



Healthy Workplaces Campaign 2018-19

Manage dangerous substances in the workplace
HWC Summit 2019 Bilbao



EU2019.FI





How do we get enterprises to substitute the dangerous for the less dangerous?

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OVERVIEW

The big picture -EU 28:

- registered chemicals
- share of hazardous chemicals

The process:

- milestones of substituting

SUBSTITUTION

Difficulties:

- general
- in the context of REACH

Drivers & support:

- general
- bigger/smaller firms
- how to help firms

CHEMICALS – The big picture



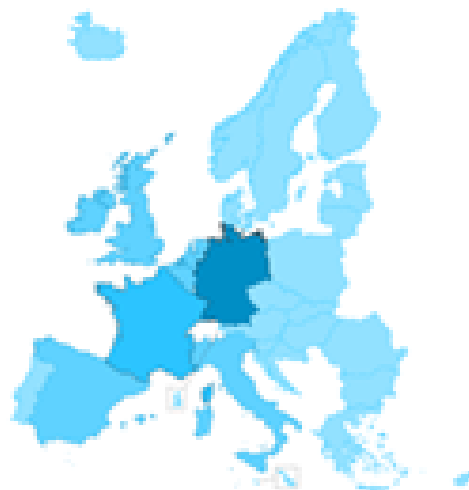
An agency of the European Union

Last refresh: 02/10/2019



All EEA countries

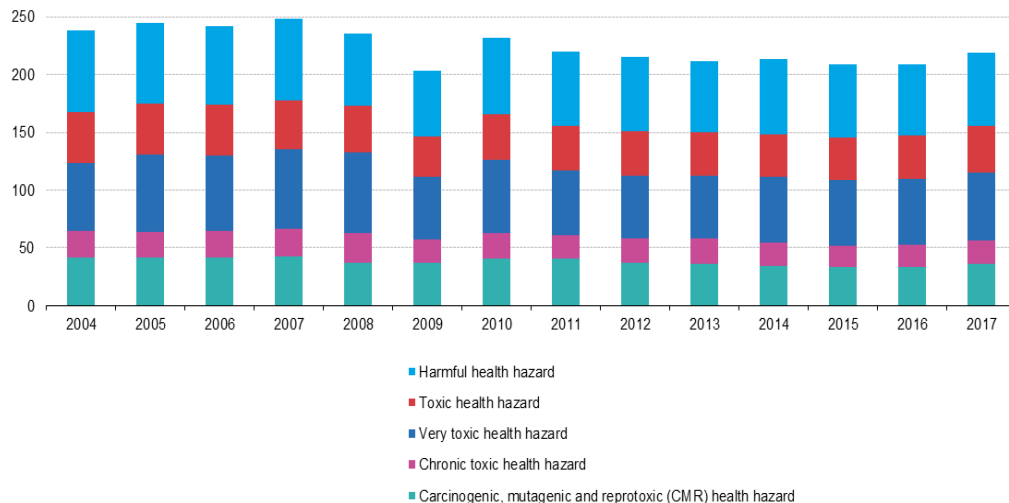
📄 Registrations:	97 522
📖 Substances:	22 654
🏢 Companies:	15 147



2019

The big picture: chemicals production in EU - 28

Production of chemicals hazardous to health, EU-28, 2004–17
(million tonnes)



The share of all chemicals hazardous to health in total EU-28 chemicals production:

- about 77 % in 2004
- about 75% in 2017

Note: The different classes of chemicals are ranked according to their toxicity from the most dangerous (bottom class) up to the least dangerous (top class).

