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## QUESTIONNAIRE

*“Study to Support the Review of Waste-related issues in Annexes IV and V of Regulation (EC) 850/2004”<sup>1</sup>*

### 1) Aim of the questionnaire

The following questionnaire has been prepared by BiPRO GmbH (part of Ramboll)<sup>2</sup> in close coordination with the European Commission. The questionnaire aims at gathering up-to-date information and quantitative data on Persistent Organic Pollutants (POPs) and more specifically on waste related issues of certain “new POPs”, “candidate POPs” and “already listed POPs”. The information will provide the EU Commission with the necessary scientific basis to propose amendments to the POP Regulation (EC) 850/2004 (hereafter called “POP Regulation”), due to the listing of new substances and to the review of concentration limits for substances already listed. In addition, the study shall provide guidance on how wastes containing the new POPs may be managed.

**Commented [A1]:** The focus of this Questionnaire to some new POP's raises the question: why are endosulfan (2011), PCP (2015), and PCNs (2015) not included in this Questionnaire?

### 2) Background information

POPs are a group of organic compounds that possess toxic properties, persist in the environment, bioaccumulate through the food web and pose a risk to human health and the environment. POPs are transported across international boundaries far from their sources through air, water and migratory species.

The "Protocol to the regional UNECE Convention on Long-Range Transboundary Air Pollution" (CLRTAP) and the Global "Stockholm Convention" on POPs are international, legally binding instruments aiming to reduce and eliminate the production, use and releases of POPs in the territories of all participating parties. Both contain provisions on the environmentally sound management of wastes consisting of, containing or contaminated by POPs (hereafter called “POP waste”).

Although substantial progress has been achieved in limiting the use and application of POPs and reduce their emission into the environment, there are ongoing releases into the environment as well as a constant cycling of substances released in the past. For an optimised approach to elimination, all sectors in the life cycle of a product and of anthropogenic emission sources need to be considered. In this framework, proper waste management can contribute substantially to the reduction of POP releases into the environment, and a comprehensive legislation on POP waste is a necessary pre-requisite.

The Stockholm Convention was implemented into EU Community law in 2004 by the POP Regulation. It foresees an obligation to generally destroy or irreversible transform the POP

<sup>1</sup> Information related to this project on behalf of the European Commission is provided on a dedicated project website at <http://pops-and-waste.bipro.de>.

<sup>2</sup> BiPRO GmbH (part of Ramboll), Munich, Germany ([www.bipro.de](http://www.bipro.de)), has been contracted by the European Commission to carry out the “Study to support the review of waste-related issues in Annexes IV and V of Regulation (EC) 850/2004”

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content of waste above certain concentration limits (the 'low POP content'). In addition, in exceptional cases, waste above the limits may be otherwise managed with defined operations for specified waste types if destruction or irreversible transformation do not represent the environmentally preferable option and the concentration in such wastes are below another threshold (the 'high POP content').<sup>3</sup>

In 2017, the Conference of the Parties of the Stockholm Convention (SC) decided to add three new substances to the relevant Annexes. Every time a substance is listed as a POP by the SC, the parties have to reflect the listing in domestic legislation. The EU as a party to the Convention is requested to amend the POP Regulation by May 2018 to include these 'new POPs'.

In addition, three substances are currently under review procedures and are likely to be added to the list of POPs under the SC in the next years (the so-called "candidate POPs"). For the new POPs and the candidate POPs, there is a need to improve the knowledge basis regarding quantities that were used in the past, their concentrations and sources, as well as regarding aspects related to waste management in terms of disposal and recycling paths. This information is needed to assess possible disposal options and to establish concentration limits for waste<sup>4</sup>. Consequently, further analysis is needed for the following substances:

- **"new POPs"**: Decabromodiphenylether (decaBDE), short-chain chlorinated paraffins (SCCPs) and Hexachlorobutadiene (HCBd)
- **"candidate POPs"**: Dicofof, Pentadecafluorooctanoic acid (PFOA, perfluorooctanoic acid) and its salts and PFOA-related compounds, Perfluorohexanoic acid (PFHxS) and its salts and PFHxS-related compounds

Furthermore, new scientific information on three substances already listed in the annexes of the SC has raised the necessity of reviewing already established concentration limits. Therefore, the following substances require renewed analysis and, potentially adjustment of the concentration limits:

- **"already listed POPs"**: Hexabromocyclododecane (HBCD), Polychlorinated Biphenyls (PCB), Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF)

**Commented [A2]:** To prevent misunderstanding with the chemical HCBd our advice is to address HBCD as HBCDD throughout the questionnaire and the study assigned to BiPro.

