

出國報告（出國類別：開會）

參加持久性有機污染物斯德哥爾摩公約 締約國、工作小組及相關會議

服務機關：行政院環境保護署毒物及化學物質局

姓名職稱：黃佑榮技士、高瑄倅技士

派赴國家/地區：瑞士日內瓦

出國期間：108年4月27日至108年5月5日

報告日期：108年7月24日

摘要

聯合國為呼籲全球應針對持久性有機污染物採取一些必要之行動，故於 1995 年起開始研擬相關管制措施，於西元（下同）2004 年 5 月 17 日斯德哥爾摩公約正式生效。目前共規範 28 種持久性有機污染物，而公約列管屬於附件 A、B 及 C 中之持久性有機污染物，均由持久性有機污染物審查委員會(Persistent Organic Pollutants Review Committee, POPRC)定期進行審議。公約每 2 年召開 1 次締約方大會，會議中將決議 POPRC 所建議之化學物質之列管情形，並討論公約執行之行政事務，以及審查評估公約的實施情況，以確保各締約方履行公約規範之各項職責。

今年度斯德哥爾摩公約第 9 屆締約方大會併同巴塞爾公約第 14 屆締約方大會及鹿特丹公約第 9 屆締約方大會，於瑞士日內瓦共同舉行，會議日期為 2019 年 4 月 29 日至 5 月 10 日，與會人員包含各國代表、相關政府組織、非政府組織等超過 1,700 人參與。

本次會議達成多項結論，包括：

- 一、決議將大克蠟(Dicofol)列入公約附件 A，並且不附帶任何特定豁免條件。
- 二、決議將全氟辛酸(Perfluorooctanoic acid, PFOA) 及其鹽類及其相關化合物列入公約附件 A，並附帶特定豁免條件。
- 三、修正全氟辛烷磺酸(Perfluorooctanesulfonic acid, PFOS)及其鹽類和全氟辛烷磺酸醯氟(Perfluorooctanesulfonyl fluoride, PFOSF)之特定豁免及可接受用途。

透過參與此次會議，已大致掌握國際間對於上述持久性有機污染物質之管理情形與未來處置建議，同時亦蒐整分析目前國際最新管理資訊予國內相關部會，作為未來與國際公約接軌及本署施政之參考。

目次

摘要.....	I
一、目的.....	1
二、過程.....	2
(一) 出國行程概要.....	2
(二) 第 9 屆斯德哥爾摩公約之締約方大會(COP9)主要議程.....	3
(三) 主要會議結論.....	4
(四) 雙邊會談交流.....	7
三、心得及建議.....	10
附錄一、2019 年三公約大會議程	
附錄二、第 9 屆斯德哥爾摩公約締約方大會議程	
附錄三、有關大克蠟之議題資料及決議（草案）	
附錄四、有關 PFOA 及其鹽類和相關化合物之議題資料及決議（草案）	
附錄五、有關 PFOS 及其鹽類和 PFOSF 之議題資料及決議（草案）	

一、目的

由於持久性有機污染物(Persistent Organic Pollutants, POPs)兼具生物累積性、高毒性、長距離遷移及在環境中難以分解特性，聯合國環境規劃總署(UNEP)遂訂定全球性之「持久性有機污染物斯德哥爾摩公約」(Stockholm Convention on Persistent Organic Pollutants, 簡稱 POPs 公約)，西元(下同)2004年5月17日公約生效，截至目前已列管28種 POPs，該公約主要針對此些已列管之採取必要國際行動，如禁用、限用或減少、消除無意排放等。現階段共計有152個簽署國及182個公約締約方，而斯德哥爾摩公約締約方大會(Conference of the Parties, COP)係依據公約第19條成立，為公約實質管理主體，COP 成員每兩年開會一次，討論公約列管物質及其他相關議題。此外，對於具 POPs 特性卻尚未納入列管物質，為逐步減少其對人類及環境不利影響，公約設立持久性有機污染物審查委員會(Persistent Organic Pollutants Review Committee, POPRC)，依據公約篩選標準、原則及流程，持續對其他化學物質進行審議，以提出是否納入公約列管意見。

截至2018年，斯德哥爾摩公約已完成召開8次締約方大會及14次 POPs 審查委員會。雖然我國並非公約締約方，但為使我國管理與國際接軌，仍需掌握公約最新動態，借鏡國外作法與管理方式，即時調整我國管制方式或預先因應。同時，我國目前已透過「毒性及關注化學物質管理法」、「農藥管理法」及相關法規嚴格管制或禁限用公約列管之 POPs，並已完成制定「國家實施計畫(National Implementation Plan, NIP)」，作為跨部會溝通協調管制之依據，若能透過如審查委員會類型之國際性會議，預期可藉此向國際分享我國長年努力成果與執行經驗。

本年度(2019年)第9屆斯德哥爾摩公約之締約方大會，併同第9屆鹿特丹公約及第14屆巴塞爾公約之締約方大會(以下簡稱3公約大會)，於2019年4月29日至5月10日於瑞士日內瓦共同召開。本屆會議討論與公約有關之事項，包含減少或消除污染措施、實施計畫、將化學品列入公約附件等，並加強3公約之間之合作與協調。本次依循以往作法，以非政府組織(Non-Governmental Organization, NGO)觀察員身分出席參與今年召開之第9次斯德哥爾摩公約締約方大會(COP9)，主要欲達成之目標包括：

- (一) 掌握締約方大會增列大克蠟(dicofol)、全氟辛酸(Perfluorooctanoic acid, PFOA)及其鹽類和相關化合物為列管物質之決議，以做為國內未來管理、施政及策略擬定之參考依據。
- (二) 加強與國際間專家學者之交流，並與國際接軌，藉此增加我國於國際間之能見度，促成未來各類型國際合作之可能性。

二、過程

(一) 出國行程內容概要

本次派員參加斯德哥爾摩公約締約方、工作小組及相關會議之行程規劃詳如表 1，我團參與人員如圖 1，會場現場情形如圖 2 所示。

表 1 出國行程內容概要

日期	工作內容概要
4 月 27 日 ~ 4 月 28 日	去程，出發至瑞士日內瓦，中途於荷蘭阿姆斯特丹轉機
4 月 29 日 ~ 5 月 3 日	參加「斯德哥爾摩公約第 9 次締約方大會 (COP9)」 會議地點：瑞士日內瓦國際會議中心 (Geneva International Conference Centre, CICC)
5 月 4 日 ~ 5 月 5 日	1.整理會議資料與結論 2.辦理雙邊會談 3.參與後續鹿特丹公約相關議程



圖 1 我團參與人員於會場合影



圖 2 會議現場照片

(二) 第 9 屆斯德哥爾摩公約之締約方大會(COP9)主要議程

本年度第 9 屆斯德哥爾摩公約之締約方大會，併同第 9 屆鹿特丹公約及第 14 屆巴塞爾公約之締約方大會（以下簡稱 3 公約大會），於 2019 年 4 月 29 日至 5 月 10 日於瑞士日內瓦共同召開，計有超過 1,700 位代表與會，會議現場照片如圖 1 所示。議程如下：

1. 會議開幕。
2. 通過議程。
3. 組織事項：
 - (1) 選舉主席團成員；
 - (2) 工作安排；
 - (3) 關於締約方大會第九次會議與會代表全權證書的報告。
4. 締約方大會的議事規則。
5. 與執行《公約》有關的事項：
 - (1) 減少或消除源自有意生產和使用的釋放的措施；
 - (2) 豁免問題；
 - (3) 滴滴涕；
 - (4) 多氯聯苯；

- (5) 全氟辛烷磺酸、其鹽類及全氟辛基磺醯氟；
 - (6) 評價是否繼續需要第 3 條第 2 (b)款規定的程式；
 - (7) 減少或消除源自無意生產的釋放的措施；
 - (8) 減少或消除源自廢物的釋放的措施；
 - (9) 實施計畫；
 - (10) 將化學品列入《公約》附件 A、B 或 C；
 - (11) 技術援助；
 - (12) 財政資源及機制；
 - (13) 依照第 15 條進行報告；
 - (14) 成效評估；
 - (15) 遵守情事。
6. 加強巴塞爾公約、鹿特丹公約和斯德哥爾摩公約之間的合作與協調：
- (1) 國際合作與協調；
 - (2) 信息交換機制；
 - (3) 性別主流化；
 - (4) 協同防止和打擊危險化學品的非法販運和貿易；
 - (5) 將科學知識轉化為行動。
7. 工作方案和預算。
8. 聯合國環境規劃署與斯德哥爾摩公約締約方大會的諒解備忘錄。
9. 締約方大會第十次會議的日期和地點。
10. 其他事項。
11. 通過報告。
12. 會議閉幕。

(三) 主要會議結論

- 1. 減少或消除源自有意生產和使用的釋放的措施
 - (1) 未來將不再接受下列公約列管化學物質之特定豁免、可接受用途及其他豁免註冊：
 - A. 靈丹(Lindane)作為控制頭蝨及疥瘡之二線治療之人體藥物。

- B. 全氟辛烷磺酸(Perfluorooctanesulfonic acid, PFOS)及其鹽類和全氟辛烷磺酸醯氟(Perfluorooctanesulfonyl fluoride, PFOSF)用於光罩、金屬鍍層，彩色印表機及相片輸出之電子零件、控制紅火蟻及白蟻之殺蟲劑、石化產業等。

(2) DDT：

- A. 對於某些依賴 DDT 用於疾病防治的國家來說，DDT 仍然是對當地安全且有效的方式，且目前尚缺少可負擔的替代方案。
- B. 決議在第 10 次締約方大會(COP10)上將基於科學、技術、環境及經濟資訊，以及 DDT 專家小組所提供之資料，以加速發展因地適宜、符合成本效益及安全替代之目的，討論 DDT 用於疾病防治之必要性。

(3) 多氯聯苯(polychlorinated biphenyls, PCBs)

- A. 決議在第 11 次締約方大會(COP11)上檢視 PCBs 淘汰進度。
- B. 決議重新建立休會期間工作小組，撰寫 COP11 上將討論之 PCBs 淘汰進度報告。

(4) PFOS 和 PFOSF

- A. 修正附件 B 之第 1 部分，將氟硫胺 (sulfluramid) 作為防治切葉蟻所使用之昆蟲餌劑為僅有的可接受用途。
- B. 另修正特定豁免條件至 2 種用途：封閉系統中之金屬鍍層和已安裝系統之消防泡沫。
- C. 在附件 B 的第 3 部份增加一段新的文字以規範消防泡沫之豁免條件：
 - a. 含有 PFOS 及其鹽類及 PFOSF 之消防泡沫，除非是以環境完善處置為目的，否則不得進出口。
 - b. 含有 PFOS 及其鹽類及 PFOSF 之消防泡沫不得用於訓練。
 - c. 含有 PFOA 及其鹽類及 PFOSF 之消防泡沫不得用於測試，除非所有逸散皆能被收集。
 - d. 2022 年底前，限制含有 PFOA 及其鹽類及其相關化合物之消防泡沫使用於逸散物可被收集之場址。

- e. 作出明確努力，以達成現有庫存及可能含有 PFOA 及其鹽類及其相關化合物之消防泡沫之廢棄物之環境友善處置。
 - D. 決議重新建立休會期間工作小組，撰寫 COP11 上將討論之 PCBs 淘汰進度報告。
 - E. 決議在 COP10 上將基於科學、技術、環境及經濟資訊，以及 DDT 專家小組所提供之資料，以加速發展因地適宜、符合成本效益及安全替代之目的，討論 DDT 用於疾病防治之必要性。
2. 將化學物質列入公約附件 A、B 或 C：
- (1) 大克蠟(Dicofol)：決議列入附件 A，並且不附帶任何特定豁免條件。
 - (2) 全氟辛酸(PFOA)及其鹽類及其相關化合物
 - A. 決議列入附件 A，並附帶下列豁免條件：
 - 半導體製造中光刻或蝕刻製程
 - 用於底片的攝影塗料
 - 保護工人免受危險液體造成的健康和​​安全風險影響的抗油抗水紡織品
 - 侵入性和可植入的醫療裝置
 - 已安裝系統(包括移動和固定系統)中的用於抑制液體燃料蒸汽和用於撲滅液體燃料火災(B類火災)的消防泡沫
 - 使用全氟碘辛烷生產全氟溴辛烷，用於藥品生產目的(將於 COP13 評估本項豁免條件之必要性，最遲將於 2036 年前終​​止其豁免)
 - 生產用於高性能抗腐蝕之氣體濾膜、水濾膜及醫療用紡織品、工業用廢熱交換設備、防制揮發性有機氣體及 PM2.5 洩漏之工業用密封劑之聚四氟乙烯(Polytetrafluoroethylene, PTFE)及聚偏二氟乙​​烯(polyvinylidene difluoride, PVDF)
 - 生產用於輸配電設備之高壓傳輸電纜之氟化乙​​烯丙​​烯共聚物(polyfluoroethylene propylene, FEP)
 - 生產用於製造 O 型圈、三角皮帶及汽車內裝之塑膠配件之氟橡膠
 - B. 針對消防泡沫之特定豁免，大會另外作出下列規範：
 - 含有 PFOA 及其鹽類及其相關化合物之消防泡沫，除非是以環境完善處置為目的，否則不得進出口。

- 含有 PFOA 及其鹽類及其相關化合物之消防泡沫不得用於訓練。
- 含有 PFOA 及其鹽類及其相關化合物之消防泡沫不得用於測試，除非所有逸散皆能被收集。
- 2022 年底前，最晚不遲於 2025 年，限制含有 PFOA 及其鹽類及其相關化合物之消防泡沫使用於逸散物可被收集之場址。
- 作出明確努力，以達成現有庫存及可能含有 PFOA 及其鹽類及其相關化合物之消防泡沫之廢棄物之環境友善處置。

C. 決議針對 PFOA 採取相關行動：

- 請註冊使用全氟碘辛烷生產全氟溴辛烷，用於藥品生產目的作為特定豁免條件之締約方，於 2025 年 12 月 1 日前，向公約秘書處提出報告，評估該項豁免之必要性。
- 鼓勵各締約方採取其他可行有效之替代物質，同時應考量其他含氟之消防泡沫仍會因其持久性和移動性對環境、人體健康及社會經濟造成負面影響。
- 請秘書處與 POPRC 協商，彙整 PFOA 及其鹽類及其相關化合物所包含之化學物質，建立指示性清單公佈於公約網站，並定期更新。

3. 決議下一次三公約締約方大會將於 2021 年 5 月 17 日至 5 月 28 日於肯亞奈洛比(Nairobi, Kenya)舉行。

(四) 雙邊會談交流

為進一步瞭解國際間公約發展趨勢，於會議期間與瑞士、瑞典、南韓、芬蘭及化學污染國際專家組織(The International Panel on Chemical Pollution, IPCP)之代表會談，會談議題主要針對公約今年列管之大克蝟、PFOA 及 POPRC 目前審議中之全氟己烷磺酸(Perfluorohexane sulfonic acid, PFHxS)之管制情形，以及該國在化學品管理之分工及國際合作執行情形進行交流，雙邊會談照片如圖 4 至圖 5。