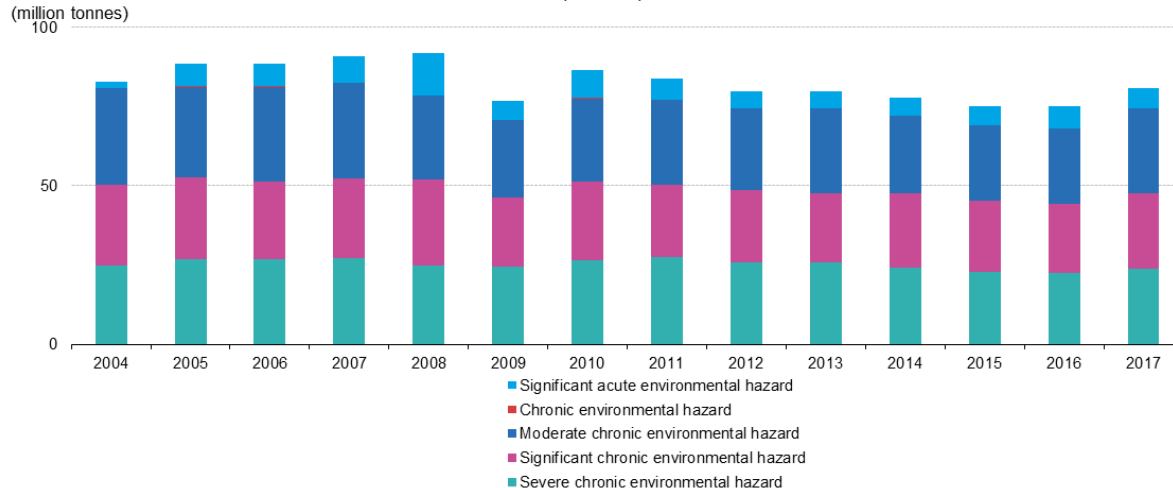
Source: Eurostat (online data code: env_chmhaz)

Source : Eurostat

eurostat 

The big picture: chemicals production in EU - 28

Production of chemicals hazardous to the environment, EU-28, 2004–17



The share of chemicals hazardous to the environment in the total EU-28 chemicals production in 2004–2017: fluctuating between 27 % and 30 %.

Note: The different classes of chemicals are ranked according to their environmental effect from the most harmful (bottom class) up to the least harmful (top class).

Source: Eurostat (online data code: env_chmhaz)

eurostat 

Source : Eurostat

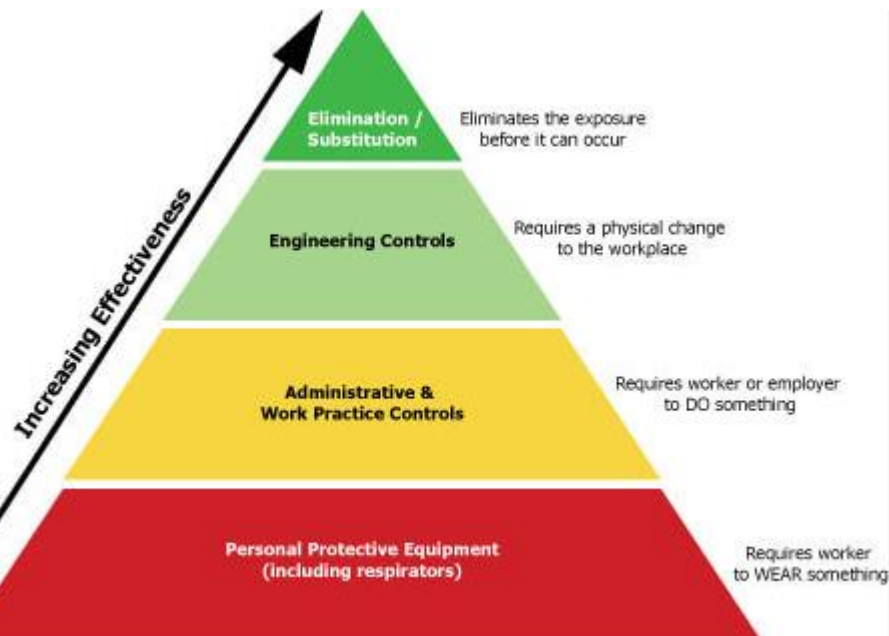
Willingness to pay for safety



Consumer declare interest to pay a premium for safety- at least for some products

