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## REVIEW

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Taking access to justice seriously:  
diffuse interests and actio popularis. Why not?

*Alexandra Aragão and Ana Celeste Carvalho*

Access to justice in environmental matters in Italy –  
an incentive for new specialists

*Eva Maschietto*

Chemicals in material cycles:  
how EU law needs adjustments for the transition  
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Reducing hazardous substances in municipalities  
through public procurement

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## Editorial

Access to justice in environmental matters has been in the focus of *elni* since the very beginning of the network. Two articles of the *elni Review* 2017/2 address interesting country case reports in this respect:

First off, *Alexandra Aragão* and *Ana Celeste Carvalho* explain the Portuguese system of *actio popularis*: according to the authors the most favourable of all with regard to *locus standi* in environmental matters. They argue that the dichotomy between public and private environmental damage underlying the construction of the right of access to justice is not an accurate representation of the real life social relations concerning the environment. This is where the concept of diffuse interests, adopted in Portuguese constitutional law comes in.

*Eva Maschietto* then casts some light on the Italian access to justice perspective that appears to be peculiar for its historical and political context. Her article aims at sketching some of the instruments that the Italian legal system has rendered available to individuals, environmental organisations and public agencies representing citizens and residents. These instruments address some of the most important aspects of environmental matters, disputes and barriers that are still present in the system, along with some potential solutions for the way forward.

Next, the current *Review* provides two contributions linked to the issue of chemicals in products.

*Alice Bernard's* piece seeks to answer, "how EU law needs adjustments for the

transition to an environmentally beneficial circular economy". She argues that the current EU legal framework, notably the chemicals regulation REACH, needs adjustments to ensure that recovered materials do not contain hazardous chemicals in concentrations that are no longer considered safe. The article also shows, with a case study, gaps in EU law regarding information on hazardous chemicals in material cycles. According to the author, these gaps are barriers for economic actors willing to switch from primary to secondary production.

Finally, in the *Recent Developments* section, *Katja Kontturi*, *Hannamaria Yliruusi* and *Martyn Futter* report on how municipalities can control hazardous substances via public procurement. In this respect, they present results from interviews conducted with public procurement representatives of Gdańsk, Kaunas, Pärnu, Riga, Šilalė, Turku, Västerås, and Stockholm as part of the EU InterReg Baltic Sea Region -funded project "Innovative management solutions for minimizing emissions of hazardous substances from urban areas in the Baltic Sea Region" (NonHazCity).

*elni* will further dive into the issue of chemicals in products in a 2018 event. More information is soon to be provided on [www.elni.org](http://www.elni.org).

We hope you enjoy reading.

*Julian Schenten/Gerhard Roller*  
December 2017

## Chemicals in material cycles: how EU law needs adjustments for the transition to an environmentally beneficial circular economy

Alice Bernard

### 1 Introduction

The 2<sup>nd</sup> of August 2017 was ‘Earth Overshoot Day’, the day we “*used more from nature than our planet can renew in the whole year*” according to the Global Footprint Network.<sup>1</sup> Like any indicator, it is imperfect, but it clearly illustrates the need to change our current model of consumption and production.

EU Member States have agreed, in the Treaty, to shape policies aiming at a “*prudent and rational utilisation of natural resources*”.<sup>2</sup> The European Parliament and the Council, in the 7<sup>th</sup> Environment Action Programme (7<sup>th</sup> EAP), defined as a key objective of EU environmental policy “*turning the Union into a resource-efficient, green and competitive low-carbon economy*”.<sup>3</sup> In that context, an idea has gained momentum: to replace the current “*take-make-consume-dispose*” (linear) economic model with a circular one.<sup>4</sup> The 7<sup>th</sup> EAP thus calls for a “*move towards a lifecycle-driven ‘circular’ economy, with a cascading use of resources and residual waste that is close to zero*”.<sup>5</sup>

The concept of a circular economy is appealing because of its promise to reduce the impact of our production and consumption on the environment. However, it “*remains eclectic and lacks a scientifically endorsed definition*”.<sup>6</sup> The Commission has committed to work for “*the transition to a more circular economy*”.<sup>7</sup> Yet, it has not defined what the circular economy should entail and how it will interact with the two other objectives set in the 7<sup>th</sup> EAP, i.e. “*protecting, conserving and enhancing the Union’s natural capital*” and “*safeguarding the Union’s citizens from environment-related pressures and risks to health and well-being*”.<sup>8</sup> If the objective is to increase the amount of recycled materials, irrespective

of compliance with up-to-date environmental and health standards, it is not clear to what extent this will be beneficial to the environment.