圖 3 我團與瑞士代表合影

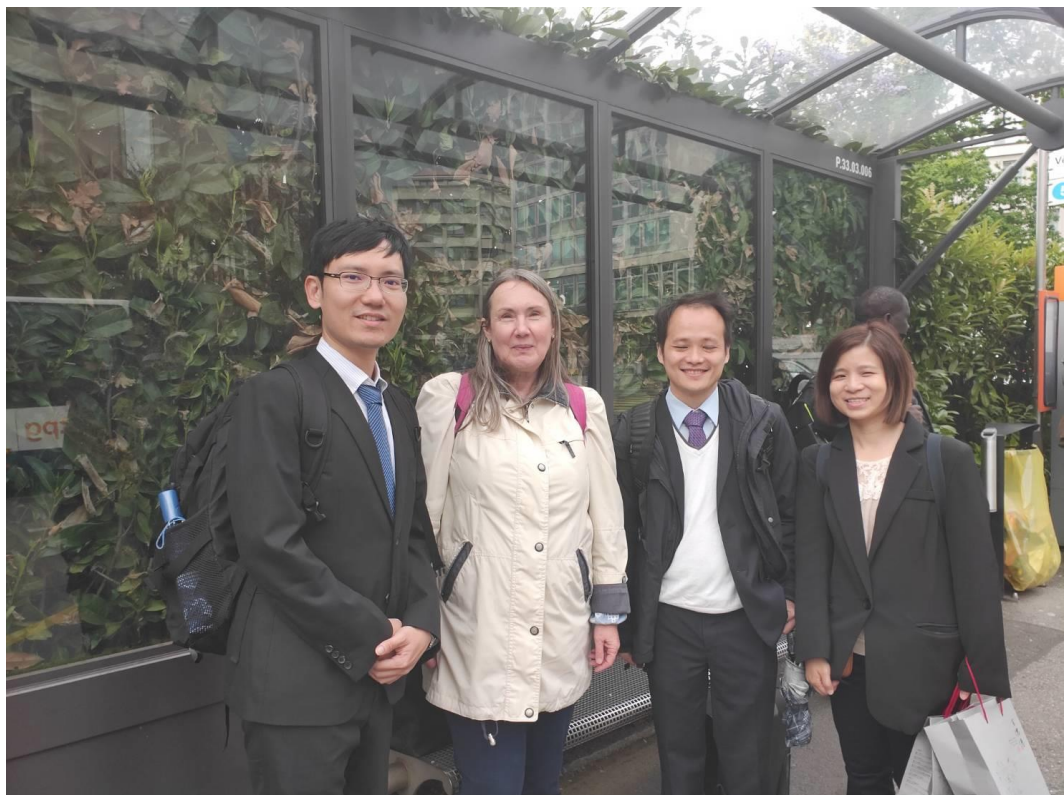


圖 4 我團與瑞典代表合影

1. 與瑞士代表團雙邊交流：

- (1) 於法律位階已分配各部會權責，各部會均依據法規授予的權責分別進行相關工作，若有部會之間需協調事務，以斯德哥爾摩公約為例，會不定期依據議題召開跨部會會議協調相關事宜。
- (2) 除聯邦政府之橫向聯繫，地方政府亦會進行 1 年 2 次會議，聽取地方政府執行相關業務情形，並針對成效評估進行意見交換，縱向聯繫除地方政府外，亦包括相關利害關係人，如 NGO、業者、化學品持有人等。
- (3) 監測計畫：聯邦與地方均有進行監測計畫，以聯邦政府為例，聯邦針對土壤流布有規劃整體策略之監測計畫，各地方政府亦有不同類別之監測，並根據需求，本單位可向各相關單位索取相關監測資料進行彙整。
- (4) 資訊公開：根據奧爾胡斯公約(Aarhus Convention)，相關環保資訊必須依據公約內容公開，除某些商業機密、個人隱私等因素者，其餘均需公開。

2. 與瑞典代表團雙邊交流：

- (1) 會談內容主要為瑞典環保局(Swedish Environmental Protection Agency)及化學局(Swedish Chemicals Agency)在化學品管理之分工權責。其中化學品於環境中之監測主要為環保局之權責，而化學局主要為商品中化學品之管理。

3. 與南韓代表團雙邊交流：

- (1) 南韓環境部國家環境研究中心亦辦理該國有關持久性有機污染物斯德哥爾摩公約、鹿特丹公約(Rotterdam Convention)、汞水俣公約(Minamata Convention)及國際化學品策略方針(Strategic Approach to International Chemical Management, SAICM)之推動。
- (2) 另代表團亦提到該國接受斯德哥爾摩公約次區域中心之委託，辦理持久性有機污染物資訊研習會及東亞國家持久性有機污染物分析訓練，其主要目的在強化東亞國家對 POPs 之資訊收集及分享機制，以達到減少及消除 POPs 之目的，並加強東亞各國對 POPs 之分析能力以評估公約執行成果。
- (3) 南韓代表表示有關監測計畫及訓練計畫，目前包含日本、韓國、菲律賓等國家，其內容為純科學性之交流活動，若臺灣有意願加入可協助洽詢我團以 NGO 名義參與之可行性。

4. 與芬蘭代表團雙邊交流：

- (1) 歐盟對於食物及飼料設有農藥殘留容許量，一般而言是 0.01 mg/kg，並由海關及食品安全單位執行(EU No 396/2005)。另外，歐盟指引 2008/105/EC 也訂有環境品質指引。
- (2) 芬蘭利用多殘留分析進行農藥監測計畫，另外也針對海洋鯖魚及湖中鱸魚進行監測。
- (3) 歐盟自 2017 年已在 REACH 列管全 PFOA 及其有關化合物(EU No 20017/1000)，隨著今年締約方大會列管 PFOA 後，歐盟法規也會隨之修正，主要會加嚴水成膜消防泡沫之限制。
- (4) 芬蘭對於全氟烷化合物(Per- and Polyfluoroalkyl Substances, PFAS)有進行環境監測，最近的一份報告提供了 PFAS 在河川及魚體以及對波羅的海之影響。另外依據魚類之監測結果，戴奧辛、多氯聯苯(PCB)在近幾年有下降的趨勢，但全氟烷化合物相較 2009 年則較為增加。
- (5) 歐盟於 2017 年因全氟己烷磺酸(PFHxS)之持久性及生物累積性，將其列為高度關注物質(Substances of Very High Concern, SVHC)。該物質僅能用於特定用途，當商品含量超過 0.1%時，業者有告知消費者之義務。
- (6) 歐盟針對廢棄物中之 POPs 含量已訂有規範 (REGULATION (EC) No 850/2004)，另外對於含 POPs 廢棄物之處理，芬蘭環保處亦訂有指引，讓利害關係人瞭解如何使有害廢棄物符合 POPs 限值以及其他法規規範(<http://julkaisut.valtioneuvosto.fi/handle/10024/79201>)。
- (7) 芬蘭參與了北極監測及評估計畫(Arctic Monitoring and Assessment Programme, AMAP)，此為跨國的北極監測合作計畫。
- (8) 芬蘭環保部(Ministry of Environment)為目前公約之聯絡窗口，技術層面上則主要由芬蘭環保協會(Finnish Environment Institute, SYKE)執行，同時亦為歐盟持久性有機污染物法規 850/2004 之權責單位（除廢棄物部分為地方政府之權責）。另化學安全局(Chemicals and safety agency, TUKES)則為法規執行單位。另各業者之管理則為地方政府之權責。因資源有限，芬蘭代表也特別強調中央及地方政府溝通聯繫之重要性，並希望各單位都能參考國家實施計畫(National Implementation Plan, NIP)，並瞭解各自在當中需執行之相關工作。



圖 5 我團與芬蘭代表合影

5. 與化學污染國際專家組織(The International Panel on Chemical Pollution, IPCP) 雙邊交流：

- (1) 有關 NIP 部分，公約目前已制訂 NIP 之撰寫指引，多數國家依據其指引進行章節撰寫，但其內容並無嚴格限制，各國有各自之撰寫內容及篇幅，秘書處亦不會針對 NIP 之內容進行檢視，惟建議在撰寫 NIP 時，可針對國人母乳、血液中 POPs 含量進行瞭解，並與國際上之濃度進行比對，方能瞭解本國 POPs 污染情形，以及其後續政策制訂之優先順序。
- (2) 有關環境監測部分，公約目前仍尊重各國之監測結果，並以此作為成效評估之一環，各國各自所執行之採樣策略、檢測方式均為各自自主，僅部分區域中心或次區域中心有執行整體之監測計畫。
- (3) 有關短鏈氯化石蠟(Short-chained chlorinated paraffins, SCCP)，目前因其物質分析較為困難，且常處於混合物之狀態，建議我國可思考是否開發標準檢驗方法，以利瞭解實際管制成效。
- (4) 有關產品含有溴化阻燃劑之調查與處理，芬蘭代表表示該國近期接獲相關產業告知表示無法提供何種產品及何時製造之產品含有溴化阻燃劑之相關資訊，目前就其瞭解，在各國均有相關之困難，因此此部分

除源頭禁用之外，如何處理所有可能相關廢棄物（如電子廢棄物、塑膠廢棄物）並依照持久性有機污染物廢棄物處置方式進行是目前之執行重點。

- (5) PCB 之後續處理，目前已知方式為高溫環境下滯留時間夠久之條件可進行處置，例如於水泥窯或焚化爐進行處置，公約秘書處所撰寫之 POPs 廢棄物處理指引中已有描述，我國後續若有需求可參考其指引內容。

三、心得及建議

- (一) 本次締約方大會新增 2 項列管化學物質，並對部分已列管物質之豁免條件及可接受用途有所修正。持久性有機污染物之管理本局主掌之毒性化學物質管理法外，另外也包含本署、衛生福利部、農業委員會、經濟部、勞動部、財政部之權責。公約列管化學物質之最新情形，建議可透過我國持持久性有機污染物斯德哥爾摩公約國家實施計畫跨部會推動小組會議，提供最新資訊，以俾各部會能提早因應進行相關法規或管制之更新，促使我國持久性有機污染物之管理與國際最新趨勢接軌。
- (二) 本次與瑞士、瑞典、南韓、德國及 IPCP 等代表針對公約列管物質及各國持久性有機污染物管理進行交流，討論化學品管理策略時，部分代表提及管理涉及跨部會之權責，在執行面上也需要地方政府之合作。因此，加強部會間的橫向聯繫以及中央地方政府間之縱向聯繫會是政策推動時應加強之重點，制訂完善的國家實施計畫，並讓各單位充分瞭解其內容，理解各自在計畫中之角色及工作。
- (三) 本次會議進行雙邊會談之政府單位多為環保機關，其負責業務除斯德哥爾摩公約外，大多數也包含鹿特丹公約、汞水俣公約(Minamata Convention on Mercury)及 SAICM，與本局國際交流所涵蓋之國際公約大致相符，未來建議可以這些窗口為基礎，加深與先進國家於化學品管理之交流，逐步建立起互信且可互相分享經驗之國家或非政府組織溝通網路，使我國與國際有效接軌，並使國際間瞭解我國長期致力於持久性有機污染物管理之努力成效。
- (四) 本次與各國代表討論列管物質後續管理及制度規劃方式等議題，涉及環境監測及流布部分亦進行初步意見交換，包括配合締約方全球監測計畫內容或區域監測中心等作法及成果。本局已陸續配合法規針對歷年締約國大會公布化學物質進行列管，並配合持續執行環境流布調查，以監測列管化學物

質流布狀況，並回饋相關監測成果於管理策略，包括化學物質大量運作基準、禁用、限制得使用用途或管制濃度等。本(108)年度已針對第 8 次締約國大會新增之短鏈氯化石蠟及十溴二苯醚等進行公告新增列管或加嚴管制濃度。另本次締約方大會將全氟辛酸及其鹽類和相關化合物、全氟己烷磺酸及其鹽類和相關化合物列入公約附件 A，本局於 109 年將配合納入環境流布調查候選名單，逐步建立國內環境背景值資料，以掌握該物質存在現況。未來朝向逐步蒐集鄰近國家相關列管物質流布資料，以瞭解 POPs 在區域環境之遷移或流布資訊。

(五) 各國面對列管 POPs 品項增加，監測檢驗方法亦須同步發展，也面臨檢測量能需求。而本局關注及毒性化學物質管理法於 108 年 1 月 16 日修正公布，未來公約列管物質亦可能成為未來公告之關注及毒性化學物質，為因應未來關注及毒性化學物質抽樣檢驗工作，本局與行政院環境保護署環境檢驗所合作，將依未來需求建立特定化學物質標準監測檢驗方法。本局將依據前開規劃，持續配合國際趨勢，蒐集相關資訊及開發標準檢驗方法，以符合未來化學物質檢驗需求。

(六) 本次參加已完成與瑞士、瑞典、南韓、德國及 IPCP 之交流，未來可結合本局其他國際交流活動，有系統地蒐集建立國際交流人才資料庫，並於平時保持聯繫或於特殊節日寄發賀卡，持續維持良好互動關係。另未來參與國際公約相關會議時，可藉由公約代表引薦，將本國列管情形提供大會參考，以提升國際合作交流實際成效。

附錄一、2019 年三公約大會議程



UNEP/CHW.14/INF/2
UNEP/FAO/RC/COP.9/INF/2
UNEP/POPS/COP.9/INF/2



**Basel Convention on the Control of
Transboundary Movements of
Hazardous Wastes and Their Disposal**

Distr.: General
21 November 2018
English only



**Rotterdam Convention on the Prior
Informed Consent Procedure for
Certain Hazardous Chemicals and
Pesticides in International Trade**



**Stockholm Convention on Persistent
Organic Pollutants**

**Conference of the Parties to the
Basel Convention on the Control
of Transboundary Movements
of Hazardous Wastes and
Their Disposal
Fourteenth meeting**
Geneva, 29 April–10 May 2019
Item 3 (b) of the provisional agenda**
**Organizational matters:
organization of work**

**Conference of the Parties to the
Rotterdam Convention on the Prior
Informed Consent Procedure for
Certain Hazardous Chemicals and
Pesticides in International Trade
Ninth meeting**
Geneva, 29 April–10 May 2019
Item 3 (b) of the provisional agenda***
**Organizational matters:
organization of work**

**Conference of the Parties to the
Stockholm Convention on
Persistent Organic Pollutants
Ninth meeting**
Geneva, 29 April–10 May 2019
Item 3 (b) of the provisional agenda****
**Organizational matters:
organization of work**

**Tentative schedule of work of the meetings of the conferences of
the Parties to the Basel, Rotterdam and Stockholm conventions**

Note by the Secretariat

The annexes to the present note contain a tentative schedule of work of the meetings of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions (annex I) and a list of possible contact and other groups (annex II). The tentative schedule of work, which was agreed to by the bureaux of the conferences of the Parties to the three conventions at their joint meeting on 15 and 16 November 2018, is provisional and could be subject to changes before or during the two weeks of the meetings.¹ The present note, including its annexes, has not been formally edited.