#### 4) Instructions on using the questionnaire

Please note that some of the relevant questions might have already been addressed in requests for information under the SC or the Basel Convention (BC). Submissions from EU member states related to these requests for information will be reviewed and considered as appropriate for the purpose of the actual study.

The present questionnaire is provided as an MS-Word-file and it would be much appreciated to receive your responses using this electronic version. All questions are numbered and highlighted

<sup>3</sup> Article 7 of Regulation EC (No) 850/2004

<sup>4</sup> Note that for SCCPs and HCBd concentration limits are already established in the Annexes IV and V of the POP Regulation. Only for decaBDE new concentration limits need to be established.

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in grey. All fields where input is desired are blue.

**The questionnaire is structured in three main sections.**

- **Section I – “new POPs”:** decaBDE, SCCPs and HCBd
- **Section II – “candidate POPs”:** dicofol, PFOA and PFHxS
- **Section III – “already listed POPs”:** HCBd, PCB and PCDD/PCDF

**Please only fill in the sections that you consider relevant and where you can provide specific information. Please provide specific references wherever possible** and do not hesitate to also send us additional background information in form of documents, reports, data sets or as links to websites.

We recommend to quickly screen all questions of a section before starting to fill in the information. If a question is unclear or if you desire to discuss a certain aspect, please do not hesitate to contact one of the following contact persons of the project team:

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All information provided will be used in a transparent and traceable way for the present study. Provided that your agreement is expressed below, submitted non-confidential information will be published on the dedicated project related website<sup>5</sup>. If you wish to submit information on a confidential basis, please indicate this in your response. Any confidential information will only be used in anonymous or aggregated form.

Please indicate in the following table whether you agree with the publication of your answers to the Questionnaires:

Section	Y/N
I.I Occurrence of “new POPs” decaBDE, SCCPs and HCBd	Y
I.II Recycling Operations/Waste Management Options for “new POPs”	Y
I.III Concentration Limits for decaBDE, SCCPs and HCBd	Y
II.I Occurrence of “candidate POPs” Dicofol, PFOA and PFHxS	Y
II.II Recycling Operations/Waste Management Options for “candidate POPs”	Y
II.III Concentration Limits for dicofol, PFOA and PFHxS	Y
III Already listed POPs	Y

<sup>5</sup> <http://pops-and-waste.bipro.de>

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**Please return the completed questionnaire and any related documents to [popwaste2018@ramboll.com](mailto:popwaste2018@ramboll.com) before 29 March 2018.**

In case you are rather interested to discuss with us by telephone, please let us know when we could reach you.

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**Section I – “new POPs”**

Decabromodiphenylether (decaBDE); short-chain chlorinated paraffins (SCCPs); Hexachlorobutadiene (HCBD)

**I. Occurrence of “new POPs” decaBDE, SCCPs and HCBD** (articles in use, waste, recycled articles as well as (production) processes and unintentional releases)

**1. a) Please indicate whether your country /company has *stockpiles of decaBDE, SCCPs or HCBD*.**

**b) If yes, please provide information on types, quantity, concentrations, etc.**

a) Quantities and concentrations of all BDE's are presented in IVM-IVAM report R13-16: POP BDE waste streams in the Netherlands: analysis and inventory. Date 17 December 2013. Available through the link below.

b) <http://www.google.nl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwIM34gC2o7aAhXMtRQKH9EB7YQFggtMAA&url=http%3A%2F%2Fchm.pops.int%2FTheConvention%2FPOPsReviewCommittee%2FMeetings%2FOPRC8%2FOPRC8Followup%2FSubmissionBDEsPFOS%2Ftabid%2F3064%2Fctl%2FDownload%2Fmid%2F9663%2FDefault.aspx%3Fid%3D5%26ObjID%3D18196&usq=AOvYaw3JeFueYVRd5MGDr4LMw5og>

c) There is no information about stockpiles, quantities and concentrations of SCCP's and HCBD. Both chemicals are no longer produced or used for many years.

