[redacted]

[redacted]

12 April 2019

Dea [redacted]

POPS references to missing EU exemptions in relation to PFOA related substances

We would like to draw your attention to a worrying development in relation to the upcoming Conference of Parties discussions in relation to PFOA, its salts and PFOA related substances under the Stockholm Convention.

After working through the EU process to secure a time limited exemption from the restriction of PFOA, its salts and PFOA related substances as part of the EU REACH regulation in 2015, we now see that not all the exemptions that were approved as part of the EU consultation have been discussed as part of the POPRC process. If these exemptions are not included, there will be a misalignment between the exemptions and timing for phase out for these uses in the EU with the Stockholm conventions with wider global socio economic consequences. The time limited exemption listed in **paragraph 68** to Annex XVII to regulation (EC) **No 1907/2006** that we want to see included in the Stockholm Convention is **Point 3(b) (iii) plasma nano-coatings**.

A major use of PFOA related chemistry is in the protection of smartphones and other electronic equipment from water damage through a technique that results in a plasma nano-coating on the electronic device. As part of the EU consultation that preceded the introduction of this exemption [redacted] presented a socio-economic analysis (SEA) of the effect of the non-use of the PFOA related substance in these applications. The SEA showed that the impact of the EU restriction would be placated if the restriction were not introduced until 2023 after which time alternative water protection chemistry offering equal performance and functionality would be available. This remains the timetable by which we expected the alternative to be accepted by our customers and which will be severely compromised if the an earlier ban is introduced under the Stockholm convention through no exemption being in place.

As evidence of the effect of an earlier ban at the global level, we have updated the socio-economic analysis prepared for the EU to outline the impact of global ban under the UN Stockholm Convention in advance of 2023 for the use of PFOA related substances in plasma nano coating. A non-confidential version of this analysis accompanies this letter.

[redacted] Highly Confidential

[redacted]

It is estimated that the socio-economic impacts of the proposed global ban over a 5 year time period to 2023 for our largest market – smartphones – before alternatives could be introduced would be:

- Total replacement costs of damaged products to European consumers between 2019 and 2023 of €642m net present value (NPV).
- A loss of direct economic costs between 2019 and 2023 of €295m NPV triggered by a loss of €14m profit.
- A loss in direct revenue of upstream suppliers between 2019 and 2023 of €15m NPV; and
- A loss of annual earnings to the employees due to long term unemployment between 2019 and 2023 of €0.24m NPV.

The total NPV costs of the proposed ban would be in excess of **€0.95 billion**.

As an appendix to this letter please also find extracts from the papers from POPRC 13 and 14 where the listing relating to the discussions to list PFOA, its salts and PFOA related substances. These relate to discussions comparing the exemptions under the EU REACH restriction and which should be carried through to the Stockholm Convention listing. The extracts show that although the use in "plasma nano-coatings" is mentioned on several occasions, there is no evidence of any discussion of why it was included in the EU, or what the likely impact of not including it in the Stockholm Convention would be. We would like the EU to propose that this time limited exemption be included in the Stockholm Convention listing at the forthcoming COP. In doing so the UN will mitigate the potential impact of the need to replace **€642m worth of mobile phones** due to their having been treated with an inferior water protection chemistry before a replacement is available in 2023.

Yours sincerely

[redacted]

Compendium of POPRC 13 and 14 Extracts relating to proposed exemptions to the listing of PFOA, its salts and related compounds in the Stockholm Convention

Extracts from UNEP/POPS/POPRC.13/3 13 June 2017

UNEP/POPS/POPRC.13/3 13 June 2017 was prepared for Thirteenth meeting, Rome, 17–20 October 2017 Item 5 (a) (ii) of the provisional agenda:

"Technical work: consideration of draft risk management evaluations: pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds
Draft risk management evaluation: pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds"

Executive summary paragraph 7 states:

7. 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 and (10) certain pharmaceutical chemicals. 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

Further in the document Table 3 contains the rows:

Table 1: Overview of regulatory risk management approaches, their chemical scope and exemptions for uses related to PFOA, its salts and PFOA-related compounds in Canada, the EU and Norway (for details see Canada, 2016c, European Commission, 2017 and Norway, 2016)

	Canada	EU	Norway
	Prohibit manufacture, use, sale, offer for sale or import of the substances and products containing these substances	Prohibit manufacturing, use or placing on the market (1) as substances, as constituents of other substances and (2) articles or any parts thereof containing one of the substances	Prohibit to manufacture, import, export and make available on the market (1) textiles, carpets and other coated consumer products that contain the substances and (2) consumer products that contain the substances
Chemical scope	PFOA and its salts; Compounds that consist of a perfluorinated alkyl	PFOA and its salts; Any related substance (including its salts and polymers) having a linear or	PFOA and individual salts and esters of PFOA (CAS number.