** UNEP/CHW.14/1.

*** UNEP/FAO/RC/COP.9/1.

**** UNEP/POPS/COP.9/1.

¹ Participants may wish to take into account that each of the sessions of the conferences of the Parties may last longer or begin earlier, subject to the decisions taken by the bureaux, which would be expected to meet each morning from 8 a.m. to 9 a.m. to agree on the order of business for the day, and by the conferences of the Parties. Delegates are therefore advised to allow for a certain level of flexibility when making travel arrangements.

Annex I: Tentative schedule of work of the meetings of the conferences of the Parties from 29 April to 10 May 2019 in Geneva¹

	Mon, 29 April 2019	Tue, 30 April 2019	Wed, 1 May 2019	Thu, 2 May 2019	Fri, 3 May 2019	Sat, 4 May 2019
Morning session 10 a.m. – 1 p.m.	BC Item 1: Opening of the BC meeting BC Item 2: Adoption of the agenda	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>
	RC Item 1: Opening of the RC meeting RC Item 2: Adoption of the agenda	Joint sessions of the COPs: BC Item 4 (cont.)	Session of SC COP-9: Item 5 (cont.)	Session of SC COP-9: <i>Consideration of the outcomes of the contact groups and draft decisions</i>	Session of BC COP-14: Item 4 (cont.)	Session of BC COP-14: Item 4 (cont.)
	SC Item 1: Opening of the SC meeting SC Item 2: Adoption of the agenda	(b) Scientific and technical matters: (i) Technical guidelines (only POPs wastes)	(a) Measures to reduce or eliminate releases from intentional production and use: (ii) DDT; (iii) Polychlorinated biphenyls;	Item 5 (cont.) (i) Effectiveness evaluation; (a) Measures to reduce or eliminate releases from intentional production and use: (v) Evaluation of the continued need for the procedure under paragraph 2(b) of Article 3.	(b) Scientific and technical matters: (i) Technical guidelines (cont.) (excluding POPs wastes) (a) Strategic issues: (i) Strategic framework; (ii) Addressing the entry into force of the Ban Amendment; (iii) Development of guidelines for environmentally sound management; (iv) Cartagena Declaration	(c) Legal, compliance and governance matters: (ii) Providing further legal clarity (b) Scientific and technical matters (cont.): (v) Marine plastic litter and microplastics; ² (iv) Electronic approaches to the notification and movement documents; (vi) Waste containing nanomaterials.
	Joint sessions of the COPs: BC Item 3; RC Item 3; SC Item 3: Organizational matters (b) Organization of work (a) Election of officers (c) Credentials ³ BC Item 4: Matters related to the implementation of the Convention (d) Technical assistance RC Item 5: Matters related to the implementation of the Convention (e) Technical assistance SC Item 5: Matters related to the implementation of the Convention (f) Technical assistance BC Item 4 (cont.) (f) Financial resources RC Item 5 (cont.) (f) Financial resources SC Item 5 (cont.) (g) Financial resources and mechanisms	SC Item 5 (cont.) (c) Measures to reduce or eliminate releases from wastes BC Item 5; RC Item 6; SC Item 6: Enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions (a) International cooperation and coordination; (b) Clearing house mechanism for information exchange; (c) Mainstreaming gender; (d) Synergies in preventing and combating illegal traffic and trade in hazardous chemicals and wastes (e) From science to action. BC Item 7; RC Item 8; SC Item 8: MOU between UNEP and BC COP; MOU between FAO, UNEP and RC COP; MOU between UNEP and SC COP BC Item 8; RC Item 9; SC Item 9: Venue and date of the next COPs BC Item 9; RC Item 10; SC Item 10: Other matters (only admission of observers and guidelines on preventing harassment)	Session of SC COP-9: Item 4: Rules of procedure Item 5 (cont.) (j) Compliance; (cont.) (a) Measures to reduce or eliminate releases from intentional production and use: (i) Exemptions; (iv) Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride;	Session of SC COP-9: Item 5 (cont.) (b) Measures to reduce or eliminate releases from unintentional production; (d) Implementation plans; (h) Reporting pursuant to Article 15;	Item 10 (cont.) (excluding admission of observers and guidelines on preventing harassment)	(c) Legal, compliance and governance matters: (i) Committee Administering the Mechanism for Promoting Implementation and Compliance of the Basel Convention (c) Legal, compliance and governance matters (cont.): (i) Committee Administering the Mechanism for Promoting Implementation and Compliance of the Basel Convention; (cont.)
Afternoon session 3–6 p.m.	Joint sessions of the COPs: BC item 4 (cont.) (c) Legal, compliance and governance matters: (i) Committee Administering the Mechanism for Promoting Implementation and Compliance of the Basel Convention RC Item 5 (cont.) (d) Compliance SC Item 5 (cont.) (j) Compliance BC Item 6; RC Item 7; SC Item 7: Programme of work and budget	Session of SC COP-9: Item 4: Rules of procedure Item 5 (cont.) (a) Measures to reduce or eliminate releases from intentional production and use: (i) Exemptions; (iv) Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride;	Session of SC COP-9: Item 5 (cont.) (b) Measures to reduce or eliminate releases from unintentional production; (d) Implementation plans; (h) Reporting pursuant to Article 15;	Session of SC COP-9: <i>Consideration of the outcomes of the contact groups and draft decisions</i> Item 10 (cont.) (excluding admission of observers and guidelines on preventing harassment)	Session of SC COP-9: <i>Consideration of the outcomes of the contact groups and draft decisions</i> Item 11: Adoption of the report Joint sessions of the COPs: <i>Adoption of the sections of the reports on the joint sessions of the meetings of the COPs</i> ⁴	Session of BC COP-14: Item 4 (cont.) (b) Scientific and technical matters (cont.): (ii) Classification and hazard characterization of wastes; (iii) National reporting; (c) Legal, compliance and governance matters (cont.): (iii) National legislation, notifications, enforcement of the Convention and efforts to combat illegal traffic
	Session of SC COP-9: (e) Listing of chemicals in Annex A, B or C to the Convention ⁵ ;					

¹ Items listed in the tentative schedule are from the provisional agendas of the meetings (UNEP/CHW.14/1; UNEP/FAO/RC/COP.9/1; UNEP/POPS/COP.9/1).

² This item will cover the proposals submitted by Norway to amend annexes II, VIII and IX of the Basel Convention.

³ The bureaux of the conferences of the Parties have agreed that, when examining credentials, they would accept, in addition to original credentials in good order, copies of credentials on the understanding that original credentials would be submitted as soon as possible. Each Bureau would present its report to the respective Conference of the Parties in the afternoon of Thursday, 9 May 2019.

⁴ The conferences of the Parties are scheduled to meet in joint sessions to adopt the section of their report covering the joint sessions held on Monday, 29 April 2019 and on the morning of Tuesday, 30 April 2019.

⁵ This item will cover the proposals submitted by the Russian Federation to amend Article 8 and Annex D of the Stockholm Convention.

	Sun, 5 May 2019	Mon, 6 May 2019	Tue, 7 May 2019	Wed, 8 May 2019	Thu, 9 May 2019	Fri, 10 May 2019
Morning session 10 a.m.– 1 p.m.	No formal meetings	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>	Joint sessions of the COPs: <i>Reports of contact groups</i>
		Session of BC COP-14: <i>Consideration of the outcomes of the contact groups and draft decisions</i> Item 4 (cont.) (g) Work programme of the OEWG for 2020–2021 Item 9 (cont.) (excluding admission of observers and guidelines on preventing harassment)	Session of RC COP-9: Item 5 (cont.) (d) Compliance ⁶ ; (cont.) (c) Enhancing the effectiveness of the Convention ⁷ ; (b) Listing of chemicals in Annex III to the Convention;	Session of RC COP-9: Item 5 (cont.) (b) Listing of chemicals in Annex III to the Convention (cont.); Item 4: Rules of procedure for the Conference of the Parties Item 5 (cont.) (a) Status of implementation	Session of RC COP-9: <i>Consideration of the outcomes of the contact groups and draft decisions</i>	Session of RC COP-9: <i>Consideration of the outcomes of the contact groups and draft decisions</i> Item 11: Adoption of the report
Afternoon session 3–6 p.m.	No formal meetings	Session of BC COP-14: <i>Consideration of the outcomes of the contact groups and draft decisions</i>	Session of BC COP-14: <i>Consideration of the outcomes of the contact groups and draft decisions</i> Item 10: Adoption of the report	Session of RC COP-9: Item 10 (cont.) (excluding admission of observers and guidelines on preventing harassment) <i>Consideration of the outcomes of the contact groups and draft decisions</i>	Joint sessions of the COPs: <i>Consideration of the outcomes of the joint contact groups, adoption of the reports on credentials and adoption of outstanding decisions</i>	Adoption of BC budget decision
						Adoption of RC budget decision
						Adoption of SC budget decision
						BC Item 11; RC Item 12; SC Item 12: Closure of the meetings

Stockholm Convention Conference of the Parties (SC COP)	
Basel Convention Conference of the Parties (BC COP)	
Rotterdam Convention Conference of the Parties (RC COP)	
Joint sessions of the meetings of the conferences of the Parties	

⁶ This item will cover the proposal submitted by Canada, Colombia, Costa Rica, Ghana, Jordan, Mali, Nigeria, Peru, Switzerland, Thailand, the United Republic of Tanzania and Zambia to add a new Annex VII to the Rotterdam Convention.

⁷ This item will cover the proposals to amend Article 16 and Article 22 of the Rotterdam Convention which were submitted prior to the eighth meeting of the Conference of the Parties by Botswana, Cameroon, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe in the case of Article 16, and by Botswana, Cameroon, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Swaziland, Tanzania and Zambia in the case of Article 22.

Annex II: Possible contact and other groups at the meetings of the conferences of the Parties from 29 April to 10 May 2019 in Geneva

The following contact and other groups have been tentatively identified and may be established during the two-week period of the meetings, and meet during a set amount of time, as needed. The total number of groups meeting at any one time would need to be limited to ensure that there is adequate opportunity for the interests of all delegations to be factored into the discussions. The groups are expected to complete their work by the day before the last convention-specific session in order to allow for adoption of decisions as much as possible by the end of convention-specific sessions they relate to.

1) Joint contact and other groups:

- Group on programmes of work and budgets
- Group on joint issues
- Group on technical assistance/financial resources and mechanisms

2) Stockholm Convention-specific contact and other groups:

- Group on listing of chemicals
- Group on compliance

3) Basel Convention-specific contact and other groups:

- Group on technical matters
- Group on strategic matters
- Group on compliance and legal matters
- Group on marine plastic litter and microplastics

4) Rotterdam Convention-specific contact and other groups:

- Group on enhancing the effectiveness of the Convention
 - Group on the listing of chemicals
 - Group on compliance
-

附錄二、第 9 屆斯德哥爾摩公約締約方大會議程



Stockholm Convention on Persistent Organic Pollutants

**Conference of the Parties to the Stockholm
Convention on Persistent Organic Pollutants
Ninth meeting**
Geneva, 29 April–10 May 2019

Provisional agenda

1. Opening of the meeting.
2. Adoption of the agenda.
3. Organizational matters:
 - (a) Election of officers;
 - (b) Organization of work;
 - (c) Report on the credentials of representatives to the ninth meeting of the Conference of the Parties.
4. Rules of procedure for the Conference of the Parties.
5. Matters related to the implementation of the Convention:
 - (a) Measures to reduce or eliminate releases from intentional production and use:
 - (i) Exemptions;
 - (ii) DDT;
 - (iii) Polychlorinated biphenyls;
 - (iv) Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride;
 - (v) Evaluation of the continued need for the procedure under paragraph 2 (b) of Article 3;
 - (b) Measures to reduce or eliminate releases from unintentional production;
 - (c) Measures to reduce or eliminate releases from wastes;
 - (d) Implementation plans;
 - (e) Listing of chemicals in Annex A, B or C to the Convention;
 - (f) Technical assistance;
 - (g) Financial resources and mechanisms;
 - (h) Reporting pursuant to Article 15;
 - (i) Effectiveness evaluation;
 - (j) Compliance.

6. Enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions:
 - (a) International cooperation and coordination;
 - (b) Clearing house mechanism for information exchange;
 - (c) Mainstreaming gender;
 - (d) Synergies in preventing and combating illegal traffic and trade in hazardous chemicals and wastes;
 - (e) From science to action.
 7. Programme of work and budget.
 8. Memorandum of understanding between the United Nations Environment Programme and the Conference of the Parties to the Stockholm Convention.
 9. Venue and date of the tenth meeting of the Conference of the Parties.
 10. Other matters.
 11. Adoption of the report.
 12. Closure of the meeting.
-

附錄三、有關大克蠊之議題資料及決議（草案）



Stockholm Convention on Persistent Organic Pollutants

Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants Ninth meeting

Geneva, 29 April–10 May 2019

Item 5 (e) of the provisional agenda*

Matters related to the implementation of the Convention: listing of chemicals in Annex A, B or C to the Convention

Recommendation by the Persistent Organic Pollutants Review Committee to list dicofol in Annex A to the Convention and draft text of the proposed amendment

Note by the Secretariat

I. Introduction

1. At its twelfth meeting, by its decision POPRC-12/1, the Persistent Organic Pollutants Review Committee adopted a risk profile for dicofol (UNEP/POPS/POPRC.12/11/Add.1) and decided that dicofol was likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action was warranted.
2. At its thirteenth meeting, by its decision POPRC-13/1, the Committee adopted a risk management evaluation for dicofol (UNEP/POPS/POPRC.13/7/Add.1) and decided, in accordance with paragraph 9 of Article 8 of the Stockholm Convention on Persistent Organic Pollutants, to recommend to the Conference of the Parties to the Stockholm Convention that it consider listing dicofol in Annex A to the Convention without specific exemptions.
3. Pursuant to paragraph 2 of Article 21 of the Convention, on 25 October 2018 the Secretariat communicated the Committee's recommendation on dicofol to the Parties and signatories to the Convention. The communication, which also invited Parties to provide comments, was circulated more than six months before the ninth meeting of the Conference of the Parties. A compilation of comments received from Parties relating to the proposed listing of dicofol is set out in document UNEP/POPS/COP.9/INF/23. The executive summary of the risk management evaluation on dicofol and the decision of the Committee setting out its recommendation are reproduced in the annex to the present note. The executive summary is presented without formal editing.
4. As is indicated in paragraph 9 of Article 8 of the Convention, the Conference of the Parties, taking due account of the recommendations of the Committee, including any scientific uncertainty, is to decide, in a precautionary manner, whether to list the chemical, and specify its related control measures, in Annexes A, B and/or C to the Convention. If the Conference of the Parties decides to list the chemical in Annexes A, B and/or C, the respective annex or annexes will be amended in accordance with Articles 21 and 22 of the Convention.

* UNEP/POPS/COP.9/1.

II. Proposed action

5. The Conference of the Parties may wish to adopt a decision along the following lines:

The Conference of the Parties,

Having considered the risk profile and the risk management evaluation for dicofol as transmitted by the Persistent Organic Pollutants Review Committee,¹

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that dicofol be listed in Annex A to the Convention without specific exemptions,²

Decides to amend part I of Annex A to the Stockholm Convention on Persistent Organic Pollutants to list dicofol without specific exemptions by inserting the following row:

Chemical	Activity	Specific exemption
Dicofol CAS No.: 115-32-2	Production	None
CAS No.: 10606-46-9	Use	None

¹ UNEP/POPS/POPRC.12/11/Add.1; UNEP/POPS/POPRC.13/7/Add.1.