**2. Please indicate any known *occurrence and concentration of the “new POPs” decaBDE, SCCPs and HCBD in different articles in use, waste categories and recycled articles.***

decaBDE	Specification of waste/article	Concentration [mg/kg]
Articles in use	See IVM-IVAM report	Idem
Wastes	See IVM-IVAM report	Idem
Recycled articles	See IVM-IVAM report	Idem
SCCPs	Specification of waste/article	Concentration [mg/kg]
Articles in use	No information	No information
Wastes	No information	No information
Recycled articles	No information	No information
HCBD	Specification of waste/article	Concentration [mg/kg]
Articles in use	No information	No information

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Wastes	No information	No information
Recycled articles	No information	No information

Remarks:

First of all The Netherlands fully supports the objective to protect human health and the environment from persistent organic pollutants (POPs) in general and, more specific, that decaBDE shall not be manufactured or placed on the market as a substance on its own or used in the production of other substances, mixtures and articles.

The challenge however is how the European Union is going to deal with the legacy. Deca BDE has been placed on the market for decades in more than 1 million tons worldwide in all kind of applications: in cables (not only in cars, but also in trains, planes, ships, housings, offices, electronics, etc.), often in a concentration above 0,1% and further in textiles, furniture, construction materials, etc., often in a concentration range easily exceeding 1,0%. In this respect, it is important to note that it is technically and economically impossible for the recycling industry to separate decaBDE containing articles in daily operations effectively and efficiently from other non-decaBDE containing waste articles. Also easy traceability of sec decaBDE cannot be ensured yet. As a consequence, decaBDE containing (components in) articles are processed together with other plastic components and articles. Setting a low POP concentration limit after shredding of plastic fractions will not solve this issue.

**3. Please provide information on quantities of waste containing “new POPs” that are currently generated, then disposed of or recycled**

“new POPs”	Specification of waste	Waste generated (in kt)	Waste disposed of (in kt)	Waste recycled (in kt)
decaBDE	See IVM-IVAM report			
SCCPs	No information			
HCBD	No information			

**4. Please provide information on wastes containing “new POPs” that are currently recycled (now or in the near future) and on the extent of recycling. If possible, please specify the types of new articles produced from the recycled material.**

“new POPs”	Types of waste recycled	Recycling rate [%]	New articles produced from recycled material
decaBDE	See IVM-IVAM report and remark above		
SCCPs	No information		

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HCBD	No information		
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Remarks:

Suggestion is to check some European Waste Shipment notifications with entries 'plastics' or 'flame retardants' and look for operations R12 and/or R3. Should be possible to make some kind of overview of transboundary movements within the EU for those waste streams.

5. Please indicate up-to-date (reference) **measurement (analytical) methods** for identifying the presence and levels of the listed "new POPs" in waste.

No new information.

6. Please indicate known inexpensive **screening methods** for identifying wastes containing "new POPs"

There is a lot of information about screening the presence of bromine in articles with XRF- technology. To identify which brominated substance is used, analytical techniques are required. See for example:  
[https://www.researchgate.net/publication/279331083\\_Rapid\\_identification\\_of\\_polystyrene\\_foam\\_wastes\\_containing\\_hexabromocyclododecane\\_or\\_its\\_alternative\\_polymeric\\_brominated\\_flame\\_retardant\\_by\\_X-ray\\_fluorescence\\_spectroscopy](https://www.researchgate.net/publication/279331083_Rapid_identification_of_polystyrene_foam_wastes_containing_hexabromocyclododecane_or_its_alternative_polymeric_brominated_flame_retardant_by_X-ray_fluorescence_spectroscopy)

7. Please indicate any known (**production**) processes using **decaBDE, SCCPs and HCBD** as well as options for the environmental management of their operation and potential related **unintentional releases of these POPs** into the environment.

For decaBDE see IVM-IVAM report  
No information about SCCPs and HCBD.

## II. Waste Management Options/Recycling Operations for "new POPs"

8. Waste separation for decaBDE, SCCPs and/or HCBD containing wastes:  
a) How can be **distinguished** between **contaminated and non-contaminated waste**?  
b) Which **separation operations** should preferably be used **in practice to separate** contaminated from non-contaminated waste (please provide further details if available)?  
c) What should be the preferred **waste management options for the contaminated waste fraction** (please provide justification and further details if available e.g. related costs)?

b)

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- a) For decaBDE see remark under Q2. No distinction possible in practical daily operations. Basically there are 2 options:
1. Separate all bromine containing articles from other articles and incinerate them. Complicating factor here is that half of the European member states have no or by far insufficient incineration capacity.
  2. Do not separate and incinerate all bromine containing articles. Complicating factor here is that this could lead to recycling of decaBDE containing components

Preferable separation operations	Relevant waste / new POP	Possible health risks for workers during separation of waste	Separation costs / ton of waste	Explanation / further information
1.				
2.				
3.				

