KUVA: ADOBE STOCK

Guidance for identifying sectors using industrial POPs

From science to action, for the implementation of the BRS conventions and guidance on the environmentally sound management of industrial chemicals
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Background

- Stockholm Convention now lists 31 POPs
  - 15 are used as industrial chemicals
- The sectors and supply chains using industrial POPs are very complex compared to agricultural and forestry sectors using pesticides.
- Even relatively simple products, such as outdoor clothing, could contain many POPs that have been used at different levels of the production process.
- Tracing the chemicals used in the supply chain and ensuring compliance with potential regulations could be challenging.

Inventories

- Convention mentions inventories 2 times
  - Annex C inventories
  - Development of methods in Art 11
- NIP Guidance (2017) Chapter 6:
  - “Establishment of POPs inventories and assessment of national infrastructure and capacity” (p.10)
  - “Regarding the new POPs, Parties may conduct a preliminary inventory of the presence of these POPs within the country, and then decide which ones need a national inventory” (p. 14)

Preliminary inventory

- The *preliminary* inventory aims at providing the information on the following:
  - Types of processes using new POPs, including concentrations of those substances used in such processes.
  - Types and quantities of articles containing new POPs.
  - Types of articles containing new POPs that are recycled, the extent of recycling, the types of articles produced from recycling, the options for the environmental management of recycling operations, and releases or potential releases resulting from recycling operations.
  - Types of alternatives identified at the international level used in products and processes at the national level.
  - Types and quantities of new POPs stockpiles.
  - Options used for the management of wastes containing new POPs, including products and articles that become waste.
  - Location of contaminated sites potentially contaminated with new POPs.

Purpose of inventories?

- Important to note that this is not a requirement of the Convention as such, but a tool that will help you to:
  - Inform
  - Negotiate
  - Regulate
  - Enforce
  - Prioritise
  - Comply with Article 6

Sources of information on POPs use

- Work of POPRC: *risk profile* and *risk management evaluation* documents;
- Substance-specific inventory guidance documents developed by the BRS secretariat;
- Basel Convention technical guidelines for ESM of POPs waste;
  - Typically developed a couple of years later than RP and RME
- Information from the respective industries (including during the listing process);
- Listing decision;
- Open literature and assessments.

Why are POPs used?

- Understanding the reasons for use is useful
- The need for the functionality provided by a POP
  - performance (e.g. flexibility, plasticity, corrosion-resistance);
  - regulatory requirements (e.g. building code requiring the use of flame-retardant or self-extinguishing materials);
  - safety (e.g. insurance companies requiring the use of flame-retardant materials);
  - convenience (stain and water repellency; ease of use)
- It is often not disclosed how these properties are achieved
- Could also be just “incidential”
  - AFFF, recycling…

Flow of information

- Global agreements on how chemical preparations should be labelled and classified exist, but the concentrations of POPs used are sometimes below the thresholds
- Often information on POPs in the mixtures, materials, products and articles is not conveyed up the chain from the raw material producers or parts manufacturers to the end-user
- Once incorporated into materials and end-products and articles, the information on chemicals contained in them is usually not available, making it difficult for the end-user to know.
- Information sought for inventories may not simply be known and must be acquired through chemical analyses in the laboratory
- Use of the chemical vs use of products containing the chemical!

Inventories are Article 6 related

- Article 6(1)(a) of the Stockholm Convention:
  - *[…] each Party shall:*
    - *a. Develop appropriate strategies for identifying:*
      - *(i) Stockpiles consisting of or containing chemicals listed either in Annex A or Annex B;*
      - *(ii) Products and articles in use and wastes consisting of, containing or contaminated with a chemical listed in Annex A, B or C;*
    - *b. Identify, to the extent practicable,* ***stockpiles consisting of or containing chemicals*** *listed either in Annex A or Annex B on the basis of the strategies referred to in subparagraph (a);*
- Convention does not define stockpile
  - Does stockpile cover products and articles containing POPs?
  - (EU) 2019/1021 Regulation on POPs:

(13) 'stockpile' means substances, mixtures or articles accumulated by the holder that consist of or contain any substance listed in Annex I or II.

EU solution

Article 5

Stockpiles

1. The holder of a stockpile, which consists of or contains any substance listed in Annex I or II, for which no use is permitted, shall manage that stockpile as waste and in accordance with Article 7.