² UNEP/POPS/COP.9/13.

Annex

Risk management evaluation on dicofol and the recommendation of the Persistent Organic Pollutants Review Committee

I. Executive summary of the risk management evaluation on dicofol¹

1. At its twelfth meeting, the Persistent Organic Pollutants Review Committee (POPRC) reviewed and adopted a revised draft risk profile on dicofol. The POPRC concluded that dicofol is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action is warranted. A risk management evaluation is therefore required that includes an analysis of possible control measures for dicofol in accordance with Annex F to the Convention. Parties and observers were invited to submit to the Secretariat the information specified in Annex F before 9 December 2016.

2. Responses regarding the information specified in Annex F of the Stockholm Convention have been provided by Austria, Canada, Columbia, India, Japan, Monaco, Serbia (Parties) and by International POPs Elimination Network (IPEN) and Pesticide Action Network (PAN) (observers). The risk management evaluation is primarily based on these responses and on selected additional relevant literature.

3. Dicofol is an organochlorine pesticide, used to control mites on a variety of crops. Dicofol was introduced commercially in 1955. Intended uses of dicofol cover fruits, vegetables, ornamentals, field crops, cotton, tea, and Christmas tree plantations. Between 2000 and 2007, global production of dicofol was estimated to have been 2,700-5,500 t (tonnes) per year but production has declined sharply since then as a number of countries have phased out production and usage, including Benin, Brazil, Canada, Columbia, Member States of the European Union, Guinea, Indonesia, Japan, Mauritania, Oman, Saudi Arabia, Sri Lanka, Switzerland and United State of America. Production of dicofol now takes place in a small number of countries, predominantly at a single plant in India, and reportedly at a plant in Israel. Dicofol is also authorized for specific uses in Mexico. Until recently, China was one of the major global producers of technical DDT and dicofol, producing approximately 97,000 t of technical DDT between 1988 and 2002, from which approximately 40,000 t dicofol was manufactured. In 2014, the last remaining technical dicofol producer in China ceased production of technical dicofol. Dicofol is produced predominantly in India in a closed system in batches; production in 2015-2016 was 93 t. The expiry date for the production and use of DDT as a closed-system site-limited intermediate in the production of dicofol was extended until May 2024 (UNEP/POPS/COP.7/4/Rev.1).

4. Currently applied control measures cover a broad spectrum of possible control measures including the prohibition and restriction of production, use, import and export; the replacement of dicofol by chemical and/or non-chemical alternatives; the establishment of exposure limits in workplaces; the environmentally sound management of obsolete stock and; the clean-up of contaminated sites.

5. The successful prohibition on the production, sale and use of dicofol by a wide number of countries within different geographies and climatic conditions and on different crops indicates that viable chemical and non-chemical alternatives do exist; however, the available information is not sufficient to demonstrate that this is true in all cases. A restriction on production and use is less effective at protecting the environment and human health than a full prohibition but could reduce the total quantity of dicofol used and potential exposure under certain scenarios. While there has been a decline in the production and use of dicofol, it has been manufactured in significant quantities, with a diverse set of potential applications and end users. This represents a challenge for the identification, collection and safe destruction of obsolete stock of dicofol. While the identification of dicofol may have been improved through appropriate labelling to identify contents in some locations, studies suggest an awareness campaign and concerted efforts working with farming communities and other end users is needed to help manage the collection and safe destruction of stock to prevent environmental releases. Maximum environmental concentrations for water have been developed by the European Union as an example of measures to protect the environment. Furthermore, it would be possible to limit some occupational exposure by imposing restrictions on the nature of manufacture

¹ UNEP/POPS/POPRC.13/7/Add.1.

(e.g. specifying closed-systems only) and worker activities (e.g. ensuring use of correct personal protective equipment in all global geographic areas). However, it is suggested that, in developing countries in particular, highly hazardous pesticides may pose significant risks to human health or the environment, because risk reduction measures such as the use of personal protective equipment or maintenance and calibration of pesticide application equipment are not easily implemented or are not effective (FAO).²

6. A large number of countries have already transitioned away from the use of dicofol after prohibition, and that for a major user of dicofol it has been possible to phase-out its use completely when managed with the correct transitional arrangements. No specific examples of critical uses were provided by the Parties or observers submitting information as part of the Annex F survey; nor have any critical uses otherwise been identified.

7. A range of chemical and non-chemical alternatives to dicofol are available and accessible in various geographical regions. The alternatives, considered as technically feasible, include over 25 chemical pesticides, biological controls (pathogens and predators), botanical preparations (plant extracts), and agroecological practices (such as are used in agroecology, organics and integrated pest management or IPM). The range of alternatives reflects the various pest-crop combinations for which dicofol is or has been applied, in regions with very different climatic conditions and crops. All the alternatives described are considered to be technically feasible, available and accessible in a range of countries. However, the available information (primarily from Annex F submissions) is not currently sufficient to conclude that these alternatives are economically feasible in all cases where dicofol is still used. Equally, there is no information to suggest that alternatives cannot be feasibly implemented in all cases. This emphasizes the need for further assessment under the local conditions and consideration of the specific agroecosystems and agricultural practices used, giving priority to ecosystem-based approaches to pest control.

8. Non-chemical alternative processes and products, and more specifically agroecological and integrated pest management practices, have proven to be efficient as an alternative to dicofol in a number of countries (including India, China, and Australia) and for a number of crops, such as cotton, tea, citrus, and apples. However, the existing evidence is not sufficient to demonstrate that this is true for all uses.

9. In accordance with paragraph 9 of Article 8 of the Convention the POPRC recommends to the Conference of the Parties to the Stockholm Convention to consider listing dicofol and specifying the related control measures under the Stockholm Convention in Annex A without specific exemptions.

II. Decision setting out the recommendation of the Committee

POPRC-13/1: Dicofol

The Persistent Organic Pollutants Review Committee,

Having concluded in its decision POPRC-10/3 that dicofol fulfils the criteria set out in Annex D to the Stockholm Convention,

Having evaluated the risk profile for dicofol adopted by the Committee at its twelfth meeting³ in accordance with paragraph 6 of Article 8 of the Convention,

Having decided in its decision POPRC-12/1 that dicofol is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action is warranted,

Having completed the risk management evaluation for dicofol in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for dicofol;⁴
2. *Decides*, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing dicofol in Annex A to the Convention without specific exemptions.

² <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/code/hhp/en/>.

³ UNEP/POPS/POPRC.12/11/Add.1.

⁴ UNEP/POPS/POPRC.13/7/Add.1.

SC-9/11: Listing of dicofol

The Conference of the Parties,

Having considered the risk profile and the risk management evaluation for dicofol as transmitted by the Persistent Organic Pollutants Review Committee,¹

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that dicofol be listed in Annex A to the Convention without specific exemptions,²

Decides to amend part I of Annex A to the Stockholm Convention on Persistent Organic Pollutants to list dicofol without specific exemptions by inserting the following row:

Chemical	Activity	Specific exemption
Dicofol	Production	None
CAS No: 115-32-2		
CAS No: 10606-46-9	Use	None

¹ UNEP/POPS/POPRC.12/11/Add.1; UNEP/POPS/POPRC.13/7/Add.1.

² UNEP/POPS/COP.9/13.

附錄四、有關 PFOA 及其鹽類和相關化合物之議題資料
及決議（草案）

**Stockholm Convention
on Persistent Organic
Pollutants****Conference of the Parties to the Stockholm
Convention on Persistent Organic Pollutants
Ninth meeting**

Geneva, 29 April–10 May 2019

Item 5 (e) of the provisional agenda*

**Matters related to the implementation of
the Convention: listing of chemicals in
Annex A, B or C to the Convention****Recommendation by the Persistent Organic Pollutants Review
Committee to list perfluorooctanoic acid (PFOA), its salts and
PFOA-related compounds in Annex A to the Convention and
draft text of the proposed amendment****Note by the Secretariat****I. Introduction**

1. At its twelfth meeting, by its decision POPRC-12/2, the Persistent Organic Pollutants Review Committee adopted a risk profile for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds (UNEP/POPS/POPRC.12/11/Add.2) and decided, in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention on Persistent Organic Pollutants, that PFOA, its salts and PFOA-related compounds were likely, as a result of their long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action was warranted.

2. At its thirteenth meeting, by its decision POPRC-13/2, the Committee adopted a risk management evaluation for PFOA, its salts and PFOA-related compounds (UNEP/POPS/POPRC.13/7/Add.2) and decided, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties to the Stockholm Convention that it consider listing PFOA, its salts and PFOA-related compounds in Annex A or B to the Convention with specific exemptions as specified in paragraph 2 of that decision. In the same decision, the Committee decided to establish an intersessional working group to assess the information provided in accordance with paragraphs 3, 4 and 5 of the decision with the intention of strengthening the recommendation on the listing of the chemicals for consideration at its fourteenth meeting.

3. At its fourteenth meeting, by its decision POPRC-14/2, the Committee adopted an addendum to the risk management evaluation for PFOA, its salts and PFOA-related compounds (UNEP/POPS/POPRC.14/6/Add.2) and decided to further refine its recommendation to the Conference of the Parties that it consider listing PFOA, its salts and PFOA-related compounds in Annex A to the Convention with specific exemptions as specified in paragraph 2 of the decision.

4. In the same decision, the Committee recommended to the Conference of the Parties that it consider encouraging Parties not to replace fire-fighting foam that contained or may contain PFOA, its salts and PFOA-related compounds with short-chain per- and polyfluoroalkyl substances (PFASs) due

* UNEP/POPS/COP.9/1.

to their persistency and mobility as well as potential negative environmental, human health and socioeconomic impacts.

5. Pursuant to paragraph 2 of Article 21 of the Convention, on 25 October 2018 the Secretariat communicated the Committee's recommendation on PFOA, its salts and PFOA-related compounds to the Parties and signatories to the Convention. The communication, which also invited Parties to provide comments, was circulated more than six months before the ninth meeting of the Conference of the Parties. A compilation of the comments received from Parties relating to the proposed listing of PFOA, its salts and PFOA-related compounds is set out in document UNEP/POPS/COP.9/INF/23. The executive summary of the risk management evaluation on PFOA, its salts and PFOA-related compounds and the decision of the Committee setting out its recommendation are reproduced in the annex to the present note. The executive summary is presented without formal editing.

6. As is indicated in paragraph 9 of Article 8 of the Convention, the Conference of the Parties, taking due account of the recommendations of the Committee, including any scientific uncertainty, is to decide, in a precautionary manner, whether to list those chemicals, and specify their related control measures, in Annexes A, B and/or C to the Convention. If the Conference of the Parties decides to list those chemicals in Annexes A, B and/or C, the respective annex or annexes will be amended in accordance with Articles 21 and 22 of the Convention.

II. Proposed action

7. The Conference of the Parties may wish to consider encouraging Parties not to replace fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds with short-chain per- and polyfluoroalkyl substances (PFASs) due to their persistency and mobility as well as potential negative environmental, human health and socioeconomic impacts.

8. The Conference of the Parties may also wish to adopt a decision along the following lines:

The Conference of the Parties,

Having considered the risk profile, the risk management evaluation and the addendum to the risk management evaluation for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds as transmitted by the Persistent Organic Pollutants Review Committee,¹

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds be listed in Annex A to the Stockholm Convention on Persistent Organic Pollutants with specific exemptions,²

1. *Decides* to amend part I of Annex A to the Stockholm Convention to list therein perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, with specific exemptions for the production and use of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, by inserting the following rows:

Chemical	Activity	Specific exemption
Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	Production	As allowed for the Parties listed in the Register in accordance with the provisions of part [X] of this Annex, with the exception of fire-fighting foam
	Use	In accordance with the provisions of part [X] of this Annex: <ul style="list-style-type: none"> • Manufacture of semiconductors or related electronic devices as listed in accordance with the provisions of paragraph 2 of part [X] of this Annex • Photographic coatings applied to films

¹ UNEP/POPS/POPRC.12/11/Add.2; UNEP/POPS/POPRC.13/7/Add.2; UNEP/POPS/POPRC.14/6/Add.2.

² UNEP/POPS/COP.9/14.

-
- Textiles for oil- and water-repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety
 - Invasive and implantable medical devices
 - Fire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) already in installed systems, including both mobile and fixed systems, in accordance with paragraph 3 of part [X] of this Annex
 - Use of perfluorooctyl iodide for the production of perfluorooctyl bromide for the purpose of producing pharmaceutical products, in accordance with the provisions of paragraph 4 of part [X] of this Annex
-

2. *Also decides* to insert a definition for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds in part III of Annex A as follows:

“(d) “Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” means the following:

- (i) Perfluorooctanoic acid (PFOA; CAS No: 335-67-1) including any of its branched isomers;
- (ii) Its salts; and
- (iii) PFOA-related compounds which, for the purposes of this Convention, are any substances that degrade to PFOA, including any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C₇F₁₅)C as one of the structural elements, for example:
 - a. Polymers with ≥C₈ based perfluoroalkyl side chains;
 - b. 8:2 fluorotelomer compounds;
 - c. 10:2 fluorotelomer compounds.
- (iv) The compounds below do not degrade to PFOA and are therefore not included as PFOA-related compounds:
 - a. C₈F₁₇-X, where X= F, Cl, Br;
 - b. Fluoropolymers that are covered by CF₃[CF₂]_n-R', where R'=any group, n>16;
 - c. Perfluoroalkyl carboxylic and phosphonic acids (including their salts, esters, halides and anhydrides) with ≥8 perfluorinated carbons;
 - d. Perfluoroalkane sulfonic acids (including their salts, esters, halides and anhydrides) with ≥9 perfluorinated carbons;
 - e. Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF), as listed in Annex B to the Stockholm Convention.”

3. *Further decides* to insert a new part [X] in Annex A as follows:

Part [X]

Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

1. The production and use of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds shall be eliminated except for Parties that have notified the Secretariat of their intention to produce and/or use them in accordance with Article 4 of the Convention.
2. Specific exemptions for the manufacture of semiconductors or related electronic devices may be available for the production and use of PFOA, its salts and PFOA-related compounds limited to the following:
 - (a) For five years from the date of entry into force of the amendment in accordance with Article 4:
 - (i) Equipment or fabrication plant-related infrastructure containing fluoropolymers and/or fluoroelastomers with PFOA residues;
 - (ii) Legacy equipment or legacy fabrication plant-related infrastructure for maintenance;
 - (iii) Photo-lithography or etch processes;
 - (b) For ten years from the date of entry into force of the amendment: refurbishment parts containing fluoropolymers and/or fluoroelastomers with PFOA residues for legacy equipment or legacy refurbishment parts.
3. Each Party that has registered for a specific exemption pursuant to Article 4 for the use of PFOA, its salts and PFOA-related compounds for fire-fighting foam shall:
 - (a) Notwithstanding paragraph 2 of Article 3, ensure that fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds shall not be exported or imported except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;
 - (b) Not use fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds for training or testing purposes;
 - (c) By the end of 2022, restrict uses of fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds to sites where all releases can be contained. Containment measures, such as bunds and ponds, shall be controlled, impervious and not allow firewater, wastewater, run-off and other wastes to be released to the environment (e.g., to soils, groundwater, waterways and storm water);
 - (d) Ensure that all firewater, wastewater, run-off, foam and other wastes are managed in accordance with paragraph 1 of Article 6;
 - (e) Make determined efforts designed to lead to the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOA, its salts and PFOA-related compounds, in accordance with paragraph 1 of Article 6, as soon as possible.
4. With regard to the specific exemption for the use of perfluorooctyl iodide for the production of perfluorooctyl bromide for the purpose of producing pharmaceutical products, at its eleventh ordinary meeting and at every second ordinary meeting thereafter, the Conference of the Parties shall review the continued need for this specific exemption. This specific exemption shall in any case expire at the latest in 2036.