Remarks:

See above for the options. Prohibition of recycling and lack of incineration capacity will result in landfilling.

c)

Preferable waste management operations	Relevant waste / new POP	Possible health risks for workers during waste management (e.g. recycling)	Management costs / ton of waste	Explanation / further information
1. Umicore, Antwerp				<a href="http://www.umicore.com/en/">http://www.umicore.com/en/</a>
2. Electronica recyclers				See e.g.: <a href="https://gallooplastics.eu/en/home/">https://gallooplastics.eu/en/home/</a> <a href="http://www.mbapolymers.at/content.php?pageld=631">http://www.mbapolymers.at/content.php?pageld=631</a>
3.				

Remarks:

Best waste management option is Umicore, Antwerp Belgium, where plastics (containing a.o. decaBDE) are used as energy source for the recovery of 18 metals. The supply to the waste market is much bigger than the available capacity. However, this covers only a small and specific part of the bromine containing waste market. Second best option for decaBDE containing plastics are recycling companies like Müller-Guttenbrunn GmbH, Galloo Plastics, etc. These companies are separating the 'low bromine containing' wastes items from the higher Br-containing ones.



**III. Concentration Limits for decaBDE, SCCPs and HCBd**

**9. Are you aware of any existing concentration limits for decaBDE in waste?**

No.

**10. Which concentration limits for decaBDE in waste according to the POP Regulation would you recommend? Please justify.**

The fundamental question is where in the process this low POP content concentration limit would be applied. Is that before or after the shredding of decaBDE containing articles together with other articles? The factual obligation to separate decaBDE containing (components in) articles is technically and economically infeasible (see above). Setting a limit value of 1000 ppm for decaBDE after shredding would probably be challenging for the second best recycling operations as mentioned under Q8c, unless they separate all the bromine containing (components in) articles. As a consequence the recycling rate for these plastics should need to be lowered. Otherwise a limit value of 3000 ppm could be met by those companies, as mentioned in several documents from these companies and in Basel Convention documents. UNEP/CHW.13/INF/14: In Europe and the United States respectively, recyclers have adopted standards whereby specific E-waste containing bromine at levels below 2,000 ppm (0,2 %) (EU CENELEC standard) and 3,000 ppm (0,3 %) (US EPEAT standard) are considered free of restricted brominated flame retardants ([Norway 2015] referring to (EERA 2015)). The EPEAT threshold of 3000 ppm was selected because of data demonstrating that only ~20-25% of the Br in recycled plastics from WEEE was due to PBDEs.

**11. At which lower concentration limits for decaBDE in waste would you expect relevant impacts (e.g. on recycling industry)? Please justify.**

A limit value of 1000 ppm after shredding is already challenging. Lower limit values will stop recycling of these waste streams in the EU.

**12. Is there a continued need for the derogation provided for POP-PBDEs in articles produced from recycled materials in the POPs Regulation (i.e. level of 1,000 mg/kg or 0.1% by weight) of POP-PBDEs allowed in articles produced partially or fully from recycled materials?<sup>6</sup> Please justify.**

As long as the derogation is in place, no incidents or non-compliance has been reported. As the POP-BDEs were prohibited 15 years ago, one could expect that the presence of articles containing POP-BDEs will decrease, depending on the lifecycle of those products.

<sup>6</sup> See Annex I Regulation (EC) No 850/2004

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**13. Is an adjustment of existing POP limit values for SCCPs<sup>7</sup> and HCB<sup>8</sup>, as specified in Annex IV and V of the EU POP Regulation, and/or additional measures required (e.g. due to any notable developments)? Please justify.**

No. Lowering the limit value for SCCP would immediately strike out the alternative MCCP. Further no need to put much effort in lowering the limit value for HCB as this chemical is no longer produced or used.

**14. Please indicate if, beyond the EU POP Regulation, there are any adjustments to EU legislation needed, resulting from the listing of the "new POPs" decaBDE, SCCPs and HCB under the Stockholm Convention.**

No new adjustments needed, taking into account above remarks.

**15. Can you provide any other information or information sources relevant to Section I of this questionnaire on the "new POPs"?**

No other information.