2. The holder of a stockpile greater than 50 kg, consisting of or containing any substance listed in Annex I or II, and the use of which is permitted shall provide the competent authority of the Member State in which the stockpile is established with information concerning the nature and size of that stockpile. Such information shall be provided within 12 months of the date that this Regulation or Regulation (EC) No 850/2004 became applicable to that substance, whichever date came first for the holder, and of relevant amendments to Annex I or II and annually thereafter until the deadline specified in Annex I or II for restricted use.

The substance name is not valid, for more info see column X

to the stockpile

A: Information on the stockpile holder		Part B: Information on the substance in the stockpile					
		Input data			"Read only" data		
Date of the notification (dd/mm/yyyy)	Stockpile holder name to be treated as confidential (TRUE/FALSE)	Substance or group of substances as laid down in the Annex I and II entries of the POPs Regulation	EC number/List number	CAS number	EC number/ List number	CAS number	Substance na
15.9.2022	TOSI	Perfluorooctanoic acid (PFOA), its salts and PFOA-ralated compounds			#NIMI?	#NIMI?	MOUSSOL APS 3/3%
15.9.2022	TOSI	Perfluorooctanoic acid (PFOA), its salts and PFOA-ralated compounds			#NIMI?	#NIMI?	NIAGARA 3/3%
15.9.2022	TOSI	Perfluorooctanoic acid (PFOA), its salts and PFOA-ralated compounds			#NIMI?	#NIMI?	TOWALEX 3/3%

EU SCIP database could be useful to learn about uses

- Substances of Concern In articles as such or in complex objects (Products) established under the Waste Framework Directive (WFD)
- Companies supplying articles containing SVHC in a concentration above 0.1% weight by weight (w/w) on the EU market have to submit information on these articles to the SCIP database
- https://echa.europa.eu/fi/scip-database

The SCIP database is now publicly accessible!

Around 6,000 companies across the EU have successfully complied with their new duty to notify ECHA about products containing substances of very high concern, SVHCs. The SCIP database displays more than **four million article notifications.**

Substance(s) of Very High Concern

Pre-search for candidate list substance PFOA Search

Candidate list substance

Present All | None	No longer Present All | None	Substance name	EC no	CAS no
☑	☐	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1

Substance(s) of Very High Concern

Pentadecafluorooctan... ×

Concern/Reason for inclusion

SCIP Number

Clear All Hae

50 Items per Page Showing 1 - 50 of 2,185 results. ← First Previous Next Last →

Article Name	Other article identifiers	Article category	Last update	Details
0601029	Item number: 0601029	9033009000 - SECTION XVIII (90 - 92) Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof > Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof > Parts and accessories (not specified or included elsewhere in this chapter) for machines, appliances, instruments or apparatus of Chapter|90 > Other	08-joulukuuta-2020	
0601029	Item number: 0601029 SCIP number: 2b290178-f11c-437f-9ca5-b947e765b669	9033009000 - SECTION XVIII (90 - 92) Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof > Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof > Parts and accessories (not specified or included elsewhere in this chapter) for machines, appliances, instruments or apparatus of Chapter|90 > Other	10-joulukuuta-2020	

Inventory process

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Existing guidance by substance

- General guidance on Annex A/B POPs inventory
  - Guidance on sampling, screening and analysis of POPs
- Detailed inventory guidance for:
  - HBCD
  - PBDEs
  - PCN
  - PCP
  - SCCPs
  - Under development for PFOA, dicofol, identification and management of sites contaminated with persistent organic pollutants…

New guidance

- “Guidance document for identifying sectors using industrial POPs, collecting information on POPs including those contained in products and on labelling for the chemicals listed in Annexes A and B “ (draft of 2022)
- Main idea is to save everybody’s work by asking all the questions at once
- POPs not believed to be in production anymore and hence have no current use, are excluded
  - c-penta-BDE (listed as tetra- and penta-BDE; production discontinued in ca. 2004);
  - c-octa-BDE (listed as hexa- and hepta-BDE; no known production);
  - hexabromobiphenyl (HBB; production ceased several decades ago);
  - PCBs, PCN , PeCB are also excluded as there is no known production or use.