Annex

Risk management evaluation on perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds¹ and the recommendation of the Persistent Organic Pollutants Review Committee

I. Executive summary of the risk management evaluation²

1. In June 2015, the European Union (EU) and its member States submitted a proposal to list pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds³ in Annexes A, B, and/or C to the Stockholm Convention (UNEP/POPS/POPRC.11/5). At its twelfth meeting in September 2016, the Persistent Organic Pollutants Review Committee (POPRC) concluded that PFOA is persistent, bioaccumulative and toxic to animals including humans. There is widespread occurrence of PFOA and a number of PFOA-related compounds in environmental compartments and in biota and humans. Therefore, PFOA, its salts and PFOA-related compounds that degrade to PFOA are likely, as a result of their long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted (UNEP/POPS/POPRC.12/11/Add.2).

2. The scope of the chemicals covered is defined in paragraph 21 of the risk management evaluation (UNEP/POPS/POPRC.13/7/Add.2) and a comprehensive list of substances is available in document UNEP/POPS/POPRC.13/INF/6/Add.1.

3. PFOA, its salts and PFOA-related compounds are used in a wide variety of applications and consumer products across many sectors (details see UNEP/POPS/POPRC.12/11/Add.2). PFOA and its salts are, or were, most widely used as processing aids in the production of fluoroelastomers and fluoropolymers, with polytetrafluoroethylene (PTFE) being an important fluoropolymer used in producing, e.g. non-stick kitchen ware. PFOA-related compounds, including side-chain fluorinated polymers, are used as surfactants and surface treatment agents, e.g. in textiles, paper, paints, firefighting foams. Based on the available information in the risk management evaluation, these were the uses with the highest amount of PFOA.

4. Releases occur from past and ongoing production, use and disposal. Direct releases to the environment of PFOA and/or related compounds occur from the production of the raw substances (including PFOA as impurity in the manufacturing of PFOA-related compounds and some alternatives) during the processing, use and disposal of the chemical, from treated articles and from products contaminated with PFOA. Main emission vectors of PFOA and its salts are wastewater and particles/aerosols. Indirect releases of PFOA occur from the biotic and abiotic (photo-) degradation or transformation of precursors. PFOA-related compounds, as defined in para 21, are released to air, water, soil and solid waste, and will, to a greater or lesser degree, degrade to PFOA in the environment and in organisms. Releases of PFOA from degradation contribute a major share to the releases of PFOA in some local environment, e.g. remote inland environments (details see UNEP/POPS/POPRC.12/11/Add.2).

5. The activities of the Strategic Approach to International Chemicals Management (SAICM) at the global level focus on gathering and exchanging information on perfluorinated chemicals and to support the transition to safer alternatives. Voluntary efforts to phase out PFOA and related substances

¹ The titles of decisions POPRC-12/2 and POPRC-13/2 refer to “pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds”, consistent with the proposal for the listing of the chemicals submitted by the European Union (UNEP/POPS/POPRC.11/5). During the intersessional period, however, the chemicals that are the subject of the decision were referred to as “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds”. Both terms designate the same group of chemicals, but the phrase “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” is more consistent with other references to these chemicals. The Committee has used the latter name in the latest decision POPRC-14/2, which will be used henceforth to refer to the chemicals covered by decisions POPRC-12/2 and POPRC-13/2 in documents prepared under the auspices of the Stockholm Convention.

² UNEP/POPS/POPRC.13/7/Add.2.

³ PFOA-related compounds are differently defined according to the chemical scope in different approaches. In the risk management evaluation, the term “PFOA-related compounds” is used as defined in section 1.1 to that document. If quoted from other information sources the original wording of analogue terms, such as “PFOA-related substances” (e.g. used in ECHA 2015a), is maintained.

have been implemented, such as the United States Environment Protection Agency (USEPA) PFOA Stewardship Program and work by industry. In 2006, the eight main manufacturers of fluoropolymers and fluorotelomers in the US, Europe and Japan agreed on a phase-out of their production and use of PFOA and related long-chain substances by the end of 2015. A similar program existed with manufacturers in Canada. All Stewardship Program participants were successful at virtually eliminating those chemicals from facility emissions and product content. The voluntary phase out did not include manufacturers using PFOA in countries who were not part of the voluntary efforts, i.e. including those having large manufacturers and/or users of PFOA like China, India and Russia (details see UNEP/POPS/POPRC.12/11/Add.2).

6. Regulatory risk management approaches are implemented or underway in several national legislative control actions i.e. Norway, EU (existing restriction) and in Canada. These actions prohibit manufacture, making available on the market and use of PFOA, its salts and PFOA-related compounds with exemptions (time-limited or not). Based on technical and socio-economic assessments, these risk management approaches are considered technically and economically feasible. In 2016 Canada published legislation which prohibits PFOA, its salts and precursors as well as products containing them, unless present in manufactured items, and with a limited number of exemptions. Norway bans the use of PFOA in consumer products and textiles since 2014 with certain exemptions. The EU restricts the manufacture, placing on the market and use (including import) of PFOA, its salts and PFOA-related compounds as well as articles containing these substances. The EU risk management approach considers exemptions for certain uses; however, it does not cover the degradation to PFOA from long-chain perfluoroalkyl and polyfluoroalkyl substances (PFASs). In the US a rule proposed in 2015 would require manufacturers of PFOA and PFOA-related chemicals to notify new uses of these chemicals to USEPA in order to allow the evaluation of new uses and, if necessary, take action to prohibit or limit the activity.

7. In the processes of developing the regulatory risk management approaches for PFOA, its salts and PFOA-related compounds in Canada, the EU and Norway, technical and socio-economic information has been included in the decision-making process to allow for certain exemptions. In general, these risk management approaches are considered technically and economically feasible. Information received from industry stakeholders during these regulatory processes indicates that exemptions with or without time limitation were needed for certain uses where stakeholders asserted and scientific committees concluded that alternatives were not economically and/or technically feasible. A prohibition of PFOA, its salts and PFOA-related compounds with possible specific exemptions for certain uses is also considered to be technically and economically feasible under the Stockholm Convention.

8. The information on the availability of alternatives considering efficacy and efficiency indicates that appropriate alternatives may currently not be available for several uses, namely: (1) equipment used to manufacture semiconductors and related infrastructure; (2) latex printing inks; (3) textiles for the protection of workers from risks to their health and safety; (4) membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment; (5) plasma nano-coatings; (6) medical devices; (7) production of implantable medical devices; (8) photographic coatings applied to films, papers or printing plates; (9) photo-lithography processes for semiconductors or in etching processes for compound semiconductors; (10) certain pharmaceutical chemicals; and (11) use of sulfluramid. However, for most of these uses, the development of alternatives is underway. In restricting or banning PFOA, its salts and PFOA-related compounds under the Stockholm Convention, this could be considered with specific exemptions with time limits or acceptable purposes without time limits.

9. Similarly, as expected for the Canadian, Norwegian and the EU approaches, globally restricting or prohibiting PFOA, its salts and PFOA-related compounds will positively impact human health, the environment including biota, and agriculture by decreasing emissions and subsequently exposure. The full magnitude and extent of the risks of PFOA, its salts and PFOA-related compounds cannot be quantified. The risk management of these substances is driven by scientific data and precautionary actions to avoid the potentially severe and irreversible adverse impacts resulting from continued unrestricted emissions. The available alternatives are expected to pose lower health risks than an unrestricted use of PFOA, its salts and PFOA-related compounds.

10. The EU, Norwegian and the Canadian risk management approaches are considered to have moderate cost impacts because the market is already replacing PFOA, its salts and PFOA-related compounds and because the risk management approaches provide exemptions for certain uses with or without time limits. The same can be expected for the combined regulatory and voluntary approaches taken in the US and Australia. Cost competitive alternatives to PFOA, its salts and PFOA-related compounds that do not exhibit persistent organic pollutants (POPs) characteristics have already been

implemented in many countries. This indicates partial economic and technical feasibility of alternatives. Substituting these compounds with appropriate alternatives leads to savings of health and environmental costs resulting from decreased exposure. Furthermore, a restriction or prohibition would prevent further contamination of surface water, groundwater and soil and would thus reduce costs for identification and remediation of contaminated sites.

11. PFOA is unintentionally formed from incomplete combustion of fluoropolymers.
12. The Committee recommends, in accordance with paragraph 9 of Article 8 of the Convention, that the Conference of the Parties to the Stockholm Convention consider listing and specifying the related control measures of PFOA, its salts and PFOA-related compounds:
13. Based on the evaluation of uses and the efficiency and efficacy of possible control measures, the Committee recommends to the Conference of the Parties that it consider listing pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds in Annex A or B to the Convention with specific exemptions for the following:
 - (a) For five years from the date of entry into force of the amendment in accordance with Article 4:
 - (i) Manufacture of semiconductors or related electronic devices:
 - a. Equipment or fabrication plant related infrastructure containing fluoropolymers and/or fluoroelastomers with PFOA residues;
 - b. Legacy equipment or legacy fabrication plant related infrastructure: maintenance;
 - c. Photo-lithography or etch processes;
 - (ii) Photographic coatings applied to films;
 - (iii) Textiles for oil and water repellency for the protection from dangerous liquids for the protection of workers from risks to their health and safety;
 - (b) For ten years from the date of entry into force of the amendment for manufacture of semiconductors or related electronic devices: refurbishment parts containing fluoropolymers and/or fluoroelastomers with PFOA residues for legacy equipment or legacy refurbishment parts;
 - (c) For use of perfluorooctyl iodide, production of perfluorooctyl bromide for the purpose of producing pharmaceutical products with a review of continued need for exemptions. The specific exemption should expire in any case at the latest in 2036.
14. The Committee invites Parties and observers, including the relevant industries, to provide information that would assist the possible defining by the Committee of specific exemptions for production and use of PFOA, its salts and PFOA-related compounds in particular in the following applications:
 - (a) Membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment: information on the scope of the applications, used amounts, availability of alternatives and socio-economic aspects;
 - (b) Transported isolated intermediates in order to enable reprocessing in another site than the production site: information on the quantities used, extent of transport and risks, and use;
 - (c) Medical devices: information on specific applications/uses and timelines foreseen as needed for potential related exemptions;
 - (d) Implantable medical devices: information on the quantities used, extent of transport and risks, and use;
 - (e) Photo imaging sector: information on paper and printing, and information relevant for developing countries;
 - (f) Automotive industry: information on spare parts;
 - (g) Firefighting foams: information on chemical composition of mixtures and the volumes of pre-installed amount of firefighting foam mixtures.

15. For the applications above, information regarding socio-economic aspects as well as other relevant information is also welcomed.

16. In addition, the Committee will collect and evaluate in the intersessional period additional information in the view of a possible listing of PFOA in Annex C from Parties and observers information that would assist the further evaluation by the Committee of PFOA, its salts and PFOA-related compounds in relation to its unintentional formation and release, in particular from primary aluminium production and from incomplete combustion. In doing so, relevant experts serving under the various technical and scientific processes under the Stockholm and Basel Conventions as indicated in decision SC-8/21 are especially invited to provide input.

II. Executive summary of the addendum to the risk management evaluation⁴

1. In June 2015, the European Union (EU) and its member States submitted a proposal to list pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds⁵ in Annexes A, B, and/or C to the Stockholm Convention (UNEP/POPS/POPRC.11/5). At its twelfth meeting in September 2016, the Persistent Organic Pollutants Review Committee (POPRC) concluded that PFOA is persistent, bioaccumulative and toxic to animals including humans. There is widespread occurrence of PFOA and a number of PFOA-related compounds in environmental compartments and in biota and humans. Therefore, PFOA, its salts and PFOA-related compounds that degrade to PFOA are likely, as a result of their long-range environmental transport, to lead to significant adverse human health and/or environmental effects such that global action is warranted (UNEP/POPS/POPRC.12/11/Add.2).

2. At its thirteenth meeting in October 2017, the POPRC adopted the risk management evaluation (RME) on PFOA, its salts and PFOA-related compounds⁶ (UNEP/POPS/POPRC.13/7/Add.2) and recommended to the COP that it consider listing the chemicals in Annex A or B to the Convention with specific exemptions specified in decision POPRC-13/2 (also in UNEP/POPS/POPRC.13/7/Add.2, para 13). However, the Committee was unable to reach conclusions on whether exemptions may be needed for specific uses. Furthermore, additional work was needed to consider the possibility of unintentional releases and specific issues related to substance identity.

3. The Committee established an intersessional work group to assess additional information to help further the discussion at the fourteenth meeting to define the need for possible specific exemptions and/or acceptable purposes for certain additional applications and to evaluate their unintentional releases in the view of strengthening its recommendation to the COP. The Committee invited Parties and observers, including the relevant industries, to provide information that would assist the possible defining by the Committee of specific exemptions for production and use of PFOA, its salts and PFOA-related compounds in particular in the following applications:

(a) Membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment: information on the scope of the applications, used amounts, availability of alternatives and socio-economic aspects;

(b) Transported isolated intermediates in order to enable reprocessing in another site than the production site: Information on the quantities used, extent of transport and risks, and use;

(c) Medical devices: information on specific applications/uses and timelines foreseen as needed for potential related exemptions;

⁴ UNEP/POPS/POPRC.14/6/Add.2.

⁵ PFOA-related compounds are differently defined according to the chemical scope in different approaches. In this document, the term “PFOA-related compounds” is used as defined in section 1.1. If quoted from other information sources the original wording of analogue terms, such as “PFOA-related substances” (e.g. used in ECHA 2015a), is maintained.

⁶ The title of decision POPRC-13/2 refers to “pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds”, consistent with the proposal for the listing of the chemicals submitted by the European Union (UNEP/POPS/POPRC.11/5). During the intersessional period, however, the chemicals that are the subject of the decision were referred to as “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds”. Both terms designate the same group of chemicals, but the phrase “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” is more consistent with other references to these chemicals. As noted above, the Committee has used the latter name in the present decision. The latter name will therefore be used henceforth to refer to the chemicals covered by decisions POPRC-12/2 and POPRC-13/2 in documents prepared under the auspices of the Stockholm Convention.