Source: TUV SUD, 2017, for China, Germany, India, USA

SUSBTITUTION – use safer alternatives



- Directive 89/391/EEC (Framework Directive: ‘ [...] replacing **the dangerous by non-dangerous or less dangerous**’
- Chemical Agents Directive 98/24/EC ‘substitution should be by preference undertaken’
- Carcinogens and Mutagens Directive 2004/37/EC: carcinogens and mutagens use shall be “ reduced, “in particular by replacing ...”
- Other Directives imply substitution

Source: Creative Safety Publishing

SUBSTITUTION and Regulation No 1907/2006 - REACH

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- The aim of REACH Authorisation: ensure the good functioning of the internal market **while assuring that the risks from substances of very high concern are properly controlled and that these substances are progressively replaced by suitable alternative substances or technologies** where these are economically and technically viable
- Substitution has to be applied for: the substances of very high concern (**SVHC**): carcinogenic, mutagenic and toxic to reproduction (CMR); persistent, bioaccumulative and toxic (PBT), very persistent and very bioaccumulative (vPvB) or substances of equivalent level of concern, like the endocrine disruptors
- When applying for the authorisation of SVHC the registrant has to provide an **analysis of alternatives** and a **substitution plan**, if suitable alternatives are available

SUBSTITUTION process – the milestones

- **Acknowledging the problem**
 - Substitution led by users – for bigger firms, especially those exposed to consumers scrutiny
 - Substitution led by suppliers- for small firms that have little information and limited abilities to act on it
- **Identifying the alternatives**, if any – might be quite difficult, especially for smaller firms
- **Alternatives assessment**
 - Profiling the alternatives in terms of safety, functionality, overall compatibility, price, availability
 - Comparing alternatives –assessing tradeoffs and uncertainty; making a short list
 - Assessing the risks - appropriate level of attention to the full range of effects
- **Deciding** – highly dependent of the outcome of the assessment, influenceable by pressure
- **Implementing** – some of the stages might be outsourced

SUBSTITUTION - drivers

- **Legal banning or restricting** of a substance has proven to be one of the strongest drivers for substitution.
- **Stakeholder requirements** whether internal (workers, OSH specialists, trade unions) or external (NGOs, sector organisations, financiers, mass-media)
- **Competitive advantage:** placing a new, safer substance on the market before competitors
- **Cost cutting** by reducing costs of workers' ill-health, or end-of-pipe measures, as substitution addresses the root cause and some alternatives may be (or become) cheaper than the initial substances
- **Creating a responsible and modern image for the company** (if is not just 'window dressing' or 'greenwashing')
- **Technical progress** may lead to safer alternatives and improved methods for testing their properties and their effects on health and the environment

SUBSTITUTION - difficulties

- “Safer” is a multi-criteria attribute that makes decision even more difficult
- “Safer” might be changing quite fast as more data is available on effects, or as legislation changes
- Substitution does not always imply a drop - in alternative; more changes might be needed
- Substitution is often a no-going-back road and the destination might be uncertain
- Past regrettable substitutions put pressure on industry and authorities and confuse the public
- Safer alternatives also need to have equivalent functionality or fulfill the same final purpose
- Weak enforcement (from authorities) and motivation (no incentives, moderate public interest) and awareness (ignoring hazards, unknown costs of not substituting)
- Substitution is one of the things that may take a lot of time, money, expertise, courage and determination

SUBSTITUTION- difficulties, in the context of REACH

- REACH **registration effort** (final stage in 2018) might have focused resources at the expense of research, including for substitution
- Many firms need to **externalise laboratory** work (93% SMEs, 88% larger firms, conf. 2012 CSES survey) which may cause delays and higher costs
- Product development and production planning **depend on external timing** (administrative procedures) which may cause delays and loss of orders
- Concern that REACH can not offer sufficient **protection of intellectual property** and other confidential data
- Efforts of some firms to **remain below tonnage bands** relevant for REACH obligations may impact innovation, implementation and diffusion along the supply chain