The presence of hazardous chemicals in secondary materials at levels that are no longer considered adequate to protect human health and the environment raises particular concern. While the Commission and the European Chemical Agency (ECHA)<sup>9</sup> are aware of this issue and willing to act,<sup>10 11</sup> there are increasing pressures not to change the *status quo*,<sup>12</sup> and let hazardous chemicals re-enter material cycles in the name of the circular economy.

This article argues that the current EU legal framework needs adjustments to ensure that recovered materials do not contain hazardous chemicals in concentrations that are no longer considered safe.<sup>13</sup> It also shows, with a case study, gaps in EU law regarding information on hazardous chemicals in material cycles. These gaps are barriers for economic actors willing to switch from primary to secondary production.

Before digging into the details of the current legal framework, the first section defines the terminology used in the case study, stemming from the three main relevant blocks of legislation: chemicals, product and waste legislation. The case study analysed in the second section explains how, despite compliance with EU law, information on the presence of a flame retardant in textile used in a hypothetical mattress could get lost in the life cycle of this material. The third section explains how this loss of information could make the circular economy fail, and have the side effect of putting at risk human health and the environment due to prolonged exposure to hazardous chemicals. This article concludes with recommendations to improve information on chemicals in material cycles.

1 “Depuis aujourd’hui, l’humanité vit à crédit”, *Le Monde*, August 2, 2017.

2 Article 191 of the Treaty on the Functioning of the EU (OJ C 326, 26.10.2012, p. 47–390), (TFEU).

3 Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 ‘Living well, within the limits of our planet’, OJ L 354, 28.12.2013, p. 171–200, Recital 1, (7<sup>th</sup> EPA), Recital 1.

4 European Environment Agency (EEA) Report No 2/2016, ‘Circular economy in Europe, Developing the knowledge base’, p. 9.

5 7<sup>th</sup> EAP, Recital 40.

6 Ellen MacArthur Foundation, *Growth within: a circular economy vision for a competitive Europe*, June 2015, p. 23, available at: <<https://www.ellenmacarthurfoundation.org/publications/growth-within-a-circular-economy-vision-for-a-competitive-europe>>.

7 Commission Communication to the European Parliament, the Council, the European and social Committee and the Committee of the Regions, ‘Closing the loop - An EU Action plan for the Circular Economy’, (COM(2015)614 final) (Commission Action Plan).

8 7<sup>th</sup> EAP, Recital 16, stating that these objectives “*should be pursued in parallel*”.

9 “Bjorn Hansen: regulating chemicals in recycled materials a ‘key Echa challenge’”, *ChemicalWatch*, October 12, 2017.

10 Commission Action Plan, p. 13.

11 Commission, Roadmap, ‘Analysis of the interface between chemicals, products and waste legislation and identification of policy options’, 27 January 2017.

12 “Cefic: REACH and CLP ‘appropriate’ for regulating circular economy”, *ChemicalWatch*, July 31, 2017.

13 This article summarises parts of the analysis presented in the EEB/ClientEarth Report, *Keeping it clean: How to Protect the Circular Economy from Hazardous Substances*, February 2017, available at: <<https://www.documents.clientearth.org/wp-content/uploads/library/2017-02-22-keeping-it-clean-how-to-protect-the-circular-economy-from-hazardous-substances-web-coll-en.pdf>>.

## 2 Terminology at the interface of chemicals, product and waste legislation

In a circular economy, a chemical would go through various steps: manufacturing, incorporation or transformation into a material which will be placed on the market, then used, discarded, and finally recovered. The ‘chemical’ and the ‘material’ are given different designations under EU law depending on the stage of the material cycle and on the piece(s) of legislation applicable. Three blocks of EU legislation – chemicals, product or waste legislation – may apply, each using different terminologies triggering various rights and obligations for economic operators and consumers. To facilitate the understanding of the various stages of the case study, it is necessary to first clarify this vocabulary.

Under the Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),<sup>14</sup> a chemical on its own is a ‘substance’ only if it falls into the definition set out in this regulation.<sup>15</sup> A material is an ‘article’ if it has “*a special shape, surface or design which determines its function to a greater degree than does its chemical composition*”.<sup>16</sup> A material that does not fall into the definition of an article is a ‘mixture of substances’.<sup>17</sup> These terms are also used in other pieces of legislation that focus on chemicals, e.g. in the Persistent Organic Pollutants Regulation<sup>18</sup> (POPs Regulation), or in the Classification, Labelling and Packaging Regulation<sup>19</sup> (CLP Regulation). This means that, in the legal fiction of this chemicals legislation, there are ‘substances’, ‘mixtures of substances’ and ‘articles’, while the term ‘product’ has no defined meaning or legal implications.