- (d) Implantable medical devices: information on the quantities used, extent of transport and risks, and use;
- (e) Photo imaging sector: information on paper and printing, and information relevant for developing countries;
- (f) Automotive industry: information on spare parts;
- (g) Fire-fighting foams: information on chemical composition of mixtures and the volumes of pre-installed amount of fire-fighting foam mixtures.

4. For the applications above, information regarding socio-economic aspects as well as other relevant information was also requested.

5. In addition, the Committee invited Parties and observers to submit information that would assist the further evaluation by the Committee of PFOA, its salts and PFOA-related compounds in relation to its unintentional formation and release, in particular from primary aluminium production and from incomplete combustion.

6. The Committee also invited Parties and observers to provide information that would assist the Committee to further evaluate the chemical identity of the PFOA-related compounds chemical list; in particular in relation to sulfluramid and 1-hydroperfluorooctane (1-H-PFO). Sulfluramid is manufactured by using perfluorooctane sulfonyl fluoride (PFOSF) as an intermediate and its structure is related to perfluorooctane sulfonic acid (PFOS). In the environment, it degrades in significant yields to PFOS although it also has the potential to degrade to PFOA under certain conditions. Since sulfluramid (N-ethyl perfluorooctane sulfonamide, CAS No: 4151-50-2) is produced from PFOSF, it is already covered, although not explicitly mentioned, under the listing of PFOS, its salts and PFOSF. However, sulfluramid production is already covered by an acceptable purpose under the PFOS listing and it should then not be included under the PFOA listing to avoid double regulation. Based on the further information submitted, 1-H-PFO should not be excluded from the scope of PFOA-related compounds since studies suggest that a transformation to PFOA is possible. 8:2 fluorotelomer methacrylate, polymer with methyl methacrylate (CAS No: 93705-98-7) is included in the non-exhaustive list of PFOA-related compounds.

Unintentional formation and release

7. The RME identified that PFOA, its salts and PFOA-related compounds could potentially be unintentionally formed from incomplete combustion and primary aluminium production but that further information was needed on this topic. Additional information on unintentional formation and release of PFOA, its salts and PFOA-related compounds was provided by Austria (2018), the Netherlands (2018a) and International POPs Elimination Network (IPEN) and Alaska Community Action on Toxics (ACAT) (2018). They provided substantiated information detailed in the RME for releases of PFOA from incomplete combustion sources. Additional information and preferably also measurements / quantitative data from other incinerators, open combustion and other sources of unintentional formation would be desirable. It is also noted that in developing and transition countries there is greater prevalence of open combustion and other uncontrolled combustion processes, and these should also be considered. The Netherlands (2018a) highlighted that an addition to Annex C would need to not only be justified but proportionate, highlighting that the emission is negligible compared to all the other sources. No new information on unintentional releases of PFOA linked to aluminium production were provided. Most of the information identified in literature and detailed in the RME relates to emissions of CF₄ and C₂F₆, which are unrelated to PFOA. From the currently available information it is not possible to conclude that aluminium production represents a relevant source of PFOA releases to the environment. Concerns were raised that presence of PFOA may not be from incineration but from previous presence in products. Based on the information assessed, the Committee does not recommend listing PFOA, its salts and PFOA-related compounds in Annex C to the Convention. Additional information and preferably also further measurements/quantitative data from other waste incinerators, open burning, and other sources of unintentionally produced POPs, in particular from developing countries, would be useful for future consideration.

Membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment

8. The RME for PFOA highlighted a potential need for more information about a possible exemption for membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment. Several potential alternatives for use in textiles such as short-chain fluorinated alternatives, non-fluorine containing alternatives and non-chemical alternatives have been

identified in the RME, including those that meet regulatory requirements and are in current use. In addition, no specific application has been identified that requires C₈ chemistry. Based on the evaluation of available information a specific exemption for use in membranes intended for use in medical textiles, filtration in water treatment, production processes and effluent treatment is not recommended.

Transported isolated intermediates

9. The RME for PFOA highlighted a potential need for more information about a possible exemption for transported isolated intermediates. The Committee requested information related to the quantities used, extent of transport and possible risks, and use. Archroma reported about the risk management measures in place. Based on the evaluation of available information a specific exemption is not recommended for the use of perfluorooctyl iodide (PFOI) generated as an unintentional by-product and used as an isolated intermediate to enable reprocessing to tetrafluoroethylene (TFE) and hexafluoropropylene (HFP) in another site than the production site.

Medical devices

10. For medical devices, the European restriction (EU 2017/1000) allows an exemption for all medical devices (excluding implantable ones) of 15 years and a non-time limited exemption for implantable medical devices. However, on the other hand the RME (UNEP/POPS/POPRC.13/7/Add.2) highlights that alternatives to PFOA for manufacture of PTFE exist and have been commercialised. A report by ECHA (2015a) as part of the European restriction estimated European usage of PFOA within medical devices as <1kg per year. An extrapolation from the EU estimate would result into a corresponding global usage of <5kg per year based on a 20% global market share. MedTech (2018) and Euromed (2015) both highlighted the difficulty in producing detailed lists of specific applications within healthcare due to the diverse ways in which polytetrafluoroethylene (PTFE)⁷ is used, though alternatives for PFOA and PFOA-related compounds in medical devices have passed stringent regulatory requirements in some geographies and are already in use. However, MedTech (2018) highlighted that due to the stringent regulations for substitution in the healthcare sector, if changes are made to articles this can trigger the need for a new round of clinical trials (taking years to complete). Based on the information compiled and discussed within the RME and further elaborated upon within the current addendum, examples exist cases where medical devices made without PFOA are available on the market and in use. However, the evidence reviewed suggests that phase-out is still ongoing for some uses. Based on the information compiled and discussed within the RME and further elaborated upon within the current document, the Committee recommends a specific exemption only for invasive medical devices.

Implantable medical devices

11. The RME for PFOA highlighted a need for more information about a potential exemption for medical implantable devices due to possible presence as a by-product in PTFE. Quantities of PFOA and PFOA-related compounds used in the production of PTFE found in implantable medical devices are small. As an indicative estimate for order of magnitude a manufacturer commented that the EU total is 20g in all devices put on the market during the period 2018–2025. This would lead to an estimation of 100g worldwide (ECHA, 2014a). ECHA (2015b) reported during the EU REACH restriction that during the manufacture of PTFE, concentrations of PFOA as a by-product range from 0.0001 to 0.5% wt/wt PTFE. Alternatives such as PFOA free PTFE products have undergone clinical testing, and been approved for use in some geographies. Limited additional information has been provided on the extent of transport, risks and socio-economic impacts of a possible restriction however the low quantities presently being used in implantable medical devices would also mean low potential for exposure. Similarly, additional information on the use of PFOA in medical implants in developing countries is unknown. The Committee recommends a specific exemption for implantable medical devices.

Photo imaging sector

12. At POPRC-13, representatives of the European photographic industry provided information for the RME that suggested specific exemptions for photographic coatings applied to paper and for use in printing plates are no longer needed. Non-fluorinated alternatives and the move to digital imaging have successfully replaced these uses in the imaging and printing industry. Only limited critical applications (limited to photographic coatings applied to films only) still use PFOA. However, it was also noted that for developing countries, such information was lacking. New information indicates that

⁷ PFOA can be used as an emulsifier in the manufacture of PTFE, and would be present as a by-product of the finished product.

analogue printing is being phased out and replaced rapidly by digital, including in developing and transition countries. Based on the existing and rapid transition towards digital imaging, the wide use of digital techniques in developing and transitional countries, and the further reduction in use of PFOA in this sector, the Committee does not recommend specific exemptions for photographic coatings applied to paper and printing plates.

Automotive industry

13. The RME for PFOA highlighted a need for more information about a potential PFOA exemption for automotive service and replacement parts. Specification of relevant automotive service and replacement parts as well as sound justification for any exemption is required. No conclusive information was provided on specific relevant service and replacement parts and on the quantities of relevant substances used in different applications. In addition, no conclusive information was provided on time required for phase-out, estimation of economic impacts, and alternatives in place, and retrofitting capacity. Based on the insufficient information and lack of an appropriate justification, the Committee does not recommend a specific exemption.

Fire-fighting foams

14. Fire-fighting foams were identified as a dispersive use of PFOA in the RME resulting in direct release to the environment. Perfluorinated compounds within fire-fighting foams have been used because they proved effective against liquid fuel fires (Class B) (ECHA, 2014a).

15. Only limited information on the existing stockpiles of fire-fighting foams containing PFOA and PFOA-related compounds was available. A global inventory of APFO (the ammonium salt of PFOA, which was the main species used intentionally for fire-fighting foams) indicates a production of 3,600–5,700 tonnes between 1951 and 2004 (Norway, 2007). This can be back calculated to between 309 million and 4901 million litres of ammonium salt (APFO) based aqueous film forming foam (AFFF) concentrate within existing stockpiles depending on the assumed shelf-life of the goods.

16. Alternatives to all uses of PFOA in fire-fighting foams exist and include fluorine-free solutions as well as fluorosurfactants with C₆-fluorotelomers.⁸ Fluorine-free foams are comparable to fluorine-based AFFFs and fire-fighting foams with PFOA in their performance and in meeting relevant certifications for almost all uses. Based on current data, prices of fluorine-free and fluorine containing AFFFs are comparable.

17. Overall the costs associated with destruction and replacement of fire-fighting foams containing PFOA and PFOA-related compounds can be perceived to be significant. One estimate by Seow (2013) quotes 1.5 Euro per litre of concentrate. However, costs associated with clean-up for sites contaminated by perfluorinated compounds are also significant, with examples quoted in the RME and the present document as millions of euros per site.

18. Based on the information compiled and reviewed within the RME, the size of in-use stockpiles of fire-fighting foams containing PFOA and PFOA-related compounds may be significant and socio-economic impacts of an immediate ban may be equally significant, potentially justifying a specific exemption. However, the impacts of release to ground water and socio-economic costs of clean-up are equally if not more significant, and the continued dispersive use of a POP is not consistent with the objectives of the Convention. On the other hand, the use of fluorinated alternatives could lead to contamination of water from short-chain per- and polyfluoroalkyl substances (PFASs) due to their mobility and persistence. This contamination is even more difficult to remediate than the contamination from the long-chain PFASs.

19. Some concerns were expressed about the importance of effective fire-fighting foams for liquid fuel fires, the potential unavailability of suitable alternatives and the cost of their use and implementation, considering that some time to move to alternatives without PFASs may be needed. The Committee does not recommend an exemption for the production of fire-fighting foams that may contain PFOA as impurities and PFOA-related compounds as constituents.

20. The Committee further concludes that there is a need for a specific exemption for use of fire-fighting foams containing PFOA and PFOA-related compounds already installed in systems including both mobile and fixed systems with specific conditions.

Listing to Annex A

⁸ Note that perfluorohexane sulfonic acid (CAS No: 355-46-4) (PFHxS), its salts and PFHxS-related compounds have been nominated as POPs and are currently under review by the Committee.

21. Based on the review of information within the RME and elaborated on in the current document, only specific exemptions are envisaged. Furthermore, within the European restriction (EU 2017/1000) only one non-time limited exemption exists (implantable medical devices). MedTech (2018) commented that a transition period up to 2030 would be needed for implantable medical devices, suggesting that a specific exemption would be sufficient. Therefore, in accordance with paragraph 9 of Article 8 of the Convention, the Conference of the Parties to the Stockholm Convention should consider listing and specifying the related control measures of PFOA, its salts and PFOA-related compounds in Annex A, with specific exemptions accompanied if needed with a specific part of Annex A that details actions.

III. Decision setting out the recommendation of the Committee

POPRC-14/2: Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

The Persistent Organic Pollutants Review Committee,

Recalling its decision POPRC-13/2, by which it recommended to the Conference of the Parties that it consider listing perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds⁹ in Annex A or B to the Convention with specific exemptions as specified in paragraph 2 (a)–(c) of that decision;

Having assessed the information provided in accordance with paragraphs 3 to 5 of decision POPRC-13/2,¹⁰

Recognizing that a transition to the use of short-chain per- and polyfluoroalkyl substances (PFASs) for dispersive applications such as fire-fighting foams is not a suitable option from an environmental and human health point of view and that some time may be needed for a transition to alternatives without PFASs,

1. *Adopts* the addendum to the risk management evaluation for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds;¹¹
2. *Decides*, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds in Annex A to the Convention with specific exemptions for the following:
 - (a) For five years from the date of entry into force of the amendment in accordance with Article 4:
 - (i) Manufacture of semiconductors or related electronic devices:
 - a. Equipment or fabrication plant-related infrastructure containing fluoropolymers and/or fluoroelastomers with PFOA residues;
 - b. Legacy equipment or legacy fabrication plant-related infrastructure: maintenance;
 - c. Photo-lithography or etch processes;
 - (ii) Photographic coatings applied to films;
 - (iii) Textiles for oil and water repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety;

⁹ The titles of decisions POPRC-12/2 and POPRC-13/2 refer to “pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds”, consistent with the proposal for the listing of the chemicals submitted by the European Union (UNEP/POPS/POPRC.11/5). During the intersessional period, however, the chemicals that are the subject of these decisions were referred to as “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds”. Both terms designate the same group of chemicals, but the phrase “perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” is more consistent with other references to these chemicals. As noted above, the Committee has used the latter name in the present decision. The latter name will therefore be used henceforth to refer to the chemicals covered by decisions POPRC-12/2 and POPRC-13/2 in documents prepared under the auspices of the Stockholm Convention.

¹⁰ UNEP/POPS/POPRC.14/3.

¹¹ UNEP/POPS/POPRC.14/6/Add.2.

- (iv) Invasive and implantable medical devices;
 - (v) Fire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) already in installed systems, including both mobile and fixed systems, taking due account of the possible related control measures specified in the annex to the present decision;
- (b) For ten years from the date of entry into force of the amendment for manufacture of semiconductors or related electronic devices: refurbishment parts containing fluoropolymers and/or fluoroelastomers with PFOA residues for legacy equipment or legacy refurbishment parts;
- (c) For use of perfluorooctyl iodide, production of perfluorooctyl bromide for the purpose of producing pharmaceutical products with a review of continued need for exemptions. The specific exemption should expire in any case at the latest in 2036;
3. *Recommends* to the Conference of the Parties that it consider encouraging Parties not to replace fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds with short-chain PFASs due to their persistency and mobility as well as potential negative environmental, human health and socioeconomic impacts.

Annex to decision POPRC-14/2

Possible related control measures for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

Part [X]

PFOA, its salts and PFOA-related compounds

1. The use of PFOA, its salts and PFOA-related compounds shall be eliminated except for Parties that have notified the Secretariat of their intention to use them in accordance with Article 4.
2. Each Party that has registered for an exemption pursuant to Article 4 for the use of PFOA, its salts and PFOA-related compounds for fire-fighting foam shall:
 - (a) Notwithstanding paragraph 2 of Article 3, ensure that fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds shall not be exported or imported except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;
 - (b) Not use fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds for training or testing purposes;
 - (c) By the end of 2022, restrict uses of fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds to sites where all releases can be contained. Containment measures, such as bunds and ponds, shall be controlled, impervious and not allow firewater, wastewater, run-off and other wastes to be released to the environment (e.g., to soils, groundwater, waterways and storm water);
 - (d) Ensure that all firewater, wastewater, run-off, foam and other wastes are managed in accordance with paragraph 1 of Article 6;
 - (e) Make determined efforts designed to lead to the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOA, its salts and PFOA-related compounds, in accordance with paragraph 1 of Article 6, as soon as possible.