SUBSTITUTION- support



EMKG



TRGS



Stoffenmanager®8



GISBAU



COSHH Essentials



Responsible Care

Alternativas
[Ver todo en esta sección](#)

substitution-cmr



eceloc



- **Tools, portals, platforms** : e.g. BASTA (Se), CLEANTOOL (De), Cleaner Solutions (USA), SubsPort (EU-international), PAN International, Marketplace by ChemSec (Se), COSHH Essentials (UK) *and so on*
- **Initiatives** : e.g. ECHA-Strategy to promote substitution, CEFIC-Responsible Care, EU Life Programme, industry initiatives *and so on*
- **Science & technology**: QSAR, 3D cell culture tests, *and so on*
- **Society**: green culture, environmentalists, fair trade, organic food,

SUBSTITUTION – how to help



- **Enable the enablers**
- **Act on the whole supply chain (and beyond)**
- **Integrate**

e.g.:

- support research in private and non-private organisations
- encourage universities to develop dedicated programmes
- support innovation diffusion, including substitution
- stimulate expert participation in official bodies, in networks
- support development of facilities like testing laboratories
- train and involve authorities in central and local bodies
- facilitate the use of information on chemicals
- establish a channel mix to inform, persuade to act, initiate and reinforce behavioral change

SUBSTITUTION – how to help : ECHA example



Substitution to safer chemicals

Companies in the EU are increasingly substituting away from hazardous chemicals and manufacturing processes to safer chemicals and greener technologies. This can bring substantial benefits to the companies, the environment and the health of workers and consumers. It can also have a significant positive impact on the implementation of a circular economy.

CONTACT

For general questions or suggestions on substitution related matters contact [substitution\[a\]echa.europa.eu](mailto:substitution[a]echa.europa.eu)

Supply chain workshops

Supply chain workshops are intended to advance research, evaluation and adoption of safer chemicals.

Networks

Collaborative networks play an important role in coordinating and advancing innovation and informed substitution.

Funding and technical support

Facilitating access to technical support and additional funding is critical to boosting substitution away from hazardous chemicals.

Data to prevent regrettable substitution

More effective use of REACH, CLP and BPR data in performing hazard and risk assessment of alternatives can help prevent the instances of regrettable substitution.



Why substitute?



How to substitute?



