Hazardous substances in BREFs

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Outline of the presentation

- Hazardous substances in the BREFs
- Cooperation ECHA / JRC
- Review of the TXT BREF

State of play concerning BREF reviews

16 BAT conclusions already published:

- **Iron and Steel (IS); Glass (GLS); Tanning of Hides and Skins (TAN); Cement, Lime and Magnesium Oxide (CLM); Chlor-Alkali (CAK); Pulp, Paper and Board (PP); Refining of Mineral Oil and Gas (REF); Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector (CWW); Wood-Based Panels (WBP); Non-ferrous Metals (NFM); Intensive Rearing of Poultry and Pigs (IRPP); Large Combustion Plants (LCP); Large Volume Organic Chemicals (LVOC), Waste Treatment (WT); Food, Drink and Milk (FDM); Waste Incineration (WI).**

1 BAT conclusion soon to be adopted:

- **Surface Treatment using Organic Solvents/Wood-Preservation with Chemicals (STS)**

6 BREFs being worked upon:

- **Ferrous Metals Processing (FMP); Common Waste Gas Treatment in the Chemical Sector (WGC); Textiles (TXT); Slaughterhouses and Animals By-products Industries (SA); Smitheries and Foundries Industry (SF); Ceramic Manufacturing Industry (CER).**

Types of BAT

- **Management** techniques (e.g. inventory of chemicals, stream inventory)
- **Prevention** techniques (e.g. substitution, reduced pollutant generation)
- **Containment** techniques (i.e. storage, handling and processing in closed systems)
- **Recycling/recovery** techniques
- **Abatement** techniques
- **Monitoring** techniques

Example BAT: Abatement

- BAT on abatement in almost every BREF, where appropriate in combination with BAT-AELs
- Many BAT and BAT-AELs address hazardous substances, e.g.:
  - NO_X and SO_X emissions to air (e.g. CLM, GLS, LCP, LVOC)
  - Specific organic compound emissions to air (e.g. formaldehyde in LVOC and WBP)
  - Metal emissions to air and water (e.g. GLS, NFM, LCP)
  - AOX emissions to water (e.g. CWW, PP)
- Use of sum parameters and 'representative' substances

Example BAT: Substitution

- BAT on substitution of auxiliary or input material in many BREFS, e.g.:
  - CAK: Membrane cells instead of mercury cells (BAT 1)
  - LVOC (and others): Fuel choice, i.e. fuel type or fuel characteristics (BAT 4a, 5a and 6a)
  - LVOC: Zeolite catalysts instead of AlCl3 for the production of ethylbenzene (BAT 31)
  - PP: Use of biodegradable or eliminable chelating agents instead of EDTA or DTPA during peroxide bleaching (BAT 3c)
  - TAN: Optimised vegetable tanning methods instead of chromium tanning (BAT 6c)
- **No BAT on substitution of products or on product quality**

Example BAT: Other

- BAT on inventory of chemicals, e.g. PP (BAT 2b) and TAN (BAT 2(ii))
- BAT on storage/handling/processing in closed systems, e.g. NFM (BAT 47b), PP (BAT 33f), REF (BAT 22 (i))
- BAT on recovery of hazardous substances, e.g. CAK (BAT 2), LVOC (BAT 16)
- BAT on monitoring in every BREF, usually in combination with BAT-AELs, but sometimes 'stand-alone'
  - Many address hazardous substances
  - Use of sum parameters and 'representative' substances

Cooperation ECHA/JRC (1/2)

- Cooperation started in autumn 2017

- Main objectives
  - Identification of hazardous chemicals to be considered KEIs for the textiles sector
  - Identification of techniques to reduce the impact of the sector on the environment (e.g. substitution techniques)
  - Verification of regulatory status of substances cited in BREFs

Cooperation ECHA/JRC (2/2)