	Canada	EU	Norway
	group that has the molecular formula C_nF_{2n+1} in which n=7 or 8 and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom; Perfluorocarboxylic acids that have the molecular formula $C_nF_{2n+1}CO_2H$ in which $8 \leq n \leq 20$, and their salts; Compounds that consist of a perfluorinated alkyl group that has the molecular formula C_nF_{2n+1} in which $8 \leq n \leq 20$ and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom. (see Canada, 2016c)	branched perfluoroheptyl group with the formula C_7F_{15}- directly attached to another carbon atom, as one of the structural elements. Any related substance (including its salts and polymers) having a linear or branched perfluorooctyl group with the formula C_8F_{17}- as one of the structural elements. Exclusions: C_8F_{17}-X, where X= F, Cl, Br; C_8F_{17}-C(=O)OH, C_8F_{17}-C(=O)O-X' or C_8F_{17}-CF_2-X' (where X'=any group, including salts). Does not apply to PFOS and its derivatives, which are listed in Part A of Annex I to Commission Regulation (EC) No 850/2004 (see European Commission, 2017) PFOA<25ppb, related compounds <1,000 ppb	335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5) (See Norway 2016)
Exemptions for nano-coating	Partially captured under exemptions for manufactured items	Plasma nano-coating (until 4 July 2023)	

Extract from Section F. Nano-coating, paragraph 81

81. During the EU public consultation on the restriction dossier, only one company applying coating for smartphone manufacturers requested a derogation for 3 years for pulsed plasma nano-coating in order to be able to move to an alternative C_6 chemical. (ECHA, 2015c). For plasma nano-coating a time-limited exemption (until 4 July 2023) is given in the EU (European Commission, 2017). The Canadian approach does not apply to manufactured items. Hence, the import, use, sale and offer for sale of coatings applied to smartphones (or other electronic equipment) are not restricted in Canada.

Extract from Section 3.2 Summary of risk management evaluation information

203. One company applying coating for smartphone manufacturers requested, during the public EU consultation, an exemption of 3 years for pulsed plasma nano-coating for the transition to an alternative C_6 chemical. For plasma nano-coating a time limited exemption (until 4 July 2023) is given in the EU. Norway and Canada have no specific exemptions on nano-coating in place. In Canada, the import, use, sale and offer for sale of coatings applied smartphones (or electronic equipment) containing PFOA, its salts or PFOA-related compounds are not restricted. Since only one company asked for an exemption for a short period of time, this use should be further evaluated before considering granting a global exemption under the Stockholm Convention

Extracts from UNEP/POPS/POPRC.13/INF/7, 27 July 2017

UNEP/POPS/POPRC.13/INF/7, 27 July 2017 was prepared for the Thirteenth meeting, Rome, 17–20 October 2017, Item 5 (a) (ii) of the provisional agenda:

"Technical work: consideration of draft risk management evaluations: pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds

Comments and responses relating to the draft risk management evaluation on pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds "
Relevant comments contained in the table are:

Austria	General	From General Comments Austria (E-Mail 12.5.2017): Scope of the prohibition: It is not clear how the limit values such as proposed in the opinions of ECHA's scientific committees RAC and SEAC have been taken into consideration As regards (time-limited) derogations, we recognise differences in the RME compared to the restriction scope as proposed in the draft European restriction proposal (available at http://ec.europa.eu/transparency/regcomitology/index.cfm?do=search.documentdetail&Dos_ID=13731&ds_id=47612&version=3&page=1 (e.g. uses such as latex printing inks, pulsed plasma nano-coatings, etc.); further reflections on why these differences have been introduced would add to the quality of the RME.	Comment 1: We agree that concentration limits such as proposed in the EU restriction proposal could be considered also under the SC. This should be discussed by the POPRC. The concentration limits in the EU restriction are mentioned and explained in para 36. In the case of PFOS listed under the SC, such concentration limits were not taken into account. In the case of SCCPs a concentration limit was not considered in the recommendation from the POPRC (UNEP/POPS/COP.8/14), however, a concentration limit of 1% was discussed and agreed at the COP8. See also comment Canada on para 199. Comment 2: Reflections on the differences are explained throughout the document and the conclusions on possible exemptions (which may differ from the EU proposal) are summarised in section 3.2
Japan	73	Text: For plasma nano-coating time-limited derogation is proposed within the EU. Comment: "Derogations" should read "exemptions" so as not to confuse readers.	Not edited. This part of para 73 has been deleted (see comment Sweden, para 73)
Sweden	73	Repletion from first sentence in the para.	First sentence has been deleted to avoid repetition. In addition, the entire para has been shortened based on other comments received.