Real-life cases



Find substitution partners

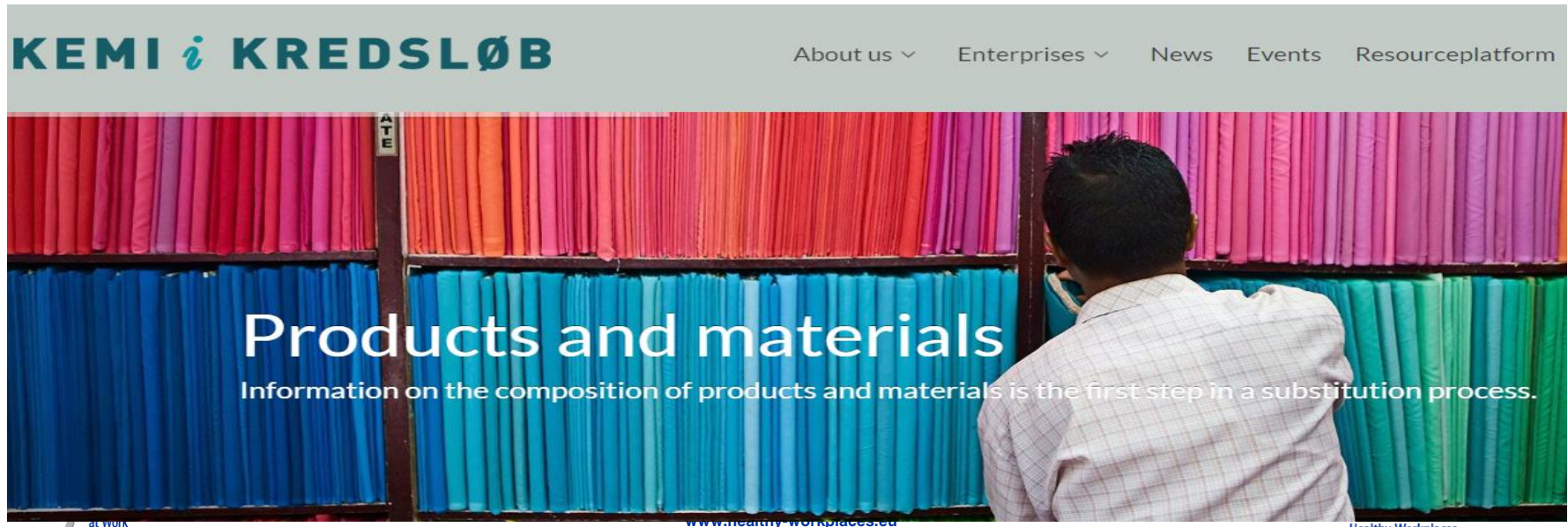


News and activities

SUBSTITUTION – how to help: one Danish example

The partnership's goals

- Generic tools, methods and services that address a substitution process in terms of environmental and health aspects, technical challenges and economical consequences;
- Create the conditions for the development of new products with reduced content of substances that are harmful, in innovative projects with the involvement of the relevant competencies from universities and through crowdsourcing;
- Disseminate the tools and methods developed in the project, Develop a sustainable business model for the partnership, in order to ensure that it will continue to operate even after the expiry of the grant from the Danish EPA.



SUBSTITUTION – how to help: textiles Detox example of GREENPEACE

DETOX

CRITERIA RESULTS BRANDS FACEBOOK TWITTER

THE DETOX CATWALK 2016
Who's on the path to toxic-free fashion?
[LEARN MORE](#)

Brand

- Detox 2020 plan** - a system for eliminating hazardous chemicals that is proactive and precautionary.
- PFC elimination** - substituting hazardous PFCs with safer alternatives.
- Transparency** - disclosing information on suppliers and the hazardous chemicals they discharge.

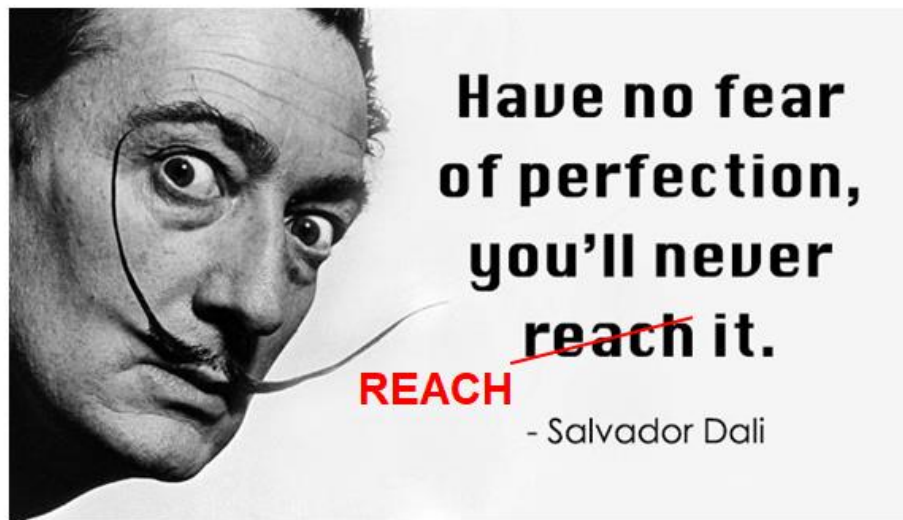
[CRITERIA AND CAMPAIGN EXPLAINED \(PDF\)](#)

Activate Windows

SUBSTITUTION- how to help: examples form Romania



CONOSCEDE FINAL FUN PAGE



REACH Regulation is complex and complicated; it won't make things perfect but it could improve them.

- Use the supply chain and other connections e.g. professional organisations
- Help authorities- e.g. the EEA CONOSCEDE project
- Train workers and rise awareness – e.g. the INCDPM training posters
- Train others: the *I Know and I Apply* contest for youngsters

Laymen with a twist- training posters

AI VAZUT VREODATĂ O FANTOMĂ ?



OGLINDĂ , OGLINJOARĂ CINE-I CEA MAI FRUMOASĂ
DIN ȚARĂ ?



CE CULOARE ÎȚI PLACE ?



PLOUĂ MÂINE ?



De ce ai ochii așa mari ?



Thank You!