By contrast, laws falling into the category of product legislation, such as the General Product Safety Directive (GPSD)<sup>20</sup>, do not use the terminology of ‘articles’, ‘substances’ or ‘mixtures’, but refer to ‘products’. Other pieces of legislation that apply only to specific groups of products (e.g. toys, food

packaging, energy-related products, etc.), i.e. ‘product-specific legislation’, use the same term. A material is a ‘product’ in this legal fiction when it is “*made available*” in the EU market, i.e. when it is “*intended for end use*”,<sup>21</sup> and “*supplied for distribution, consumption or use on the Union market in the course of a commercial activity, whether in return for payment or free of charge*”.<sup>22</sup>

Finally, the Waste Framework Directive (WFD)<sup>23</sup> and laws applicable to specific waste streams (e.g. packaging, waste electrical and electronic equipment, batteries), so-called waste legislation, all use the term ‘waste’ to mean “*any substance or object which the holder discards or intends or is required to discard*”.<sup>24</sup> Under this legal framework, waste can be ‘disposed of’<sup>25</sup> (via incineration or landfill) or fed into a new material cycle following ‘recovery’<sup>26</sup> operations (such as recycling).

This article uses the terms ‘substance’, ‘mixture’, and ‘article’ within the meaning of chemicals legislation, ‘product’ within the meaning of product legislation and, ‘waste’, ‘recovery’, and ‘disposal’ within the meaning of waste legislation. Following this terminology, an article can be a product, or part of a product. When discarded it becomes waste, and when recovered it can start a new cycle either as a substance, a mixture, or directly as an article or a product.

## 3 Case study: a flame retardant in textile in a circular economy

The case study detailed below deals with HBCDD,<sup>27</sup> a flame retardant that was used in the ticking of bed mattresses until recently, to make them less flammable.<sup>28</sup> The case study uses fictional names and a hypothetical scenario to demonstrate how the current EU legal framework fails to ensure that information on the presence of hazardous chemicals is available to relevant actors in a circular economy.

14 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, (OJ L 396 30.12.2006, p. 1), see Article 3(1).

15 REACH, Article 3(1): “*a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition*”.

16 REACH, Article 3(3).

17 REACH, Article 3(3).

18 Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants, (OJ L 158 30.4.2004, p. 7) (POPs Regulation).

19 Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, (OJ L 353 31.12.2008, p. 1) (CLP Regulation).

20 Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety (OJ L 011, 15.1.2002, p. 4) (GPSD).

21 Commission Notice, ‘The ‘Blue Guide’ on the implementation of EU products rules 2016’ (2016/C 272/01) (OJ C 2016 271, 26.07.2016, p. 1-149).

22 Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30-47).

23 Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 22.11.2008, p. 3) (WFD).

24 WFD, Article 3(1).

25 WFD Article 3(19), “*any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy*”.

26 WFD, Article 3(15), “*any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy*”.

27 Hexabromocyclododecane.

28 ECHA, ‘Background document for hexabromocyclododecane and all major diastereoisomers identified (HBCDD) (Document developed in the context of ECHA’s first Recommendation for the inclusion of substances in Annex XIV)’, June 2009.

Events start in 2013 with the manufacturing of HBCDD and end in 2020 when the manufactured textile is placed on the market again following recovery.<sup>29</sup>

• **In 2013: manufacture and supply of HBCDD in the EU by ChemCo**

In this hypothetical case study, the EU chemicals manufacturing company ChemCo started producing and supplying HBCDD to the EU textiles manufacturer TextileCo in 2013. As a manufacturer of chemicals, ChemCo was subject to the CLP Regulation. Within that framework, HBCDD was classified as a “*suspected human reproductive toxicant*” in 2012.<sup>30</sup> ChemCo therefore had to comply with the corresponding labelling and packaging obligations in order to inform TextileCo about the chemical’s hazardous properties. In addition, ChemCo had to notify to ECHA that it was placing HBCDD on the market in the EU.<sup>31</sup>

ChemCo also had to comply with REACH:

Assuming that ChemCo manufactured more than 10 tonnes of HBCDD in a year, it had to provide ECHA with a ‘technical dossier’ and a ‘Chemical Safety Report’ for registration purposes. This report had to include, *inter alia*, human hazard and environmental hazard assessments. Since HBCDD was classified as hazardous under the harmonised CLP classification, the chemical safety assessment had to include an exposure assessment and a risk characterisation.<sup>32</sup> As part of the exposure assessment, ChemCo had to detail “*the waste management measures to reduce or avoid exposure of humans and the environment to the substance during waste disposal and/or recycling.*”<sup>33</sup>

In 2013, HBCDD had already been included in the list of ‘substances of very high concern’<sup>34</sup> (SVHC) (also called the ‘candidate list’), due to its persistent bioaccumulative and toxic (PBT) properties.<sup>35</sup> This meant that ChemCo had to provide hazard, storage and safety information to TextileCo, in the form of a ‘Safety Data Sheet’.<sup>36</sup> This information should in theory have enabled TextileCo to take the necessary measures to ensure the protection of human health and

the environment. The Safety Data Sheet also had to cover disposal considerations, including waste treatment methods. In this case, as explained above, ChemCo had to provide to ECHA a Chemical Safety Report, including the exposure scenarios covering waste disposal and/or recycling.<sup>37</sup> These exposure scenarios had to be annexed to the Safety Data Sheet.<sup>38</sup>

HBCDD had been included in the so-called ‘authorisation list’<sup>39</sup> since 2011.<sup>40</sup> Chemicals on this list cannot be used unless companies obtain an authorisation from the Commission. However, the ‘sunset date’<sup>41</sup> for HBCDD (i.e. the date after which it could no longer be used unless the company had applied for an authorisation) was only the 21<sup>st</sup> of August 2015. This means that, in 2013, ChemCo and TextileCo could still use HBCDD without applying for an authorisation.

In 2013, the manufacturing, marketing or use of HBCDD was not subject to any restriction under REACH (it is still not today), although the requirements relating to the provision of information about its hazardous properties (the Safety Data Sheet) applied (and continue to apply today). At that time, HBCDD was not yet listed as a persistent organic pollutant (POP) under the POPs Regulation either.<sup>42</sup>

• **In 2013: Manufacture and supply of the textile by TextileCo**

TextileCo, the textiles manufacturer, applied HBCDD to the textiles produced by it, as requested in the technical specification of its customer, SweetDreamsCo, a manufacturer of mattresses. Assuming ChemCo was complying with REACH, TextileCo should have received the Safety Data Sheet and Chemical Safety Report. Thanks to REACH, TextileCo should thus have been aware of the hazardous properties of HBCDD, and how best to protect its workers and the environment.

Assuming that the textile qualified as an ‘article’ under REACH, i.e. an “*object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition*”, due for example to its design,<sup>43</sup> TextileCo was subject to the rules applicable to substances in articles under REACH. Because HBCDD is on the candidate list, TextileCo thus had to

29 We assume that the legal framework in 2020 has not changed since August 2017 (date of redaction of the Article).

30 Commission Regulation (EU) No 618/2012 of 10 July 2012 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (OJ L 179, 11.7.2012, p. 3–10).

31 Unless it had already been registered under REACH.

32 REACH, Annex I, Part 0.6.

33 REACH, Annex I, Part 5.1.1.

34 Within the meaning of Articles 59 and 57 of REACH.

35 ECHA, Decision ED/67/2008 of 28 October 2008, including HBCDD in the Candidate List, <https://echa.europa.eu/documents/10162/471aceac-4e5e-4c53-a4b2-23159a290893>; supporting document: <https://echa.europa.eu/documents/10162/1fc837ef-f922-476e-8e00-825ab60213c0>.

36 REACH, Article 31.

37 REACH Annex I section 5, and for further details see ECHA ‘Guidance on information requirements and chemical safety assessment’ (ECHA-2011-G-15-EN), Chapter R.18: Exposure scenario building and environmental release estimation for the waste stage.

38 REACH, Article 31(7).

39 Within the meaning of Article 58 of REACH.

40 Commission Regulation (EU) No 143/2011 of 17 February 2011 amending Annex XIV of REACH (OJ L 44, 18.2.2011, p. 2–6).

41 Within the meaning of Article 58(1)(c)(i) of REACH.

42 It was listed as a POP under the POPs Regulation in 2016.

43 ECHA, ‘Guidance document on requirements for substances in articles’, June 2017 (ECHA-17-G-19-EN).

provide to SweetDreamsCo with “sufficient information, available to [it], to allow safe use of the article including, as a minimum, the name of the substance”.<sup>44</sup>

As explained above, in 2013 TextileCo could still use HBCDD without an authorisation, and no restrictions were applicable under REACH or under the POPs Regulation. Under product legislation at EU level (e.g. GPSD), there were (and still are) no rules on flame retardants in textiles.