SC-9/12: Listing of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

The Conference of the Parties,

Having considered the risk profile, the risk management evaluation and the addendum to the risk management evaluation for perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds as transmitted by the Persistent Organic Pollutants Review Committee,¹

Taking note of the recommendation by the Persistent Organic Pollutants Review Committee that perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds be listed in Annex A to the Stockholm Convention on Persistent Organic Pollutants with specific exemptions,²

1. *Decides* to amend part I of Annex A to the Stockholm Convention on Persistent Organic Pollutants to list therein perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, with specific exemptions for the production and use of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, by inserting the following rows:

ADVANCED

¹ UNEP/POPS/POPRC.12/11/Add.2; UNEP/POPS/POPRC.13/7/Add.2; UNEP/POPS/POPRC.14/6/Add.2.

² UNEP/POPS/COP.9/14.

<i>Chemical</i>	<i>Activity</i>	<i>Specific exemption</i>
Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	Production	<ul style="list-style-type: none"> • Fire-fighting foam: None • For other production, as allowed for the Parties listed in the Register in accordance with the provisions of part X of this Annex
“Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” means the following:		
(i) Perfluorooctanoic acid (PFOA; CAS No: 335-67-1), including any of its branched isomers;	Use	In accordance with the provisions of part X of this Annex:
(ii) Its salts;		<ul style="list-style-type: none"> • Photolithography or etch processes in semiconductor manufacturing
(iii) PFOA-related compounds which, for the purposes of the Convention, are any substances that degrade to PFOA, including any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C ₇ F ₁₅)C as one of the structural elements;		<ul style="list-style-type: none"> • Photographic coatings applied to films • Textiles for oil- and water-repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety • Invasive and implantable medical devices
The following compounds are not included as PFOA-related compounds:		<ul style="list-style-type: none"> • Fire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 2 of part X of this Annex • Use of perfluorooctyl iodide for the production of perfluorooctyl bromide for the purpose of producing pharmaceutical products, in accordance with the provisions of paragraph 3 of part X of this Annex • Manufacture of polytetrafluoroethylene (PTFE) and polyvinylidene fluoride (PVDF) for the production of: <ul style="list-style-type: none"> ○ High-performance, corrosion-resistant gas filter membranes, water filter membranes and membranes for medical textiles ○ Industrial waste heat exchanger equipment ○ Industrial sealants capable of preventing leakage of volatile organic compounds and PM_{2.5} particulates • Manufacture of polyfluoroethylene propylene (FEP) for the production of high-voltage electrical wire and cables for power transmission • Manufacture of fluoroelastomers for the production of O-rings, v-belts and plastic accessories for car interiors
(i) C ₈ F ₁₇ -X, where X= F, Cl, Br;		
(ii) Fluoropolymers that are covered by CF ₃ [CF ₂] _n -R', where R'=any group, n>16;		
(iii) Perfluoroalkyl carboxylic and phosphonic acids (including their salts, esters, halides and anhydrides) with ≥8 perfluorinated carbons;		
(iv) Perfluoroalkane sulfonic acids (including their salts, esters, halides and anhydrides) with ≥9 perfluorinated carbons;		
(v) Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOF), as listed in Annex B to the Convention.		

2. *Also decides* to insert a new part X in Annex A to the Stockholm Convention on Persistent Organic Pollutants, as follows:

Part X

Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

1. The production and use of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds shall be eliminated except for Parties that have notified the Secretariat of their intention to produce and/or use them in accordance with Article 4 of the Convention.

2. Each Party that has registered for a specific exemption pursuant to Article 4 for the use of PFOA, its salts and PFOA-related compounds for fire-fighting foam shall:

(a) Notwithstanding paragraph 2 of Article 3, ensure that fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds shall not be exported or imported except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;

(b) Not use fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds for training;

(c) Not use fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds for testing unless all releases are contained;

(d) By the end of 2022, if it has the capacity to do so, but no later than 2025, restrict uses of fire-fighting foam that contains or may contain PFOA, its salts and PFOA-related compounds to sites where all releases can be contained;

(e) Make determined efforts designed to lead to the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOA, its salts and PFOA-related compounds, in accordance with paragraph 1 of Article 6, as soon as possible;

3. With regard to the specific exemption for the use of perfluorooctyl iodide for the production of perfluorooctyl bromide for the purpose of producing pharmaceutical products, at its thirteenth ordinary meeting and at every second ordinary meeting thereafter, the Conference of the Parties shall review the continued need for this specific exemption. This specific exemption shall in any case expire at the latest in 2036.

ADVANCE

附錄五、有關 **PFOS** 及其鹽類和 **PFOSF** 之議題資料及
決議（草案）



Stockholm Convention on Persistent Organic Pollutants

Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants Ninth meeting

Geneva, 29 April–10 May 2019

Item 5 (a) (iv) of the provisional agenda*

**Matters related to the implementation of the Convention:
measures to reduce or eliminate releases from intentional
production and use: perfluorooctane sulfonic acid, its salts
and perfluorooctane sulfonyl fluoride**

Evaluation of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride pursuant to paragraphs 5 and 6 of part III of Annex B to the Convention

Note by the Secretariat

I. Introduction

1. Paragraph 5 of part III of Annex B to the Stockholm Convention on Persistent Organic Pollutants provides that the Conference of the Parties to the Convention shall evaluate the continued need for perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) for the various acceptable purposes and specific exemptions listed in Annex B on the basis of available scientific, technical, environmental and economic information. In accordance with paragraph 6 of part III of Annex B, the evaluation was to take place no later than in 2015 and every four years thereafter, in conjunction with a regular meeting of the Conference of the Parties.
2. In paragraph 1 of decision SC-6/4, the Conference of the Parties adopted the process for the evaluation of PFOS, its salts and PFOSF set out in the annex to that decision. Subsequently, in paragraph 7 of decision SC-7/5, the Conference of the Parties amended the schedule for the evaluation process, as set out in the annex to that decision, and decided to undertake the evaluation of PFOS, its salts and PFOSF at its ninth meeting.
3. At its eighth meeting, the Conference of the Parties, in its decision SC-8/5, welcomed the consolidated guidance on alternatives to PFOS and its related chemicals (UNEP/POPS/POPRC.12/INF/15/Rev.1) developed by the Persistent Organic Pollutants Review Committee; took note of the options for possible action by the Conference of the Parties should it conclude that there was no continued need for the various acceptable purposes for PFOS, its salts and PFOSF listed in Annex B to the Convention (UNEP/POPS/COP.8/8, paras. 10–15); and took note of the information related to the interpretation and application of Article 4 of the Convention transmitted by Parties (UNEP/POPS/COP.8/INF/13).
4. In paragraph 4 of the same decision, the Conference of the Parties invited Parties and others to submit to the Secretariat, by 15 February 2018, the following information for use by the Secretariat in preparing its next report on the evaluation of PFOS, its salts and PFOSF and by the Persistent Organic

* UNEP/POPS/COP.9/1.

Pollutants Review Committee in its future updating of the guidance on alternatives to PFOS and its related chemicals:

- (a) Information on the production and use of sulfluramid;
- (b) Information on local monitoring of releases of PFOS from the use of sulfluramid;
- (c) Information on research on and the development of safe alternatives to PFOS, its salts and PFOSF as stipulated in paragraph 4 (c) of part III of Annex B to the Convention.

5. Furthermore, in paragraph 6 of the same decision, the Conference of the Parties requested the Secretariat:

- (a) To continue to support the process set out in the annex to decision SC-6/4, in accordance with the revised schedule set out in the annex to decision SC-7/5, and to support Parties, subject to the availability of resources, in collecting the information required for the process;
- (b) To further promote the exchange of information, including information provided by Parties and others, on alternatives to PFOS, its salts and PFOSF and their related chemicals;
- (c) To provide support to Parties, in particular developing-country Parties and Parties with economies in transition, subject to the availability of resources, to build their capacity to identify and collect information on PFOS, its salts and PFOSF, to strengthen their legislation and regulations on the management of those chemicals throughout their life cycles and to introduce safer, effective and affordable alternatives to those chemicals.

II. Implementation

A. Evaluation of the continued need of PFOS, its salts and PFOSF for various acceptable purposes and specific exemptions

6. By its decision POPRC-13/4, the Persistent Organic Pollutants Review Committee at its thirteenth meeting established an intersessional working group to undertake the activities specified in the process set out in the annex to decision SC-6/4 and agreed to work in accordance with the terms of reference set out in the annex to document UNEP/POPS/POPRC.13/INF/9.

7. In accordance with decisions SC-8/5 and POPRC-13/4 as well as the terms of reference (UNEP/POPS/POPRC.13/INF/9), the Secretariat collected the information on PFOS, its salts and PFOSF and sulfluramid,¹ on the basis of which the intersessional working group prepared a draft report on the assessment of alternatives to PFOS, its salts and PFOSF (UNEP/POPS/POPRC.14/INF/8). In addition, the Secretariat prepared a draft report on the evaluation of PFOS, its salts and PFOSF, based on the information submitted by Parties including in their national reports and national implementation plans (UNEP/POPS/POPRC.14/INF/9) for consideration at the fourteenth meeting of the Committee.

8. At its fourteenth meeting, having completed the assessment of alternatives to PFOS, its salts and PFOSF, and having reviewed the draft report of the Secretariat on the evaluation of information on PFOS, its salts and PFOSF, the Committee, by its decision POPRC-14/3, decided to submit the report on the assessment of alternatives to PFOS, its salts and PFOSF (UNEP/POPS/POPRC.14/INF/13) to the Conference of the Parties for consideration at its ninth meeting and requested the Secretariat to finalize its report on the evaluation of information on PFOS, its salts and PFOSF taking into account the comments provided by the Committee. The final report on the evaluation of information on PFOS, its salts and PFOSF is set out in document UNEP/POPS/COP.9/INF/12.

9. In paragraph 3 and 4 of decision POPRC-14/3, the Committee recommended that the Conference of the Parties:

- (a) Consider amending the acceptable purposes and specific exemptions for PFOS, its salts and PFOSF in Annex B to the Convention, taking into account the recommendations set out in the annex to the decision;
- (b) Encourage Parties that are using sulfluramid as insect bait for the control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. to register for an acceptable purpose by notifying the Secretariat in accordance with Annex B to the Convention.

10. Pursuant to paragraph 2 of Article 21 of the Convention, on 25 October 2018, the Secretariat communicated the Committee's recommendations on PFOS, its salts and PFOSF to the Parties and

¹ <http://www.pops.int/tabid/6176>.

signatories to the Convention. The communication, which also invited Parties to provide comments, was issued more than six months before the ninth meeting of the Conference of the Parties. A compilation of comments received from Parties relating to the proposed amendment to Annex B on PFOS, its salts and PFOSF is set out in document UNEP/POPS/COP.9/INF/23. The decision of the Committee setting out its recommendations is reproduced in the annex to the present note.

B. Promoting information exchange on PFOS, its salts and PFOSF and their alternatives and providing relevant technical assistance to Parties

11. In line with paragraphs 6 (b) and (c) of decision SC-8/5, the Secretariat is working closely with relevant forums, such as the Global Perfluorinated Chemicals Group,² which operates under the mandate of the International Conference on Chemicals Management with the support of the Organization for Economic Cooperation and Development and the United Nations Environment Programme, and scientific communities, such as the Society of Environmental Toxicology and Chemistry³ and the International Symposium on Halogenated Persistent Organic Pollutants (Dioxin Conference)⁴ to promote information exchange on developments under the Stockholm Convention related to PFOS, its salts and PFOSF and their alternatives.

12. Information on the technical assistance activities undertaken by the Secretariat in the biennium 2018–2019 can be found in document UNEP/CHW.14/INF/25–UNEP/FAO/RC/COP.9/INF/24–UNEP/POPS/COP.9/INF/25.

III. Proposed action

13. The Conference of the Parties may wish to adopt decisions along the following lines:

A. Action on the amendment to Annex B to the Convention

The Conference of the Parties,

Having considered the report on the assessment of alternatives to perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride submitted by the Persistent Organic Pollutants Review Committee⁵ and the report on the evaluation of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride submitted by the Secretariat,⁶

Taking note of the recommendations of the Persistent Organic Pollutants Review Committee on the continued need for the various acceptable purposes and specific exemptions of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride,⁷

Recalling its decision SC-7/1, in which it noted, pursuant to paragraph 9 of Article 4 of the Stockholm Convention on Persistent Organic Pollutants, that as there were no longer any Parties registered for specific exemptions for the production and use of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride for carpets, leather and apparel, textiles and upholstery, paper and packaging, coatings and coating additives and rubber and plastics, no new registrations may be made with respect to them,

1. *Decides* to amend part I of Annex B to the Stockholm Convention on Persistent Organic Pollutants by replacing the current listing of perfluorooctane sulfonic acid (CAS No: 1763-23-1), its salts and perfluorooctane sulfonyl fluoride (CAS No: 307-35-7) with the new listing as follows:

² <http://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/>.

³ <https://www.setac.org/>.

⁴ <http://dioxin2018.org/>.

⁵ UNEP/POPS/POPRC.14/INF/13.

⁶ UNEP/POPS/COP.9/INF/12.

⁷ Decision POPRC-14/3, annex.

Chemical	Activity	Acceptable purpose or specific exemption
Perfluorooctane sulfonic acid (CAS No: 1763-23-1), its salts ^a and perfluorooctane sulfonyl fluoride (CAS No: 307-35-7) ^a For example: potassium perfluorooctane sulfonate (CAS no. 2795-39-3); lithium perfluorooctane sulfonate (CAS no. 29457-72-5); ammonium perfluorosulfonate (CAS no. 29081-56-9); diethanolammonium perfluorooctane sulfonate (CAS no. 70225-14-8); tetraethylammonium perfluorooctane sulfonate (CAS no. 56773-42-3); didecyldimethylammonium perfluorooctane sulfonate (CAS no. 251099-16-8)	Production	Acceptable purpose: In accordance with part III of this Annex, production of other chemicals to be used solely for the use below. Production for uses listed below. Specific exemption: None
	Use	Acceptable purpose: In accordance with part III of this Annex for the following acceptable purpose, or as an intermediate in the production of chemicals with the following acceptable purpose: <ul style="list-style-type: none"> Insect baits with sulfluramid (CAS No: 4151-50-2) as an active ingredient for control of leaf-cutting ants from <i>Atta</i> spp. and <i>Acromyrmex</i> spp. for agricultural use only Specific exemption: <ul style="list-style-type: none"> Metal plating (hard-metal plating) only in closed-loop systems Fire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) already in installed systems, including both mobile and fixed systems, in accordance with paragraph 10 of part III of this Annex

2. *Also decides to amend part III of Annex B to the Stockholm Convention on Persistent Organic Pollutants by inserting a new paragraph 10 as follows:*

“10. Each Party that has registered for an exemption pursuant to Article 4 for the use of PFOS, its salts and PFOS-related compounds for fire-fighting foam shall:

- (a) Notwithstanding paragraph 2 of Article 3, ensure that fire-fighting foam that contains or may contain PFOS, its salts and PFOS-related compounds shall not be exported or imported except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;
- (b) Not use fire-fighting foam that contains or may contain PFOS, its salts and PFOS-related compounds for training or testing purposes;
- (c) By the end of 2022, restrict uses of fire-fighting foam that contains or may contain PFOS, its salts and PFOS-related compounds to sites where all releases can be contained. Containment measures, such as bunds and ponds, shall be controlled, impervious and not allow firewater, wastewater, run-off and other wastes to be released to the environment (e.g., to soils, groundwater, waterways and storm water);
- (d) Ensure that all firewater, wastewater, run-off, foam and other wastes are managed in accordance with paragraph 1 of Article 6;
- (e) Make determined efforts designed to lead to the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOS, its salts and PFOS-related compounds, in accordance with paragraph 1 of Article 6, as soon as possible.”

