub>3</sub> ONS)  | 756426-58-1  |
|  | 9-氯十六氟-3-氧雜壬烷-1-磺酸鉀 (9Cl-PF <sub>3</sub> ONS-K)<br>Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (9Cl-PF <sub>3</sub> ONS-K)                                  | 73606-19-6   |
|  | 9-氯十六氟-3-氧雜壬烷-1-磺酸銨 (9Cl-PF <sub>3</sub> ONS-NH <sub>4</sub> )<br>Ammonium perfluoro-2-[(6-chlorohexyl)oxy]ethane-1-sulfonate (9Cl-PF <sub>3</sub> ONS-NH <sub>4</sub> ) | 1383434-28-3 |
| 11Cl-PF <sub>3</sub> OUdS, 及其鹽<br>(11Cl-PF <sub>3</sub> OUdS, its salts) | 11-氯二十氟-3-氧雜十一烷-1-磺酸 (11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid) (11Cl-PF <sub>3</sub> OUdS)   | 763051-92-9  |
|  | 11-氯二十氟-3-氧雜十一烷-1-磺酸鉀 (11Cl-PF <sub>3</sub> OUdS-K)<br>Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate (11Cl-PF <sub>3</sub> OUdS-K)                           | 83329-89-9   |
| 8:2diPAP, 及其鹽<br>(8:2diPAP, its salts)                                   | 雙(1H,1H,2H,2H-全氟癸基)磷酸酯 (Bis(1H,1H,2H,2H-Perfluorodecyl)phosphate) (8:2diPAP)   | 678-41-1     |
|  | 雙(1H,1H,2H,2H-全氟癸基)磷酸酯鈉 (8:2diPAP-Na)<br>Sodium bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)   | 114519-85-6  |
|  | 雙(2-羥乙基)雙((全氟辛基)乙基)磷酸氫銨<br>Bis(2-hydroxyethyl)ammonium bis((perfluorooctyl)ethyl) hydrogen phosphate   | 57677-97-1   |
|  | 雙[2-(全氟辛基)乙基]磷酸銨鹽 (8:2diPAP-NH <sub>4</sub> )<br>Bis[2-(perfluorooctyl)ethyl] phosphate ammonium salt (8:2diPAP-NH <sub>4</sub> )  | 93776-20-6   |
|  | 8:2 氟調聚物磷酸二酯離子<br>8:2 Fluorotelomer phosphate diester ion  | 1411713-91-1 |
| 11H-PFUnDA, 及其鹽<br>(11H-PFUnDA, its salts)                               | 11H-全氟十一烷酸 (11H-Perfluoroundecanoic acid) (11H-PFUnDA)   | 1765-48-6    |
|  | 11H-全氟十一烷酸鉀 (11H-PFUnDA-K)<br>potassium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-icosafluoroundecanoate (11H-PFUnDA-K)  | 307-71-1     |
|  | 11H-全氟十一烷酸銨 (11H-PFUnDA-NH <sub>4</sub> )<br>Ammonium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-icosafluoroundecanoate (11H-PFUnDA-NH <sub>4</sub> )                   | 5081-02-7    |