<sup>7</sup> Regulation (EC) 850/2004, Annex IV, concentration limit referred to in Article 7(4)(a): 10 000 mg/kg;  
Maximum concentration limits of substance listed in Annex IV: 10 000 mg/kg

<sup>8</sup> Regulation (EC) 850/2004, Annex IV, concentration limit referred to in Article 7(4)(a): 100 mg/kg;  
Maximum concentration limits of substance listed in Annex IV: 1000 mg/kg

**Section II – “candidate POPs”**

Dicofol, Pentadecafluorooctanoic acid (PFOA, perfluorooctanoic acid), its salts and PFOA-related compounds, Perfluorohexanoic acid (PFHxS), its salts and PFHxS-related compounds

**I. Occurrence of “candidate POPs” Dicofol, PFOA and PFHxS (articles in use, waste, recycled articles as well as production processes and unintentional releases)**

**16. a) Please indicate whether your country /company has *stockpiles* of “candidate POPs” listed.**

**b) If *yes*, please provide information on types, quantity, concentrations, etc.**

a) NL has no additional information on Dicofol.

b) NL considers to prepare an inventory of production, use and waste issues of PFOA and PFHxS, following earlier inventories of SCCP’s, PFOS, BDEs and HBCDD.

**17. Please indicate any known *occurrence and concentration of the “candidate POPs”, in different articles in use, waste categories and recycled articles.***

a) Dicofol	Specification of waste/article	Concentration [mg/kg]
Articles in use	No information	Unknown
Wastes	No information	Unknown
Recycled articles	No information	Unknown
b) PFOA, its salts and PFOA-related compounds	Specification of waste/article	Concentration [mg/kg]
Articles in use	The POP RC Risk Management Evaluation does identify uses, but doesn't specify amounts or the usual concentrations in those articles	See remark under specification
Wastes	Idem	Idem
Recycled articles	Idem	Idem
c) PFHxS, its salts and PFHxS-related compounds	Specification of waste/article	Concentration [mg/kg]
Articles in use	The draft POP RC Risk Profile does identify uses, but doesn't specify amounts or the usual concentrations in those articles	See remark under specification
Wastes	Idem	Idem

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Recycled articles	Idem	Idem

Remarks:  
See answer under Q 16b.

**18. Please provide information on quantities of waste containing “candidate POPs” that are currently generated, then disposed of or recycled**

“candidate POPs”	Specification of waste	Waste generated (in kt)	Waste disposed of (in kt)	Waste recycled (in kt)
Dicofol	See above			
PFOA, its salts and PFOA-related compounds	See above			
PFHxS, its salts and PFHxS-related compounds	See above			

**19. Please provide information on wastes containing “candidate POPs” that are currently recycled (or possibly in the future) and the extent of recycling. If possible, please specify the types of new articles produced from the recycled material?**

“candidate POPs”	Types of waste recycled currently (or in the future)	Recycling rate [%]	New articles produced from recycled material
Dicofol	See above		
PFOA, its salts and PFOA-related compounds	See above		
PFHxS, its salts and PFHxS-related compounds	See above		

Remarks:  
See answer under Q 16b.

**20. Please indicate up-to-date (reference) measurement (analytical) methods for identifying the presence and levels of the listed “candidate POPs” in waste.**

No additional information available.

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**21. Please indicate known inexpensive screening methods for identifying waste to be classified as POPs wastes due to their content of the listed “candidate POPs”.**

No additional information available.

**22. Please indicate any known (production) processes using dicofol, PFOA and PFHxS as well as options for the environmental management of their operation and potential related unintentional releases of these POPs into the environment.**

PFOA was used in a wide range of products, also as a substitute for PFOS. Active use of the substance in a fluorochemical production facility in the Rotterdam area led to emissions of PFOA to water and air. Emission of PFOA from this site decreased significantly since the '90s and ceased in 2012. Our current understanding is that active use of PFOA in production processes has phased out completely. Emissions can still occur from PFOA-containing products imported from outside the EU. No information is available on the use of PFHxS in the Netherlands.

Information about PFOA production volumes and emissions can be found in the compiled ECHA opinion: <https://echa.europa.eu/documents/10162/2f0dfce0-3dcf-4398-8d6b-2e59c86446be>

**II. Waste Management Options/Recycling Operations/for “candidate POPs”**

**23. Waste separation for dicofol, PFOA and PFHxS containing waste:**

- a) How can be **distinguished** between **contaminated and non-contaminated waste**?
- b) Which **separation operations** should preferably be used **in practice to separate** contaminated from non-contaminated waste (please provide further details if available)?
- c) What should be the preferred **waste management option for the contaminated waste fraction** (please provide justification and further details if available e.g. related costs)?