#### • In 2014: manufacturing and marketing of the mattress by SweetDreamsCo

In 2014, SweetDreamsCo purchased textiles from TextileCo in order to manufacture mattresses and made the mattresses available on the EU market. Assuming that TextileCo complied with REACH, SweetDreamsCo should have at least been aware of the presence of HBCDD in the textile, as explained above.

Under REACH, SweetDreamsCo had to provide to consumers, upon their request “sufficient information, available to [it], to allow safe use of the article including, as a minimum, the name of the substance”.<sup>45</sup> It is assumed that the consumer, unaware of its right to know, did not ask SweetDreamsCo whether the mattress it intended to buy contained any SVHCs and thus bought the mattress without knowing it contained a substance identified as persistent, bioaccumulative and toxic. This is realistic since, according to ECHA: “there are clear indications that the possibility for consumers to ask information about the presence of SVHCs in articles is not generally known and therefore only sparsely used”.<sup>46</sup>

In 2014, the presence of HBCDD in articles was not subject to any restrictions under REACH or the POPs Regulation. Beyond chemicals legislation, there were and still are no product-specific rules<sup>47</sup> in force in relation to chemicals in mattresses. Under the GPSD, the only safety standard applicable to flame retardants in mattresses had a limited scope and did not impose mandatory limits (and this remains the case today).<sup>48</sup>

#### • In 2019: the mattress becomes waste

In 2019, the consumer discards the mattress, which is collected by a waste collector, WasteCo. The mattress, from that point, falls therefore under the definition of waste within the meaning of the WFD, which means that chemicals legislation no longer applies.

When applying waste legislation, WasteCo would first need to determine whether the waste is hazardous.<sup>49</sup> Materials coming from a mattress would fall under Chapter 20 of the List of Waste<sup>50</sup>, i.e. ‘municipal waste’, and ‘textiles’ under Chapter 20 are identified as ‘absolute non-hazardous’ in the List of Waste.<sup>51</sup> This means that WasteCo is entitled to rely on this List of Waste to classify the textile recovered as ‘non-hazardous’, despite the fact that it contains HBCDD in concentrations exceeding 0.1% weight by weight.

WasteCo would then need to manage the waste in a way that protects the environment, following national rules implementing the WFD. However, even if WasteCo was particularly diligent and noticed the presence of HBCDD after running tests, WasteCo would still have no right to access ChemCo's Safety Data Sheet. This information would have been useful at this stage in controlling the exposure of HBCDD to the environment, since the Safety Data Sheet is supposed to describe, notably, appropriate waste management measures that will minimise exposure of hazardous substances to the environment as explained above. At best, WasteCo could access information made publicly available on the ECHA website, according to Article 119(2) of REACH. However, information currently available is limited.<sup>52</sup>

#### • In 2020: recovery of the textile by RecycleCo

In 2020, a company specialised in the recycling of mattresses called RecycleCo purchases the mattress as (non-hazardous) waste from WasteCo. The recycling performed by RecycleCo does not involve recovery of the chemicals but recovery of the mattress parts. RecycleCo thus transforms the textile into automotive acoustic soundproofing textile and supplies it to CarCo, a car manufacturer.<sup>53</sup>

Since no ‘end-of-waste criteria’ were adopted at EU level for textiles, it is for Member States to decide on a case-by-case basis the point at which a waste is no

44 Article 33(1) REACH, assuming that the concentration level of HBCDD in the textile reached 0.1% weight by weight.

45 Article 33(2) REACH, assuming that the concentration level of HBCDD in the textile reached 0.1% weight by weight.

46 ECHA, ‘Report on the Operation of REACH and CLP 2016’, available at: <[https://echa.europa.eu/documents/10162/13634/operation\\_reach\\_clp\\_2016\\_en.pdf](https://echa.europa.eu/documents/10162/13634/operation_reach_clp_2016_en.pdf)>.

47 ‘Product specific rules’, means in this context, laws applicable to specific groups of products, such as Directive 2009/48/EC on the safety of toys.

48 “The use of chemical flame retardant substances should be kept to the minimum. If chemical flame retardant substances are used, their toxicity during use and end-of-life disposal should not endanger the health of the users, carers and the environment”, Commission Decision of 2 July 2010 on the safety requirements to be met by European standards for certain products in the sleep environment of children pursuant to Directive 2001/95/EC of the European Parliament and of the Council (2010/376/EU).