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# 測試報告

## Test Report

號碼(No.): ETR24800291

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                         | 物質名稱<br>(Substance Name)  | CAS No.      |
|--|---|--------------|
| 11H-PFUnDA, 及其鹽<br>(11H-PFUnDA, its salts)   | 11H-全氟十一烷酸鹽 (11H-PFUnDA(anion))<br>11-H-Perfluoroundecanoate (11H-PFUnDA(anion))  | 69681-37-4   |
| PFPrA, 及其鹽<br>(PFPrA, its salts)             | 五氟丙酸 (Pentafluoropropionate acid) (PFPrA)   | 422-64-0     |
|  | 五氟丙酸鈉 (PFPrA-Na)<br>Sodium pentafluoropropionate (PFPrA-Na)   | 378-77-8     |
|  | 五氟丙酸銀 (PFPrA-Ag)<br>Silver pentafluoropropionate (PFPrA-Ag)   | 509-09-1     |
|  | 五氟丙酸鉀 (PFPrA-K)<br>Potassium pentafluoropropionate (PFPrA-K)  | 378-76-7     |
|  | 五氟丙酸銨 (PFPrA-NH <sub>4</sub> )<br>Ammonium pentafluoropropionate (PFPrA-NH <sub>4</sub> )   | 2730-58-7    |
| 6:6 PFPI, 及其鹽<br>(6:6 PFPI, its salts)       | 6:6 全氟次磷酸 (6:6 Perfluorophosphinic acid) (6:6 PFPI)   | 40143-77-9   |
|  | 6:6 全氟次磷酸鈉 (6:6 PFPI-Na)<br>Sodium bis(perfluorohexyl)phosphinate (6:6 PFPI-Na)   | 70609-44-8   |
|  | 6:6 全氟次磷酸鐿 (6:6 PFPI-Yb)<br>Bis(perfluorohexyl) phosphinic acid ytterbium(3+) salt (6:6 PFPI-Yb)  | 500776-72-7  |
|  | 6:6 全氟次磷酸鉺 (6:6 PFPI-Er)<br>Bis(perfluorohexyl) phosphinic acid erbium(3+) salt (6:6 PFPI-Er)   | 500776-73-8  |
| 8:8 PFPI, 及其鹽<br>(8:8 PFPI, its salts)       | 8:8 全氟次磷酸 (8:8 Perfluorophosphinic acid) (8:8 PFPI)   | 40143-79-1   |
|  | 8:8 全氟次磷酸鈉 (8:8 PFPI-Na)<br>Sodium bis(perfluorooctyl)phosphinate (8:8 PFPI-Na)   | 500776-69-2  |
|  | 8:8 全氟次磷酸鉺 (8:8 PFPI-Er)<br>Bis(perfluorooctyl) phosphinic acid erbium(3+) salt (8:8 PFPI-Er)   | 500776-70-5  |
|  | 8:8 全氟次磷酸鐿 (8:8 PFPI-Yb)<br>Bis(perfluorooctyl) phosphinic acid ytterbium(3+) salt (8:8 PFPI-Yb)  | 500776-71-6  |
| 6:2 monoPAP, 及其鹽<br>(6:2 monoPAP, its salts) | 單[2-(全氟乙烷)乙基]磷酸鹽 (Mono[2-(perfluorohexyl)ethyl] Phosphate) (6:2 monoPAP)  | 57678-01-0   |
|  | 單[2-(全氟乙烷)乙基]磷酸二銨 (6:2 monoPAP-NH <sub>4</sub> NH <sub>4</sub> )<br>Diammonium 6:2 fluorotelomer phosphate monoester (6:2 monoPAP-NH <sub>4</sub> NH <sub>4</sub> ) | 1000852-37-8 |
| 8:2 monoPAP, 及其鹽<br>(8:2 monoPAP, its salts) | 單-[2-(全氟辛基)乙基]磷酸酯 (Mono-[2-(perfluorooctyl)ethyl]phosphate) (8:2 monoPAP)   | 57678-03-2   |
|  | 1H,1H,2H,2H-全氟癸基磷酸鈉 (8:2 monoPAP-Na)<br>Sodium 1H,1H,2H,2H-perfluorodecyl phosphate (8:2 monoPAP-Na)  | 92678-93-8   |

