

baa:

Bundesanstalt für Arbeitsschutz
und Arbeitsmedizin

Substitution of Carcinogens in the EU

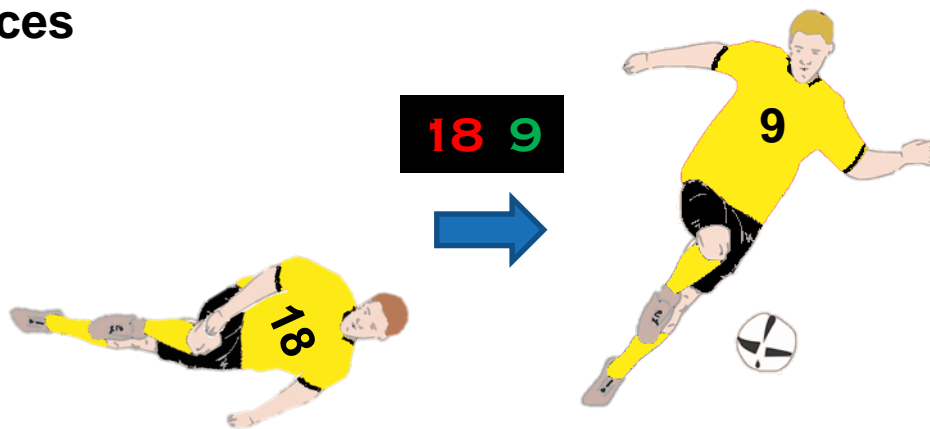
Presidency Conference Roadmap on Carcinogens 2020
„STOP cancer at work“

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Federal Institute of Occupational Safety and Health (BAuA),
Division 4, Unit 4.6
10.11.2020

Concept of Substitution

Substitution of Hazardous Substances

- ✓ Drop-In Replacement
- ✓ **Less hazardous**
- ✓ Same Function
- ✓ Same Performance or better
- ✓ Same Quality or better



Example for a drop-in replacement

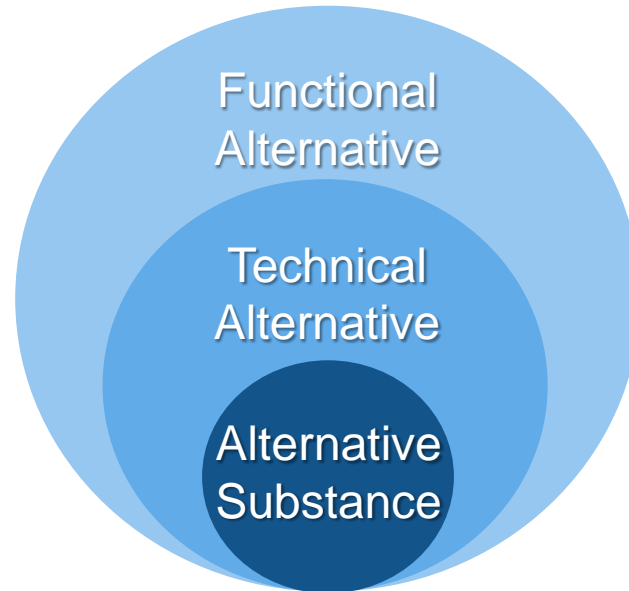
Types of Alternative

DECISION
LEVEL

Market

Sector

Company



Regrettable Substitution

EXAMPLE

Cr →
Lanolin

Plating →
PVD

Cr^{VI} → Cr^{III}

Drivers for Substitution of Hazardous Substances

Requirements

Worker Legislation

Authorisation/
Restriction
REACH

EU Regulation, e.g.
FCM, RoHS

International
Conventions

PUSH



Industry



Employer

PULL

Incentives

Risk identified
(accident...)

Innovation
management (R&DI)

Market (customers,
resources,...)