49 If waste is classified as ‘hazardous’, it must be managed under strict conditions as provided by Article 17 of WFD.

50 Commission Decision of 3 May 2000 on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (OJ L 226 6.9.2000, p. 3), as amended by Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (OJ L 370, 30.12.2014, p. 44–86).

51 #No (\*) in the List of Waste for any entry described as ‘Textile’.

52 See the information available on HBCDD at: <https://echa.europa.eu/registration-dossier/-/registered-dossier/15003/9>

53 Scenario inspired by: <[http://www.wrap.org.uk/sites/files/wrap/Collection%20and%20take%20back%20of%20mattresses%20for%20recycling\\_0.pdf](http://www.wrap.org.uk/sites/files/wrap/Collection%20and%20take%20back%20of%20mattresses%20for%20recycling_0.pdf)>.

longer waste, by applying the criteria set out in the WFD. However, the way Member States implement these end-of-waste conditions is not clear. In France, for example, the Ministry of Environment seems to consider that an ‘implicit’ end-of-waste status is possible, i.e. without any *ex ante* control from the administration.<sup>54</sup> In this case, it is assumed that the textile ceases to be waste once recovered and transformed by RecycleCo without scrutiny from national authorities.

From ‘waste’ the textile becomes an ‘article’ (again), within the meaning of REACH. RecycleCo must therefore comply with the same set of obligations as TextileCo did when it manufactured the virgin textile. This means that RecycleCo would have to inform CarCo of the presence of HBCDD in the textile.<sup>55</sup> In practice, however, as opposed to TextileCo, RecycleCo did not have the right to be informed of whether any SVHC is present in the textile. RecycleCo purchased ‘non-hazardous’ waste so it has no reason to believe that there are any SVHCs in the waste.

In addition, since 2016, the use of HBCDD has been significantly restricted under the POPs Regulation.<sup>56</sup> Therefore, unlike TextileCo in 2014, RecycleCo, in 2020, is prohibited from placing the recycled textile containing HBCDD on the market.<sup>57</sup>

#### • In 2020: manufacturing and placing on the market of the recovered textile in car interiors

In theory, CarCo would be subject to the same prohibition as RecycleCo under the POPs Regulation, i.e. it is not permitted to place an article on the market containing HBCDD in concentrations higher than 0.01% weight by weight. In practice, however, because information on the presence of the SVHC has been lost during the life cycle of the textile, CarCo is unlikely to be aware that the textile contains HBCDD. So unless CarCo performs tests to ensure that no banned chemicals are present in the recovered material, it runs the risk of being in breach of chemicals legislation, exposing its workers, consumers and the environment to this persistent, bioaccumulative and toxic chemical.

## 4 Information on hazardous chemicals: lost in the material cycle

This case study shows that the current EU legal framework, including chemicals, product and waste

legislation, fails to ensure that waste operators, recyclers and manufacturers of products using recovered materials have access to information on the presence and properties of hazardous substances in recovered materials.

As a result, to ensure compliance with the most up-to-date restrictions on hazardous chemicals, a manufacturer of products willing to use recovered materials instead of virgin ones would have to use more costly solutions, such as the systematic testing of recovered materials. This would make the recovered materials financially less attractive than virgin materials, reducing the incentive for the market to switch to a circular approach.

It also increases the risk that companies manufacturing products and placing them on the market unknowingly breach the rules restricting the use of hazardous chemicals when using recovered materials. The only safeguard mechanism against such breaches currently in place is market surveillance. However, the more RAPEX alerts<sup>58</sup> uncover non-compliant products made of recycled materials, the less the market, consumers and the public will trust recycled products. This will ultimately prevent the circular economy from achieving its promise, i.e. of replacing virgin materials with recovered materials to stop the overexploitation of our planet’s resources.

In addition, without tracking chemicals in materials and putting safeguards in place to ensure that recycled materials do not contain chemicals now prohibited, the circular economy could have the side effect of exposing humans and the environment to chemicals that are today well recognised as hazardous. This would run contrary to other objectives set out in the 7<sup>th</sup> EAP, i.e. of “*protecting, conserving and enhancing the Union’s natural capital*” and “*safeguarding the Union’s citizens from environment-related pressures and risks to health and well-being*”.<sup>59</sup>

## 5 Conclusion: The need for more information on chemicals in material cycles

Ensuring that actors throughout the material cycle have the right to know the chemical composition of materials would be ideal. It would allow the tracking of substances already identified as hazardous when placed on the market, but also of those banned only after they were placed on the market. This is fundamental because the number of chemicals that are identified as hazardous and banned only after being placed on the market is likely to increase, until companies invest in chemistry that is benign by

54 French Ministry of Environment, JORF n°0010 du 13 janvier 2016, texte n° 106, ‘Avis aux exploitants d’installations de traitement de déchets et aux exploitants d’installations de production utilisant des déchets en substitution de matières premières’ (NOR: DEVP1600319V).