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)                     | 物質名稱<br>(Substance Name)   | CAS No.      |
|--|--|--------------|
| 6:2 FTPA, 及其鹽<br>(6:2 FTPA, its salts)   | 1H,1H,2H,2H-全氟辛烷磷酸 (1H,1H,2H,2H-Perfluorooctanephosphonic acid) (6:2 FTPA)   | 252237-40-4  |
|  | ((全氟己基)乙基)膦酸鈉 (Cheminox FHP 2OH-Na(PFHEPA-Na))<br>Sodium hydrogen ((perfluorohexyl)ethyl)phosphonate (Cheminox FHP 2OH-Na(PFHEPA-Na))  | 1189052-95-6 |
| HFPO-TA, 及其鹽<br>(HFPO-TA, its salts)     | 全氟-2,5-二甲基-3,6-二氧雜壬酸 (Perfluoro-2,5-dimethyl-3,6-dioxanonanoic acid) (HFPO-TA)   | 13252-14-7   |
|  | 全氟-2,5-二甲基-3,6-二氧雜壬酸鉀 (HFPO-TA-K)<br>Potassium perfluoro(2-(2-propoxypropoxy)propanoate) (HFPO-TA-K)   | 67118-57-4   |
|  | 全氟-2,5-二甲基-3,6-二氧雜壬酸鈉 (HFPO-TA-Na)<br>Perfluoro-2,5-dimethyl-3,6-dioxanonanoic acid, sodium salt (HFPO-TA-Na)  | 67963-76-2   |
|  | 全氟-2,5-二甲基-3,6-二氧雜壬酸銨 (HFPO-TA-NH <sub>4</sub> )<br>2,3,3,3-Tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]propanoic acid--ammonia (HFPO-TA-NH <sub>4</sub> ) | 13043-05-5   |
|  | 全氟-2,5-二甲基-3,6-二氧雜壬酸氟 (HFPO-TA-F)<br>Hexafluoropropene oxide trimer (HFPO-TA-F)  | 2641-34-1    |
| 6:2 diPAP, 及其鹽<br>(6:2 diPAP, its salts) | 雙[2 - (全氟己基)乙基]磷酸鹽 (Bis[2-(perfluorohexyl)ethyl] Phosphate) (6:2 diPAP)  | 57677-95-9   |
|  | 雙[2 - (全氟己基)乙基]磷酸鈉 (6:2 diPAP-Na)<br>Sodium bis[2-(perfluorohexyl)ethyl] phosphate (6:2 diPAP-Na)  | 407582-79-0  |
|  | 雙[2 - (全氟己基)乙基]磷酸鹽 (6:2 diPAP(anion))<br>Bis(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) phosphate ion (6:2 diPAP(anion))  | 667465-18-1  |
| TFSI, 及其鹽<br>(TFSI, its salts)           | 雙三氟甲烷磺酰亞胺及其鹽類 (Trifluoromethanesulfonimide) (TFSI)   | 82113-65-3   |
|  | 吡咯烷鎂 · 1-丁基-1-甲基- · 與 1,1,1-三氟-N-[(三氟甲基)磺酰基]甲磺酰胺的鹽 (1:1)<br>Pyrrolidinium, 1-butyl-1-methyl-, salt with 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide (1:1)      | 223437-11-4  |
|  | 三丁基甲基雙(三氟甲磺酰)亞胺鎂<br>Tributylmethyl Ammonium Bis(trifluoromethanesulfonyl) Imide  | 405514-94-5  |
|  | 雙三氟甲烷磺酰亞胺鎂 (TFSI-Li)<br>Lithium bis((trifluoromethyl)sulfonyl)azanide (TFSI-Li)  | 90076-65-6   |

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

| 群組名稱<br>(Group Name)  | 物質名稱<br>(Substance Name)                                    | CAS No.     |
|---|---|-------------|
| 乙基九氟丁基及其異構體 (Ethyl perfluoroisobutyl ether and its isomers) | 乙基九氟丁基及其異構體 (Ethyl perfluoroisobutyl ether and its isomers) | 163702-05-4 |
|   | 全氟異丁基乙醚<br>Perfluoroisobutyl ethyl ether                    | 163702-06-5 |

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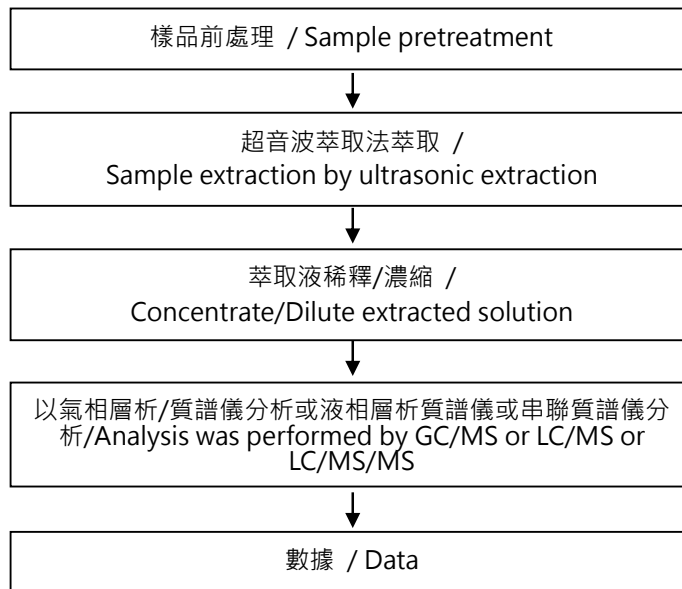
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宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

### 全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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## 測試報告

## Test Report

號碼(No.): ETR24800291

日期(Date): 12-Aug-2024

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乾羅科技股份有限公司 (PLUG MASTER INDUSTRIAL CO., LTD.)

宜蘭縣五結鄉仁五路一段46巷1號 (NO.1, LN46 SEC.1 REN 5TH RD., WUJIE TONSHIP YILAN COUNTY 268, TAIWAN)

\* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。\*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

### ETR24800291



\*\* 報告結尾 (End of Report) \*\*

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