Production Sector	deca-BDE	HBCD	HCB	HCBD*	PCP	PFOA, its salts and PFOA related substances	PFOS	SCCPs
Chemicals industry	x	x	(x)	(x)	x	x	x	x
Construction materials	x	x			x		x	x
Electric and electronic appliances	x	x		(x)				
Semi-conductors						x	x	
Automotive parts	x	x				x	x	
Aviation parts	x					x	x	
Medical equipment						x	x	
Leather					x	x	x	x
Plastics	x	x				x	x	x
Rubber				(x)				x
Textile	x	x			x	x		
Metal industry							x	x
Mining								x
Petrochemical							x	x
Forestry					x			
Agriculture							x	
Fire-fighting						x	x	
Fireworks			x					

Hexachlorobutadiene occurs as a by-product during the chlorinolysis of butane derivatives in the production of both carbon tetrachloride and tetrachloroethene. These two commodities are manufactured on such a large scale, that enough HCBD can generally be obtained to meet the industrial demand.
Although there is no specific information available on any existing or ongoing applications of HCBD and all applications seem to have ceased, their continued use cannot be fully excluded.

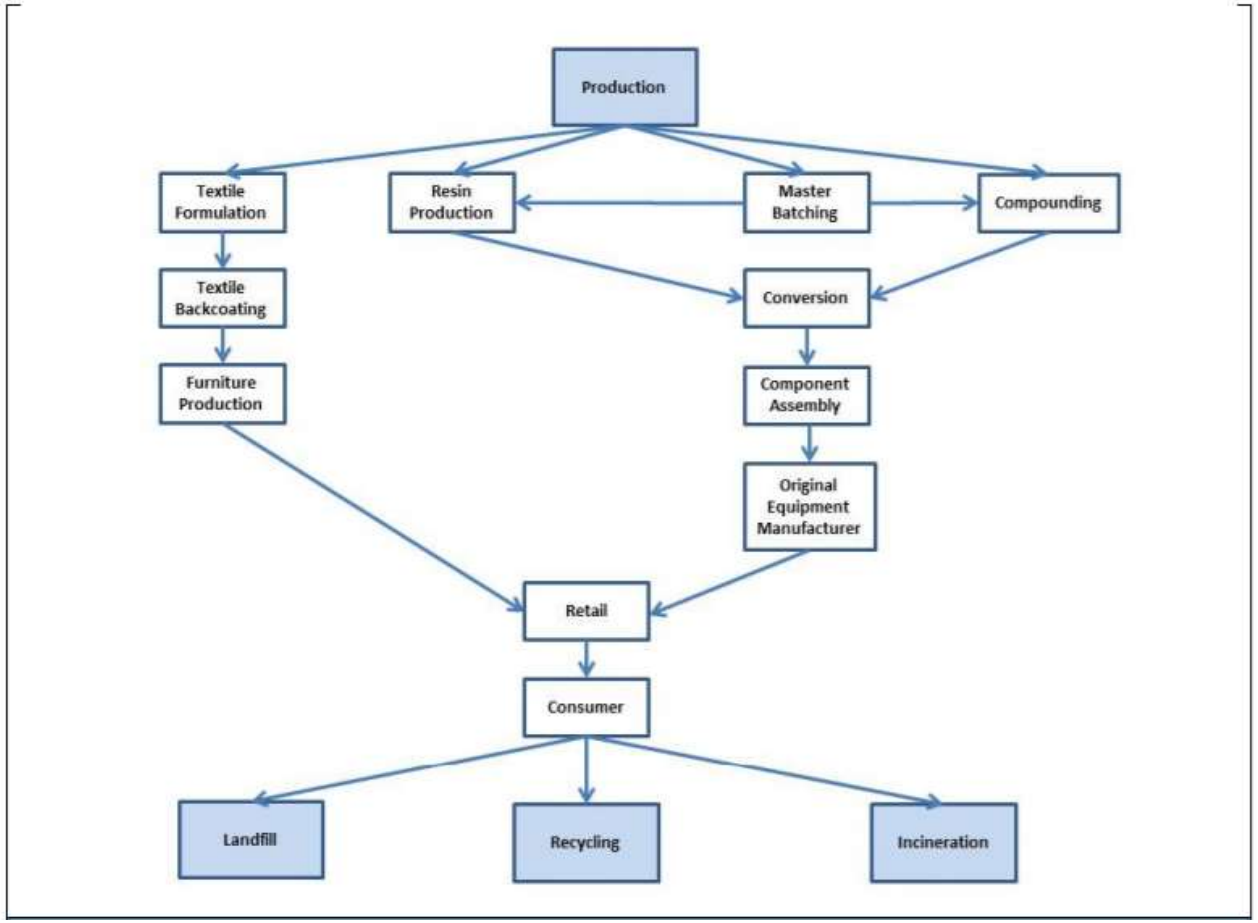
Process

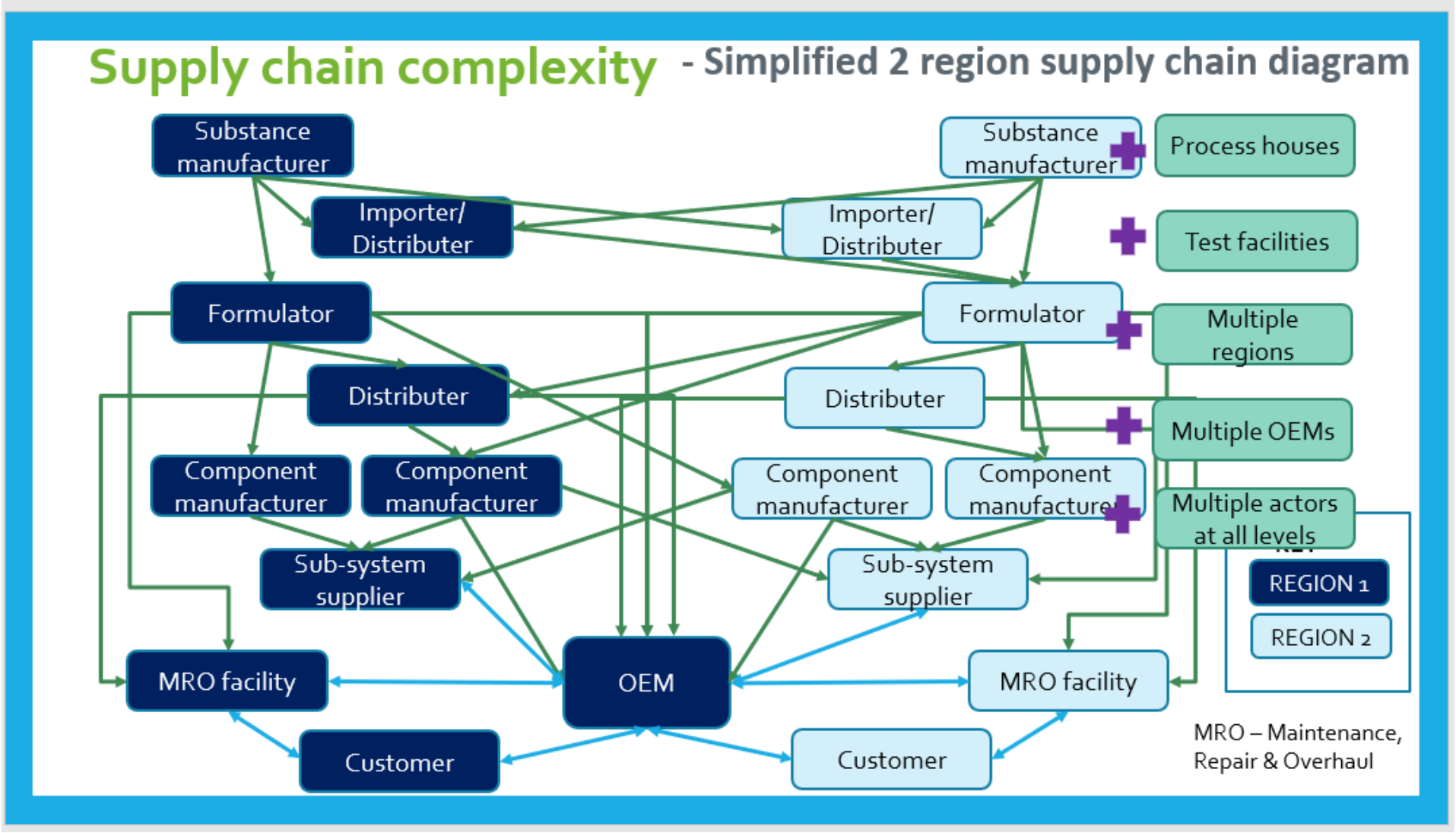
- Collect background information
- Identify the relevant stakeholders
  - producers and/or importers;
  - environmental authorities
  - chemicals registration authorities (as appropriate);
  - chemicals trade and associations and relevant industry associations;
  - manufacturers and users' organizations and larger enterprises using the POP;
  - relevant research and educational institutions;
  - consumer and environmental NGOs.
- Try to understand the supply chains

Approaching the supply chains

- **Production** of the **chemical**
  - Likely not in your country!
- **Import** of **chemicals**, **mixtures**, and **articles**
  - Could be raw materials for subsequent production in the country or ready made products
- **Formulation**
  - Mixing and blending the chemical e.g. for textiles, plastics, adhesives
- Industrial **use** of chemical or mixture
  - E.g. coating of textiles
- **Article manufacture** with textile or plastic components or by application of adhesives, sealants or coatings

Simple supply chain





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27 September, 2022

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Chemicals industry

- Is there chemicals industry producing chlorinated, brominated or fluorinated chemicals in the country?
- Is there industry in the country that produces flame-retardants?
- Where are chemicals imported from?