55 If still in concentrations exceeding 0.1% weight by weight.

56 Commission Regulation (EU) 2016/293 of 1 March 2016 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annex I (OJ L 55, 2.3.2016, p. 4–8).

57 Unless present in concentration below 0.01% weight by weight.

58 For information on the RAPEX see: [https://ec.europa.eu/consumers/consumers\\_safety/safety\\_products/rapex/alerts/repository/content/pages/rapex/index\\_en.htm](https://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/repository/content/pages/rapex/index_en.htm).

59 7<sup>th</sup> EAP, Recital 16.



design.<sup>60</sup> Developing an information system that would gather data on the chemical composition of all materials placed on the EU market and make it available to relevant actors may require new technologies and innovative solutions (involving possibly the ‘internet of things’ and ‘big data’), which the EU could incentivise. The IMDS (International Material Data System) used in the automotive industry shows that tracking materials and their chemical composition in supply chains is feasible.<sup>61</sup> Making this information available to actors in the waste and recycling phases raises challenges which call for innovative solutions. It is true that such a system would not prevent, on its own, unforeseen contamination of materials due to the mixing of waste. But, contamination cannot be addressed, if we do not even know which chemicals are initially present in materials.

Improvements relating specifically to information on hazardous chemicals in materials are needed, such as:

- Extending the Article 33 REACH’s information obligations, currently applicable only to SVHCs, to all substances classified as hazardous (as foreseen by Article 138(8) of REACH);
- Making publically available on ECHA’s website (in line with Article 119 of REACH) detailed information from registration dossiers that would be helpful to waste managers and recyclers.
- Developing new product or waste stream-specific rules that would create information obligations regarding hazardous chemicals. For example, information obligations provided in some eco-design rules<sup>62</sup> could be extended and adapted to other types of products containing hazardous chemicals (e.g. furniture). The right for recyclers and treatment facilities to have access to relevant information on the presence and location of hazardous substances in their products as well as appropriate treatment methods provided under the WEEE Directive<sup>63</sup> (applicable to electronic equipment), could also be used as a blueprint and adapted to other waste streams.

Finally, improving the information in material cycles does not only require adjustments of the existing legal framework but also its proper implementation. The case study presented assumes that ChemCo, TextileCo and SweetDreamsCo comply with their information

obligations under REACH. In practice, however, as ECHA puts it, “[t]here are clear indications that the information on substances is not adequately communicated in the article supply chains”.<sup>64</sup> Similarly, regarding registration, over the 184 dossiers that ECHA checked for compliance during 2016, in 91% of cases, ECHA concluded that the non-compliance found was severe enough to require further action and generation of new information.<sup>65</sup> There is therefore a need to also improve the implementation of the existing legislation. This means, notably, prioritising the enforcement of the information obligations under REACH (Article 33 of REACH), and the implementation of the ‘no data, no market’ principle. The EU-funded project ‘AskREACH’<sup>66</sup> promises to give customers a tool to easily use their right to know as set by Article 33. Pressure from consumers can create powerful incentives, but, to be successful, it needs to be combined with strong enforcement actions from public authorities. Without enforcement the companies who have invested in innovative solutions will face unfair competition from stragglers.

60 Crawford et al., *Green Toxicology: a strategy for sustainable chemical and material development*, Environmental Sciences Europe (2017) 29:16; See also EEA, Report 6/2017, ‘Circular by design: Products in the circular economy’, pp. 9-10.

61 See <<https://public.mdsystem.com/en/web/imds-public-pages/new2imds>>.

62 E.g. Commission Regulation (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for computers and computer servers, (OJ L 175, 27.6.2013, p. 13–33), Annex II, Section 7.1.1(y).

63 Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (OJ L 197, 24.7.2012, p. 38–71), Art. 15.

64 ECHA, ‘Report on the Operation of REACH and CLP 2016’, available at: <[https://echa.europa.eu/documents/10162/13634/operation\\_reach\\_clp\\_2016\\_en.pdf](https://echa.europa.eu/documents/10162/13634/operation_reach_clp_2016_en.pdf)>.