B. Action on other matters related to PFOS, its salts and PFOSE

The Conference of the Parties,

Having decided by decision SC-9/[...] to amend the acceptable purposes and specific exemptions for perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride in Annex B to the Stockholm Convention on Persistent Organic Pollutants,

1. *Reminds* Parties that are using insect baits with sulfluramid (CAS No: 4151-50-2) as an active ingredient for the control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. for agricultural use to register for the acceptable purpose by notifying the Secretariat;
2. *Encourages* Parties and others to undertake additional research on the development of alternatives to perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride, including monitoring activities related to sulfluramid, perfluorooctane sulfonic acid and other relevant degradation products in the different environmental media (e.g., soil, groundwater, surface water) on application sites;
3. *Also encourages* Parties to use alternatives to perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride, where these are available and feasible;
4. *Decides* to undertake, at its eleventh meeting, the evaluation of the continued need for perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride for the various specific exemptions and acceptable purposes, in accordance with the process set out in the annex to decision SC-6/4 and the revised schedule set out in the annex to decision SC-7/5;
5. *Requests* the Secretariat:
 - (a) To continue to support the process referred to in paragraph 4 above and to support Parties, subject to the availability of resources, in collecting the information required for the process;
 - (b) To further promote the exchange of information, including information provided by Parties and others, on alternatives to perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride and their related chemicals;
 - (c) To provide support to Parties, in particular developing-country Parties and Parties with economies in transition, subject to the availability of resources, to build their capacity to identify and collect information on perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride; to adopt and strengthen legislation and regulations on the management of those chemicals throughout their life cycles; and to introduce safer, effective and affordable alternatives to those chemicals.

Annex

Decision of the Persistent Organic Pollutants Review Committee setting out its recommendations on perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride

POPRC-14/3: Evaluation of perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) pursuant to paragraphs 5 and 6 of part III of Annex B to the Stockholm Convention

The Persistent Organic Pollutants Review Committee,

Recalling decision SC-6/4, by which the Conference of the Parties adopted a process, set out in the annex to that decision, for the evaluation of perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) pursuant to paragraphs 5 and 6 of part III of Annex B to the Stockholm Convention,

Having completed the second assessment of alternatives to PFOS, its salts and PFOSF in accordance with paragraph 3 of decision SC-6/4¹ and having reviewed the draft report of the Secretariat on the evaluation of information on PFOS, its salts and PFOSF² in accordance with the terms of reference for the assessment,³

1. *Decides* to submit the report on the assessment of alternatives to PFOS, its salts and PFOSF⁴ to the Conference of the Parties for consideration at its ninth meeting;
2. *Requests* the Secretariat to finalize its report on the evaluation of information on PFOS, its salts and PFOSF⁵ on the basis of comments and suggestions provided by the Committee taking into account the discussions at the fourteenth meeting of the Committee and to submit it to the Conference of the Parties for consideration at its ninth meeting;
3. *Recommends* that the Conference of the Parties consider amending Annex B to the Convention taking into account the recommendations set out in the annex to the present decision;
4. *Also recommends* that the Conference of the Parties encourage Parties that are using sulfluramid as insect bait for the control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. to register for an acceptable purpose by notifying the Secretariat in accordance with Annex B to the Convention;
5. *Requests* the Secretariat to revise, by 31 October 2018, the report on the assessment of alternatives to PFOS, its salts and PFOSF set out in the respective annexes to documents UNEP/POPS/POPRC.14/INF/8 and UNEP/POPS/POPRC.14/INF/8/Add.1, taking into account the discussions at the fourteenth meeting;
6. *Invites* Parties and observers to provide, by 30 November 2018, comments on the revised report;
7. *Requests* the Secretariat to further revise the report on the assessment of alternatives to PFOS, its salts and PFOSF, taking into account the comments received in accordance with paragraph 6 above for submission to the ninth meeting of the Conference of the Parties.

¹ UNEP/POPS/POPRC.14/INF/8, UNEP/POPS/POPRC.14/INF/8/Add.1.

² UNEP/POPS/POPRC.14/INF/9.

³ UNEP/POPS/POPRC.13/INF/9.

⁴ UNEP/POPS/POPRC.14/INF/13.

⁵ UNEP/POPS/POPRC.14/INF/9.

Annex to decision POPRC-14/3

Recommendations on the continued need for perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) for various the various acceptable purposes and specific exemptions

A. Acceptable purposes

(a) Photo-imaging:

Based on the assessment of the use of alternatives to perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF) for photographic coatings applied to film, paper and printing plates, the Committee recommends that the acceptable purpose for the use of PFOS, its salts and PFOSF for photo-imaging no longer be available under the Convention.

(b) Photo-resist and anti-reflective coatings for semiconductors; etching agent for compound semiconductors and ceramic filters:

Based on the steadily declining use of PFOS, its salts and PFOSF for semiconductors (photo-resist and anti-reflective coatings for semiconductors; etching agent for compound semiconductors and ceramic filters) and the commercial availability of alternatives, the Committee recommends that the acceptable purpose for the use of PFOS, its salts and PFOSF for photo-resist and anti-reflective coatings for semiconductors and as etching agent for compound semiconductors and ceramic filters no longer be available under the Convention.

(c) Aviation hydraulic fluids:

Based on the assessment and the availability of alternatives and the withdrawal of a number of Parties from the register of acceptable purposes, the Committee recommends that the acceptable purpose for the use of PFOS, its salts and PFOSF for aviation hydraulic fluids no longer be available under the Convention.

(d) Metal plating (hard metal plating) only in closed-loop systems:

Based on the availability of alternatives to PFOS, its salts and PFOSF for metal plating (hard metal plating) only in closed-loop systems and their assessment, and the fact that some Parties have indicated that the use of PFOS is either declining or has been completely phased out, while others have indicated a continued need for the use of PFOS, the Committee recommends that the use of PFOS, its salts and PFOSF for metal plating (hard metal plating) only in closed-loop systems be amended from an acceptable purpose to a specific exemption.

(e) Certain medical devices (such as ethylene tetrafluoroethylene copolymer (ETFE) layers and radio-opaque ETFE production, in vitro diagnostic medical devices, and CCD colour filters):

Based on its assessment, the Committee concluded that alternatives to the use of PFOS, its salts and PFOSF for certain medical devices are available and therefore recommends that the use of PFOS, its salts and PFOSF for certain medical devices (such as ethylene tetrafluoroethylene copolymer (ETFE) layers and radio-opaque ETFE production, in vitro diagnostic medical devices, and CCD colour filters) no longer be available under the Convention.

(f) Fire-fighting foam:

The assessment indicated that alternatives to PFOS-based fire-fighting foam are readily available in many countries and have been demonstrated to be technically feasible and economically viable but some have potentially negative environmental and health impacts. On that basis, the Committee recommends that the acceptable purposes for the production and use of PFOS, its salts and PFOSF for fire-fighting foam be amended to a specific exemption for the use of fire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) already in installed systems, including both mobile and fixed systems, and with the same conditions specified in paragraphs 2 (a)–(e) of the annex to decision POPRC-14/2 on perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds;

The Committee recognized that a transition to the use of short-chain per- and polyfluoroalkyl substances (PFASs) for dispersive applications such as fire-fighting foam is not a suitable option from an environmental and human health point of view and that some time may be needed for a transition to alternatives without PFASs.

(g) **Insect bait for control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp.:**

The assessment of the use of alternatives to PFOS, its salts and PFOSF showed dissenting views on the need to use sulfluramid for combating leaf-cutting ants, the availability of alternatives, and the technical and economic feasibility and operational effectiveness of those alternatives;

The Committee discussed both the lack of clarity in the text of Annex B listing PFOS, its salts and PFOSF (as sulfluramid is not explicitly mentioned in the use entry) and the current widespread use of sulfluramid. Based on those discussions, the Committee suggests including “sulfluramid (CAS No: 4151-50-2)” in the entry for the listed acceptable purpose and specifying that the current acceptable purpose is meant for agricultural use only;

The Committee therefore recommends that the acceptable purpose be maintained and that the text of the use entry in the Annex be clarified as follows: “Insect baits with sulfluramid (CAS No: 4151-50-2) as an active ingredient for control of leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. for agricultural use only”;

The Committee encourages additional research and development of alternatives and, where alternatives are available, that they be used;

The Committee further encourages Parties to consider monitoring activities for sulfluramid, PFOS and other relevant degradation products in the different environmental compartments (soil, groundwater, surface water) of the application sites.

B. Specific exemptions

(a) **Photo masks in the semiconductor and liquid crystal display (LCD) industries:**

These industries have largely phased out the use of PFOS, its salts and PFOSF from this use. Therefore, the Committee recommends that the specific exemption for the use of PFOS, its salts and PFOSF for photo masks in the semiconductor and liquid crystal display (LCD) industries no longer be available under the Convention.

(b) **Metal plating (hard metal plating); metal plating (decorative metal plating):**

For metal plating (hard metal plating); metal plating (decorative plating), it is noted that for a number of Parties the notification has expired or been withdrawn. While there is uncertainty over the potential for conversion of Cr(VI) to Cr(III), based on the availability of viable alternatives, and the use of Cr(III) techniques in the case of decorative plating, the Committee recommends that the specific exemptions for the use of PFOS its salts and PFOSF for metal plating (hard metal plating) and metal plating (decorative metal plating) no longer be available under the Convention.

(c) **Electric and electronic parts for some colour printers and colour copy machines:**

PFOS, its salts and PFOSF for these uses has been largely phased out. This indicates that alternatives to PFOS are available and widely used. Therefore, the Committee recommends that the specific exemption for the use of PFOS, its salts and PFOSF for electric and electronic parts for some colour printers and colour copy machines no longer be available under the Convention.

(d) **Insecticides for control of red imported fire ants and termites:**

A range of chemical and non-chemical alternatives have been identified and it is indicated that these are widely available and technically feasible. These alternatives have been widely used. The Committee recommends that the specific exemption for the use of PFOS, its salts and PFOSF for insecticides for the control of red imported fire ants and termites no longer be available under the Convention.

(e) **Chemically driven oil production:**

The assessment showed that alternatives are widely available. Given the use of alternatives to PFOS, its salts and PFOSF in most oil-producing areas, the Committee recommends that the specific exemption for the use of PFOS, its salts and PFOSF for chemically driven oil production no longer be available under the Convention.

SC-9/4: Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride

The Conference of the Parties,

Having considered the report on the assessment of alternatives to perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride submitted by the Persistent Organic Pollutants Review Committee¹ and the report on the evaluation of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride submitted by the Secretariat,²

Taking note of the recommendations of the Persistent Organic Pollutants Review Committee on the continued need for the various acceptable purposes and specific exemptions of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride,³

Recalling its decision SC-7/1, in which it noted, pursuant to paragraph 9 of Article 4 of the Stockholm Convention on Persistent Organic Pollutants, that as there were no longer any Parties registered for specific exemptions for the production and use of perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride for carpets, leather and apparel, textiles and upholstery, paper and packaging, coatings and coating additives and rubber and plastics, no new registrations may be made with respect to them,

1. *Decides* to amend part I of Annex B to the Stockholm Convention on Persistent Organic Pollutants by replacing the current listing of perfluorooctane sulfonic acid (CAS No: 1763-23-1), its salts and perfluorooctane sulfonyl fluoride (CAS No: 307-35-7) with the new listing as follows:

<i>Chemical</i>	<i>Activity</i>	<i>Acceptable purpose or specific exemption</i>
Perfluorooctane sulfonic acid (CAS No: 1763-23-1), its salts ^a and perfluorooctane sulfonyl fluoride (CAS No: 307-35-7) ^a For example: potassium perfluorooctane sulfonate (CAS No: 2795-39-3); lithium perfluorooctane sulfonate (CAS No: 29457-72-5); ammonium perfluorooctane sulfonate (CAS No: 29081-56-9); diethanolammonium perfluorooctane sulfonate (CAS No: 70225-14-8); tetraethylammonium perfluorooctane sulfonate (CAS No: 56773-42-3); didecyldimethylammonium perfluorooctane sulfonate (CAS No: 251099-16-8)	Production	Acceptable purpose: In accordance with part III of this Annex, production of other chemicals to be used solely for the use below. Production for uses listed below. Specific exemption: None
	Use	Acceptable purpose: In accordance with part III of this Annex for the following acceptable purpose, or as an intermediate in the production of chemicals with the following acceptable purpose: <ul style="list-style-type: none">Insect baits with sulfluramid (CAS No: 4151-50-2) as an active ingredient for control of leaf-cutting ants from <i>Atta</i> spp. and <i>Acromyrmex</i> spp. for agricultural use only Specific exemption: <ul style="list-style-type: none">Metal plating (hard-metal plating) only in closed-loop systemsFire-fighting foam for liquid fuel vapour suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 10 of part III of this Annex

2. *Also decides* to amend part III of Annex B to the Stockholm Convention on Persistent Organic Pollutants by inserting a new paragraph 10 as follows:

¹ UNEP/POPS/POPRC.14/INF/13.

² UNEP/POPS/COP.9/INF/12.

³ Decision POPRC-14/3, annex.

“10. Each Party that has registered for an exemption pursuant to Article 4 for the use of PFOS, its salts and PFOSF for fire-fighting foam shall:

(a) Notwithstanding paragraph 2 of Article 3, ensure that fire-fighting foam that contains or may contain PFOS, its salts and PFOSF shall not be exported or imported except for the purpose of environmentally sound disposal as set forth in paragraph 1 (d) of Article 6;

(b) Not use fire-fighting foam that contains or may contain PFOS, its salts and PFOSF for training;

(c) Not use fire-fighting foam that contains or may contain PFOS, its salts and PFOSF for testing unless all releases are contained;

(d) By the end of 2022, if it has the capacity to do so, restrict uses of fire-fighting foam that contains or may contain PFOS, its salts and PFOSF to sites where all releases can be contained;

(e) Make determined efforts designed to lead to the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOS, its salts and PFOSF, in accordance with paragraph 1 of Article 6, as soon as possible.”

ADVANCE