Japan	73	Text: Only one company applying coating for smartphone manufacturers requested during the public EU stakeholder consultation on the restriction dossier derogation for 3 years for pulsed plasma nano coating was requested in order to be able to move to an alternative C6 chemical. Comment: “Derogation” should read “exemption” so as not to confuse readers.	Not edited. The wording has been adapted from ECHA, 2015c and thus not been changed.
Japan	73	Text: On this basis, for plasma nano coating a time limited derogation (6 years after entry into force of the Regulation) is proposed in the EU (EUROPEAN COMMISSION, 2017) Comment: “Derogation” should read “exemption” so as not to confuse readers.	Edited
Netherlands	11	The 8 exemptions here differ from the 10 mentioned in para 7. This leads to questions like: what happened with latex printing inks or with plasma nano-coatings? Also other questions could be formulated, but I presume the message is understood.	In para 7 ten identified uses for which alternatives are currently not available are listed. Based on the risk management evaluation, for three of these ten uses, an exemption is not considered appropriate: latex printing inks plasma nano-coatings certain pharmaceutical chemicals In para 11 all eight identified uses are listed for which, according to the risk management evaluation, exemptions are considered appropriate. This includes seven uses listed in para 7 plus the use in AFFFs used in firefighting applications. Justification is provided in the RME. For the use in AFFFs used in firefighting applications alternatives are available. However, an exemption is considered appropriate to enable the use of foams already in use (summary see para 189). Justification for the three uses where an exemption is not considered appropriate is given in the RME. Summary in paras 184 (latex printing inks), 188 (plasma

			nano-coating) and 186 (certain pharmaceutical chemicals).
UK	203	In paragraph 203 we note that exemptions for latex printing inks and plasma nano –coatings are not included in the recommendation for time limited exemptions. It is important to note that following industry/stakeholder consultation that the *Committee* for *Socio-economic* Analysis (SEAC) accepted that time limited exemptions were appropriate for these applications. It is of note also that some of the uses that were derogated in the EU (e.g. photographic coatings) were niche applications involving relatively small amounts. It is not clear whether this is true at a global level – if use is more widespread outside the EU for these applications, and then the reasons for derogation may need to be reconsidered under the Stockholm Convention.	Agreement. To be discussed at the POPRC meeting.
IPEN	73	Suggestion to delete "Only one company provided a confidential SEA that suggests significant economic impact in case sufficient time is not allowed to switch to alternatives (ECHA, 2015a). On this basis, for plasma nano-coating time limited derogation (6 years after entry into force of the Regulation) is proposed in the EU (EUROPEAN COMMISSION, 2017".	Partly edited. The paragraph has been shortened based on other comments (see comments from Austria and Sweden on para 73).

UNEP/POPS/POPRC.13/7/Add.2: 16 November 2017

UNEP/POPS/POPRC.13/7/Add.2 is the "Report of the Persistent Organic Pollutants Review Committee on the work of its thirteenth meeting

Addendum

Risk management evaluation on pentadecafluorooctanoic acid (CAS No: 335-67-1, PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds"

This paper has no mention of a discussion on inclusion of EU restriction relating to plasma nano-coatings that was agreed should happen at POPRC 13.

UNEP/POPS/POPRC.13/7, 7 December 2017

UNEP/POPS/POPRC.13/7: "Report of the Persistent Organic Pollutants Review Committee on the work of its thirteenth meeting"

This paper has no mention of a discussion on inclusion of EU restriction relating to plasma nano-coatings that was agreed should happen at POPRC 13.

Extracts from UNEP/POPS/POPRC.14/6/Add.2, 8 October 2018

UNEP/POPS/POPRC.14/6/Add.2, 8 was prepared for the Fourteenth meeting, Rome, 17–21 September 2018
"Report of the Persistent Organic Pollutants Review Committee on the work of its fourteenth meeting

Addendum

Addendum to the risk management evaluation on perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds"

This paper only mentions of plasma nano-coating in a repeat of Table 3 previously presented in POPRC.13.3.

There is no report of any "further evaluation" between POPRC13 and POPRC 14 or any discussion at POPRC14

Extract from UNEP/POPS/COP, 9/14, 13 December 2019

UNEP/POPS/COP.9/14 has been prepared for the Ninth Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants, Geneva 29 April – 10 May 2019
"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"

Mentions in the Annex which is the Executive summary of the risk evaluation at paragraph 8 that:

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.

This use has not been included in the draft Part [X]