65 ECHA, ‘Evaluation Progress Report 2016’, available at: <<https://echa.europa.eu/regulations/reach/evaluation>>.

66 See <https://www.umweltbundesamt.de/en/topics/chemicals-in-articles-eu-life-projekt-askreach>.

## Imprint

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*The views expressed in the articles are those of the authors and do not necessarily reflect those of elni*

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The Öko-Institut (Institut für angewandte Ökologie - Institute for Applied Ecology, a registered non-profit-association) was founded in 1977. Its founding was closely connected to the conflict over the building of the nuclear power plant in Wyhl (on the Rhine near the city of Freiburg, the seat of the Institute). The objective of the Institute was and is environmental research independent of government and industry, for the benefit of society. The results of our research are made available of the public.

The institute's mission is to analyse and evaluate current and future environmental problems, to point out risks, and to develop and implement problem-solving strategies and measures. In doing so, the Öko-Institut follows the guiding principle of sustainable development.

The institute's activities are organized in Divisions - Chemistry, Energy & Climate Protection, Genetic Engineering, Sustainable Products & Material Flows, Nuclear Engineering & Plant Safety, and Environmental Law.

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The University of Applied Sciences in Bingen was founded in 1897. It is a practiceorientated academic institution and runs courses in electrical engineering, computer science for engineering, mechanical engineering, business management for engineering, process engineering, biotechnology, agriculture, international agricultural trade and in environmental engineering.

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The Society for Institutional Analysis was established in 1998. It is located at the University of Applied Sciences in Darmstadt and the University of Göttingen, both Germany.

The sofia research group aims to support regulatory choice at every level of public legislative bodies (EC, national or regional). It also analyses and improves the strategy of public and private organizations.

The sofia team is multidisciplinary: Lawyers and economists are collaborating with engineers as well as social and natural scientists. The theoretical basis is the interdisciplinary behaviour model of homo oeconomicus institutionalis, considering the formal (e.g. laws and contracts) and informal (e.g. rules of fairness) institutional context of individual behaviour.

The areas of research cover

- Product policy/REACH
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## elni

*In many countries lawyers are working on aspects of environmental law, often as part of environmental initiatives and organisations or as legislators. However, they generally have limited contact with other lawyers abroad, in spite of the fact that such contact and communication is vital for the successful and effective implementation of environmental law.*

*Therefore, a group of lawyers from various countries decided to initiate the Environmental Law Network International (elni) in 1990 to promote international communication and cooperation worldwide. elni is a registered non-profit association under German Law.*

*elni coordinates a number of different activities in order to facilitate the communication and connections of those interested in environmental law around the world.*

### Coordinating Bureau

Three organisations currently share the organisational work of the network: Öko-Institut, IESAR at the University of Applied Sciences in Bingen and sofia, the Society for Institutional Analysis, located at the University of Darmstadt. The person of contact is Prof. Dr. Roller at IESAR, Bingen.

### elni Review

The elni Review is a bi-annual, English language law review. It publishes articles on environmental law, focusing on European and international environmental law as well as recent developments in the EU Member States. elni encourages its members to submit articles to the elni Review in order to support and further the exchange and sharing of experiences with other members.

The first issue of the elni Review was published in 2001. It replaced the elni Newsletter, which was released in 1995 for the first time.

The elni Review is published by Öko-Institut (the Institute for Applied Ecology), IESAR (the Institute for Environmental Studies and Applied Research, hosted by the University of Applied Sciences in Bingen) and sofia (the Society for Institutional Analysis, located at the University of Darmstadt).

### elni Conferences and Fora

elni conferences and fora are a core element of the network. They provide scientific input and the possibility for discussion on a relevant subject of environmental law and policy for international experts. The aim is to gather together scientists, policy makers and young researches, providing them with the opportunity to exchange views and information as well as to develop new perspectives.

The aim of the elni fora initiative is to bring together, on a convivial basis and in a seminar-sized group, environmental lawyers living or working in the Brussels area, who are interested in sharing and discussing views on specific topics related to environmental law and policies.

### Publications series

elni publishes a series of books entitled "Publications of the Environmental Law Network International". Each volume contains papers by various authors on a particular theme in environmental law and in some cases is based on the proceedings of the annual conference.

### elni Website: elni.org

The elni website [www.elni.org](http://www.elni.org) contains news about the network. The members have the opportunity to submit information on interesting events and recent studies on environmental law issues. An index of articles provides an overview of the elni Review publications. Past issues are downloadable online free of charge.

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