Construction sector

- What kind of construction material producers and suppliers are there in the country?
- What fire-safety regulations or standards exist for construction materials in the country, e.g. in the building code, or even local requirements or regulations by fire authorities? Are there specific requirements for flame-retardancy in public buildings such as offices, hotels and theathres?
- Are polystyrene insulation materials used in the country? Domestic production or imported?
- Is there production of EPS raw material (‘compounders’) in the country or is it imported? From where?
- Are there down-stream users producing EPS insulation panels, decorative elements or ornaments in the country? Where do they get their raw-material?
- Is XPS used in construction? Imported or domestic?

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Electronics industry

- What types of electronic and electrical appliance productions, including cables and printed circuit boards, exist in the country?
- Is there semiconductor production?
- Are the plastic raw materials for production of casings domestic or imported?

Automotive industry

- Does automotive manufacture exist in the country?
- Are there industries producing components, such as cables, gaskets or plastic parts for vehicles?
- Are the raw-materials domestic or imported (e.g. plastic pellets)?
- What fire-safety regulations or standards apply for transportation sector?
- Are the importers of automotive parts and spare parts recognizable?
- Is there direct import from abroad by retailers? Where do they import the parts?

Textile industry and leather

- Is there production of yarn, fabrics, leather and articles made of textiles and leather?
- Is there furniture production that uses textiles as upholstery? Where are the upholstery materials made?
- How to the supply chains of articles produced for market work? Are raw materials imported or produced domestically?
- What fire-safety regulations or standards apply to use of textiles for different applications (protective equipment, furniture upholstery, carpets, draperies)? How are they met (chemicals or inherently flame-retardant materials)?
- What surface treatment chemicals are used in the industry? Are surface treatment chemicals sold for the general public to treat carpets, furniture, car interiors? What do they contain?

Fire-fighting foams

- Are there activities typically related to use of AFFF foams, such as chemicals industry, petrochemical industry, pharmaceutical industry, mines, harbours, airports, or similar military activities? What kind of foams are used and stored for fire-protection?
- Is there production of fire-fighting foams?
- What kind of foams are marketed by the manufacturers or importers?
- Are there portable AFFF extinguishers on the market? What is the origin of the content?
- What foams are used by municipal and industrial fire-brigades in the country?
- Are there requirements for fire-fighting equipment that would require use of AFFF?
  - Hand-held extinguishers?

Unintentional trace contamination UTC

- In principle, POP is present when the concentration is above UTC
  - Far from the effective concentration
- UTC is not defined in the Convention, but could be defined by the Party
- EU has defined numerical values in POP Regulation Annex I

Labelling

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Labelling or marking

- A label in the chemical, mixture, product or articles identifying it contains a POPs would facilitate the control of POPs and the implementation of the Convention through the supply chain and communicate their hazards when they are marketed and traded (UNEP, 2019a)
- Guidance on the labelling of products and articles that contain POPs (2019)
- “Labelling” requirement only for PCBs, HBCD and PCP
  - “take necessary measures to ensure that expanded polystyrene and extruded polystyrene containing hexabromocyclododecane can be easily **identified by labelling or other means** throughout its life cycle.”
  - “take the necessary measures to ensure that utility poles and cross-arms containing pentachlorophenol can be easily **identified by labelling or other means** throughout their life cycles.”

Experience

- Gut feeling is that labelling has not been used a lot
- It may have contributed to faster phase out of the POP
  - “market deselection”
  - Labelling requires investment
- Identification by other means could mean, e.g.:
  - Different color
  - Identification based on year of manufacture
- Difficult for products and articles with long service-life
  - Plenty of articles can be produced under exemptions that do not need to be labelled
- Secretariat draft guidance to assist countries in sampling, screening and analysis of persistent organic pollutants in products and recycling

Conclusions

- Difficult to know where POPs are used
  - Industrial POPs tend to get more and more complicated with large variety of very specific uses
- Inventory can not be based on chemical analyses because of the costs
- International information is very pertinent
- There will be surprises
- Collect all available information and make the best guess to:
  - Influence in the negotiations
  - Use resources smart
  - Enforce
  - Manage the waste according to Art 6

Thank you!

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