



# Chemicals and Circular Economy

## A happy marriage?

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## Chemicals and waste: 2 worlds?

Waste policy:

Waste Framework Directive (WFD)

Chemicals policy: REACH, POP-regulation RoHS etc.

Waste as defined in WFD is not a substance within REACH

If a material ceases to be waste, REACH applies!

But how to deal at the interface of both worlds?

Two policy goals:

- Substitution of hazardous chemicals
- Circular Economy: maximize recycling



## Examples of friction

Lead and cadmium in rigid PVC

HBCDD in EPS ('piepschuim')

DEHP in soft PVC

DecaBDE in hard plastics

PAH in rubber infill

POPs in electronics





## A question of balance!

How to come to a proper balance?

NL fully committed to make the transition to CE:

100% circular in 2050

NL fully committed to implement REACH: minimization of SVHC

Ultimate aim: non-toxic material cycles and phasing out of SVHC

Preferred option: prevent use of SVHC in design and product phase.

Stopping production of SVHC is already a major achievement!

Real challenge: how to phase out/manage legacy SVHC in waste stage?





## State of play in the EU (1)

Communication European Commission January 2018



Main problems and solutions:

1. Insufficient information in value chains -> feasibility study information systems and tracing technologies (end 2019)
2. Presence of substances over concern in legacy materials -> develop methodology to support decisions recyclability (mid 2019)
3. Uncertainties about End-of-waste -> online repository national and EU E-o-W decisions, study
4. Applying EU waste classification -> guidance document





## State of play in the EU (2)

Related to problem 1 (insufficient information)

EU Waste Framework Directive (amendment European Parliament):

Develop database for SVHC in articles for waste operators (and others)

Building on article 33 of REACH: obligation to inform customers about SVHC in articles:

- substance name (as a minimum)
- identification of the article
- safe use instructions where needed

Operational from 2021





## NL submission as input for EU policy (July 4, 2017)

Three step methodology:

### 1. Specify options to be compared for the material (recycling, landfill, incineration etc.)

Take technical feasibility into account (e.g. possibilities for identification, separation of substances of concern, incineration capacity etc.)

### 2. Assess and minimize chemical risks for human health and environment

Take use after recycling and end-of-life stage into account. Allow materials with substances of concern, under conditions, in low-risk applications -> temporary differentiation in limit concentrations acceptable

### 3. Assess overall environmental impact

Additional step when step 2 does not lead to knock-out of recycling

Look at primary raw materials, CO<sub>2</sub>, energy, air and water pollution etc.



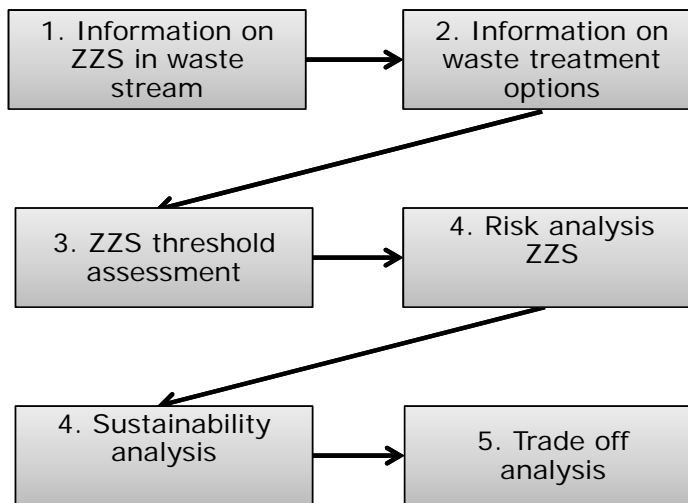
NL plea for interim policy: allow recycling under conditions that prevent adverse health and environmental effects



## Actions the Netherlands for legacy materials

- RIVM Project Safe Loops
- Guidance from Rijkswaterstaat to permitting authorities
- Methodology and criteria (RIVM) based on three-step approach:

Tiered approach:







## Also needed: safe (and circular) design from the start

- Transition agenda's Circular Economy: substitution and safe & circular design: facilitate companies with pilots
- Safe Chemicals Innovation Agenda: R&D challenges -> input for Horizon Europe, topsectoren etc. Priority themes:
  - grease and dirt repellents
  - fire safety
  - preservation
  - plasticising
  - solvents
  - surfactants
  - process regulators (including curing agents)

-> Need for multidisciplinary cooperation in design phase

See <https://www.chemischestoffengoedgeregeld.nl/content/workshop-towards-safe-chemicals-innovation-agenda-substitution-safe-design#overlay-context=content/bijeenkomsten-en-Presentaties>



## Unity through balance?

Separate goals:

- 100% circular in 2050
- 100 % non-toxic in 2050?

2 dots at the horizon:

Is a happy marriage within reach?

Does each partner goes its own way?

Or: Do we get there together?





## Discussion

The floor is yours