- a) No production of dicofol containing waste in the Netherlands.  
No specific information is available on the amount of PFOA-contaminated waste. Analytical techniques are commercially available to detect the presence of PFOA in solid waste and leachate.
- b)

b)	Preferable separation operation	Relevant waste/candidate POP	Possible health risks for workers during separation of waste	Separation costs /ton of waste	Explanation / further information
	1. No production of dicofol waste in the NL.				
	2. PFOA: see remark below				
	3.				

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Remarks:  
No information available on specific separation techniques.

c) Preferable waste management operation	Relevant waste/candidate POP	Possible health risks for workers during waste management (e.g. recycling)	Management costs / ton of waste	Explanation / further information
1.No production of Dicofol in NL				
2. PFOA: see remark below				
3.				

Remarks:  
As PFOA will not degrade in landfills under normal conditions, and could disperse into the environment through leachate, incineration with energy recovery in a suitable facility should be considered as the best waste management option.

### III. Concentration Limits for dicofol, PFOA and PFHxS

**24. Are you aware of any existing concentration limits for dicofol, PFOA and PFHxS in waste? (please list limits individually)**

No limits for dicofol wastes.

For PFOA and PFHxS no information available at present, see answer on Q16b.

**25. Which concentration limits for dicofol, PFOA and PFHxS in waste according to the POP Regulation would you recommend? Please justify.**

No suggestion at present.

**26. At which lower concentration limits for dicofol, PFOA and PFHxS in waste would you expect relevant impacts (e.g. on recycling industry)? Please justify.**

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No information available. Setting concentration limits requires information about benefits, risks and socio-economic impact. For PFOA and PFHxS it would be good to consider the PFOS concentrations for sake of consistency. For dicofol the limits for endosulfan might be appropriate.

**27. Please indicate if, beyond the EU POP Regulation, there are any adjustments to EU legislation needed, resulting from the listing of the candidate POPs under the Stockholm Convention.**

Yes. The POPs that have been added to the Convention should be added to the Water Framework Directive (WFD) in order to be monitored. This concerns: chlordane, chlordecone, HBB, Mirex, Toxaphene, and PCNs. It may be necessary to streamline the entries in the POP Regulation and the WFD. Inclusion in the E-PRTR of new POPs is also highly recommended. This considers PFOS, PCNs, dicofol and HBCDD. This may also streamline reporting emissions of these substances.

**28. Can you provide any other information or information sources relevant to Section II of this questionnaire on the "candidate POPs"?**

No other information sources.

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### Section III – “already listed POPs”

Hexabromocyclododecane (HBCD), Polychlorinated Biphenyls (PCB), Polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDF)

**29. Are the existing concentration limits in Annex IV and V of the EU POP Regulation for HBCD, PCB and PCDD/F appropriate to ensure a sufficient level of environmental and health protection or is it necessary to adjust *them* (e.g. due to any notable developments such as new scientific data and technical progress, etc.)? Please justify.**

The existing concentration limits are appropriate and there is no need to adjust them. Justification is in the next section.  
Suggestion is to refer to HBCDD, with a double D at the end. Reason is to distinct more clearly in written and spoken language with the POP HCBd.

**30. If the existing limit values need to be adjusted, which *concentration limits for HBCD, PCB and PCDD/F in waste* would you recommend and why?**

**HBCDD:** Lowering the low pop content concentration limit to e.g. 10 ppm would immediately stop the new technology known as the PS Loop Initiative. NL will not support such proposals. Justification is well known.

**PCB:** There is no need to adjust the present lpc of 50 ppm as this will not be effective in reducing risks from PCB's. The PCB concentrations of old and also refilled transformers and capacitors is a magnitude above this limit value. The major problem in the EU is the continued use of large amounts of PCB's after the sunset date of 31-12-2010 in PCB Directive 96/59.EC. It is more important to put efforts in ending the non-compliance and arranging a cleanup operation in Member States concerned.

**PCDD/F:** Before deciding about lowering the limit value NL advises the Commission to make an inventory and overview of the present concentrations in fly-ashes of waste incinerators and other thermal processes. The final destination of those ashes (landfill, incineration) should be art of that inventory. In the NL fly ashes are partially recycled in closed applications like concrete and asphalt without any risk for human health or environment.

**31. What would be the major impacts from a possible adjustment of existing limit values of Annex IV or V of the EU POP Regulation? Please justify.**

See answer on Q 30.

**PCDD/F:** Lowering the limit value will probably have a major impact on the functioning of older and smaller waste incinerators. Would need an impact assessment to sharpen the picture.