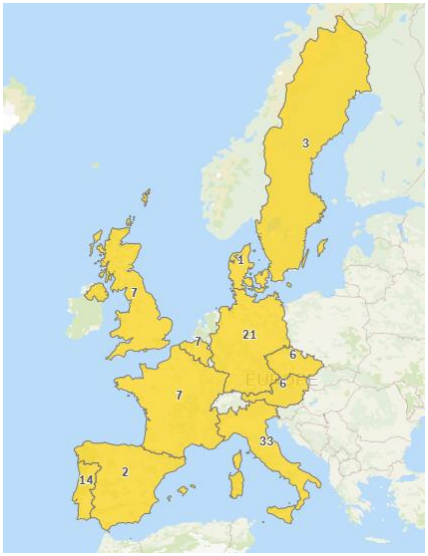
- Modalities of cooperation
  - ECHA reviews some EIPPCB draft documents
  - ECHA is observer in the Technical Working Groups (TWGs) reviewing the BREFs
  - ECHA participates in some TWG meetings
  - Ad-hoc ECHA/JRC exchanges

- TXT BREF was a pilot project for the cooperation ECHA/JRC

- Involvement of ECHA in the FMP, SF and CER BREF reviews

Review of the TXT BREF – Timeline

- Kick-off meeting in June 2018
- Data collection in February – April 2019
  - 105 plants in 11 countries



- First draft (D1) in December 2019

https://eippcb.jrc.ec.europa.eu/sites/default/files/2020-01/TXT_bref_D1_1.pdf

- Publication of the revised TXT BREF in 2022

Review of the TXT BREF – HAZBREF inputs in the first draft (D1)

- 5 proposals of BAT candidates:
  - Establishment and use of a central chemical database as fundamental tool for systematic chemicals management (see BAT14 in D1)
  - Proper unloading, storage and handling of chemicals
  - Separation and specific disposal of concentrates containing recalcitrant chemical
  - Treatment of waste gas from stenters with special consideration of methanol
  - Biological pre-treatment of PVA-containing segregated streams

Review of the TXT BREF – BAT conclusions related to hazardous substances in the first draft

- BAT 4 – Selection and control of incoming textile materials
- BAT 13 – Chemicals management system (CMS)
- BAT 14 – Chemicals inventory
- BAT 15 – Techniques to reduce chemicals consumption
- BAT 16 – Techniques for substitution of chemicals
- BAT 20 – Techniques to reduce emissions to soil and groundwater from handling and storage of hazardous substances
- BAT 32, BAT 46, BAT 47, BAT 49, BAT 50 – Techniques for the selection of chemicals

Review of the TXT BREF – Chemicals management system in the first draft (1/3)

BAT 13. In order to improve the overall environmental performance, BAT is to elaborate and implement a chemicals management system (CMS) as part of the EMS (see BAT 1) that incorporates all of the following features:

I. process chemicals procurement policy to select process chemicals and their suppliers with the aim to minimise the use of hazardous chemicals such as substances of very high concern and to avoid the procurement of excess amount of process chemicals. In order to reduce emissions to air, the selection of process chemicals may be based on emission factors (see Section 5.9.1);

II. anticipatory monitoring of regulatory changes related to hazardous chemicals and safeguarding compliance with applicable legal requirements;

III. chemicals inventory (see BAT 14);

Review of the TXT BREF – Chemicals management system in the first draft (2/3)

IV. identification of the process chemicals pathways through the plant (from procured process chemicals to products, waste and emissions);

V. assessment of the risks associated to the chemicals, based on the chemicals' hazards, concentrations and amounts. This may include an estimation of their emissions to the environment;

VI. regular (e.g. annual) check aiming at identifying potentially new available and safer alternatives to the use of hazardous chemicals (e.g. changes of process(es) or use of other chemicals with no or lower environmental impacts such as enzymes);

VII. goals and action plans to avoid or reduce the use of hazardous chemicals;

VIII. development and implementation of procedures for the handling, storage, use and return of process chemicals (see BAT 20).

Review of the TXT BREF – Chemicals management system in the first draft (3/3)

The criteria for selecting process chemicals and their suppliers may be based on certification schemes or standards. In that case, the compliance of the process chemicals and their suppliers with these schemes or standards is regularly verified.

Applicability

The level of detail of the CMS will generally be related to the nature, scale and complexity of the plant.

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Thank you