



Stop Endocrine Disruptors!

Recommendations for effectively reducing exposure to endocrine disruptive pesticides & biocides



Beginning in June 2018, chemical substances with properties that are damaging to the human and animal hormone system will be regulated for the first time on the basis of defined scientific criteria and evaluation methods. These EU regulations will be implemented in June for biocide products, about five years later than originally planned. Similar regulations for pesticides will follow in November. PAN Germany considers these regulatory measures to be a step in the right direction. However, they are inadequate to ensure an appreciable reduction of exposure of humans and the environment to so-called endocrine disruptors in the foreseeable future. There is an urgent need for more action to realize this goal set by the European Union (EU).

Endocrine disruptors (EDs, also called endocrine disruptor chemicals, EDCs) are exogenous substances that can interfere with the hormone system in humans and animals in ways similar to the body's own hormones and disrupt the hormonal system. As a consequence, they can trigger or intensify developmental malfunctions or other negative health effects. Some of the effects that have been identified as possibly linked to exposure to EDs are reproductive disorders; malformations of sex organs; hormone-related cancers such as cancer of the breast, prostate, or testicles; behavioural and developmental disorders; and metabolic diseases such as diabetes. Especially during sensitive phases of prenatal development or during puberty, these hazardous chemicals can be responsible for severe damage that may even affect more than one generation.

The hazards posed by mixtures of endocrine disruptors have not been addressed by the usual risk assessment approach for single substances.

Endocrine disruptors - A long-term threat

People and animals come into contact with EDs every day. Currently, some 800 substances are suspected endocrine disruptors, including industrial chemicals like bisphenol A as well as numerous active ingredients of pesticide and biocide products. These products used in plant protection, in pest management, as disinfectants, or preservatives to protect wood, fibre coatings etc. against microorganisms, algae or insects are applied in the environment or in the direct vicinity of people. Pesticides with ED properties can be found in numerous food products, e.g. in nearly fifty percent of all fruit samples tested in Germany; in many cases, multiple ED-residues have been identified.^{1,2} Pesticides and biocides suspected of being EDs are also frequently found in surface water. Some examples are boscalid, isoproturon, diuron, and the antifouling agent Irgarol[©] (cybutryn). They also frequently occur in concentrations that exceed environmental quality standards or drinking water limits or they include the most frequently found contaminants of ground water such as 2,4-D, cypermethrin, flufenacet, glyphosate, metazachlor, isoproturon thiacloprid, picolinafen, or atrazine, which was banned twenty-five years ago.³ However, there are significant gaps in available data on such biocides, since to date their occurrence in the environment has not been systematically monitored.4

Today, there is a broad consensus among scientists that endocrine active substances can have considerable adverse health effects.⁵ The World Health Organisation (WHO) and the UN Environment Program have referred to a global threat.⁶ Researchers and physicians have called for more effective prevention of health risks due to ED exposure.^{7,8,9} ED effects may even be carried over to subsequent generations with as yet unknown, potentially far-reaching consequences for human life and ecosystems. According to conservative calculations, the annual health costs alone amount to more than 160 billion euros in the EU, mostly due to the endocrine disrupting effects of pesticides and biocides.¹⁰

Problem identified - problem averted?

Quite early on, in 1999, the EU established a Strategy on Endocrine Disruptors, and the current Seventh Environment Action Programme (EAP) stipulates that endocrine disruptors must be taken into account in an appropriate way in all relevant EU legislation by 2020. Moreover, the EAP commits the European Union to developing, by 2015, horizontal measures to ensure "the minimisation of exposure to endocrine disruptors".11 These goals have not been pursued with the necessary commitment. PAN Germany and numerous other organisations in civil society who have joined together in the alliance EDC Free Europe have criticised the EU Commission's inadequate engagement with these issues and are supported in their work by hundreds of thousands of citizens who have signed online petitions.¹² To date, neither the horizontal approach to uniform regulation of all EDs, including those chemicals that appear in toys, cosmetics, or food packaging, nor the previously announced revision of the EU common strategy have been realised.¹³ EU member states like France, Sweden, Denmark, and most recently Belgium have enacted national programs.¹⁴ In Germany there has been no comparable public debate and level of political engagement. The coalition agreement, a 175-page document that is the basis for the work of the German federal government that took office in spring 2018, is disappointing in this respect. There is no mention of the urgent problem of endocrine disruptors, nor are concrete plans for reaching the goals of the EAP spelled out.15