Innovation Funding

Chemical Strategy for Sustainability (14.10.2020)



Innovating for Safe and Sustainable EU chemicals

- Safe & sustainable-by-design (SsbD) criteria for chemicals
- EU-wide SsbD support network
- Financial support
- Education & Competence building

Non-toxic material cycles- minimize toxic chemicals

Protection against harmful chemicals- criteria for essential uses, extend level of protection to professional users under REACH

Chemical strategy: <https://ec.europa.eu/environment/pdf/chemicals/2020/10/Strategy.pdf>

Safe-by-Design & Sustainable-by-Design

Mission: improve the safety profile of chemicals, materials and products

Essential
elements

Functional
Approach

Low
toxicity

Lifecycle &
circular
design

Multi-
disciplinar

Relevant
actors

Avoid regrettable substitution

Need for
action

RD&I
Materials, formulation,
processes

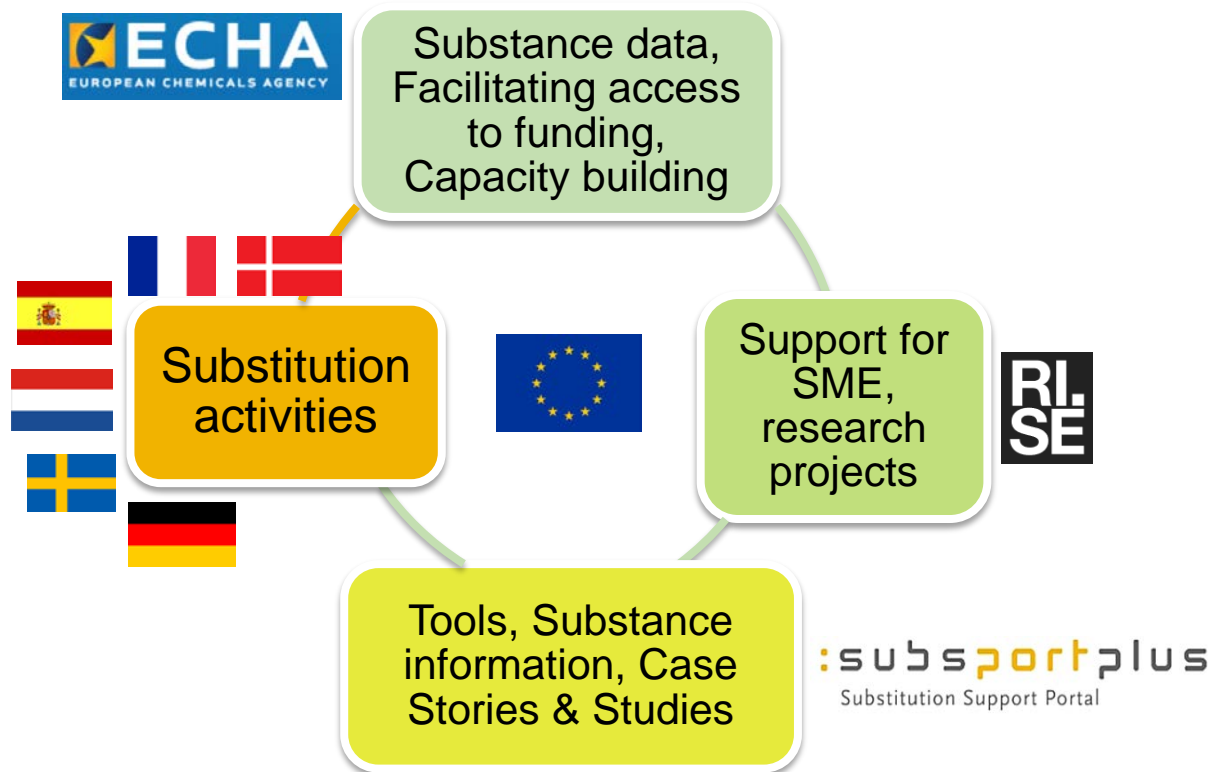
Develop/improve
methodologies

Create enabling
environment

Modified according to:

van der Waals J.F.M., Falk A., Fantke P., Filippousi P., Flippi R.C.H., Mottet D., Trier X. (2019). Safe-by-design for materials and chemicals: Towards an innovation programme in Horizon Europe. <https://zenodo.org/record/3254382#.X6Ex2ecxm71>

Programs of Informed Substitution in the EU



Case Stories of Successful Substitution & Good Practice

b a u a : : s u b s p o r t p l u s

Substitution Support Portal

CASES



- Database of case stories (> 370 EN, 90 DE), examples of successful substitution
- Case studies for specific substances

GOOD PRACTICE



- Assistance and information about the safe use of substances, which are currently not replaceable

Under construction

Challenges & Chances of Substitution

Substitution is a stepping stone on the way to a non-toxic environment.



Protection of environment, consumer and worker

Thank you!
Questions?

Visit: <http://www.subsportplus.eu/>

:subsportplus
Substitution Support Portal

Contact: clever.michaela@baua.bund.de