Important regulatory steps were taken in 2009 and 2012, when the EU revised existing legislation on pesticides and biocides. Following these revisions, use of substances with specific highly hazardous properties, including endocrine-disrupting properties that may cause adverse effects, is no longer allowed. The criteria for identifying endocrine disrupters will enter into force on 7 June for biocides and on 10 November 2018 for pesticides, some five years later than originally planned.¹⁶ In a parallel process, a guidance document for the identification of endocrine disruptors is being drafted. Both the ED criteria and the first draft of the guidance document met with considerable criticism and with concerns that the regulative measures will be ineffective. Experts and environmental organisations have warned that the evidence

More action is urgently needed to ensure a nontoxic environment. The identification of EDs is expected to take years, remain incomplete, and lead to bans for only very few substances.

required to demonstrate hormone disruption will be in fact impossible to supply or only at some point far in the future, so that they in effect run counter to the precautionary principle. Furthermore no provisions are spelled out for dealing with suspected endocrine disruptors if available data does not allow for an unequivocal classification as an ED substance and no measures are proposed for systematically improving evaluation procedures and the guidance document.¹⁷

The example of biocides

The Members Competent Authorities agreed on concrete procedures for regulating biocides and biocidal products with endocrine disruptive properties in March 2018.¹⁸ In Germany alone, these procedures are relevant for about forty thousand biocide products currently on the market, some 260 active substances, and a huge number of so-called biocide-treated articles, e.g. wool carpets treated with permethrin. One positive aspect is the fact that not only the active substances but also any co-formulants used in biocidal products must evaluated for ED properties. However, there are also numerous limits and exceptions included in the regulations. For example, endocrine disruptive biocides can be exempted from the exclusion process if their hormonal mode of action intentionally target invertebrate pests; the same is the case if these biocides have an adverse endocrine effect on non-target organisms in the environment. Here, environmental protection standards are being weakened in comparison to the provisions in pesticide legislation without any justification. Moreover, many suspected ED biocides are, at least for the time being, not being evaluated because their approval process began before the current biocide regulation entered into force on 1 September 2013. This group includes approximately 200 combinations of active substance and product types.¹⁹ In Germany alone, about 180 rodenticides with the suspected ED substance difenacoum have been approved. About 500 approved wood preservatives contain propiconazole, frequently in combination with cypermethrin. Other wood preservatives contain mixtures of agents suspected of being EDs such as thiacloprid, boric acid, borax, tebuconazole, or dazomet.²⁰ It may take years until all of these substances have been evaluated. And even if they are then classified as EDs, numerous derogations might allow sales of these products in the EU to professional users.



To sum up

In view of these prerequisites, it is likely that only a few biocides and pesticides will be taken off the market in future due to their ED properties. There is to date no uniform, horizontal concept for dealing with endocrine disruptors within various spheres of EU policymaking. Besides regulating substances, more far-reaching strategies are needed to foster the sustainable and environmentally sound production and use of goods and foodstuffs. It is time for German policymakers to take action to meet the threat of EDs head-on with innovative measures.

PAN Germany calls on the German Federal Government to take the follow steps

► Initiate a "National Strategy to Minimise Exposure to Endocrine Disruptors" with concrete goals, and a timetable as well as the allocation of funds for research on EDs, for promoting alternatives, and for informing the public, in particular about how vulnerable groups such as children and pregnant women can be protected.

► Ensure committed participation in developing a new, fully-fledged strategy for the EU on endocrine disruptors and in drafting the strategy of the European Union for a non-toxic environment (as part of the seventh EAP).

► Include endocrine disruptors as a focus of work within the German interministerial Action Programme on the Environ-

ment and Health, which is to be further developed, according to the coalition agreement of the German government.

► Add as a further goal to the "National Action Plan for the Sustainable Use of Plant Protection Products" (NAP) the reduction of dependence on the use of pesticides and introduce a comprehensive transition to integrated plant/pest management and agro-ecological farming methods.

► Initiate a national action plan for the sustainable use of biocidal products, in order to limit their use to the minimum necessary, promote ecologically sustainable and bioc-ide-free innovations in pest management as well as in the context of disinfection and protection of materials and products, and to fill existing substantial gaps in available data.

► Immediately begin examining and re-evaluating all currently authorized biocidal and pesticide products with respect to cumulative endocrine effects when the regulations enter into force; draft and publish a priority list.

► Advocate that provisions in biocide legislation that subordinate environmental standards to other considerations be revoked and that EDs with adverse environmental effects be excluded from use and ensure that biocide legislation is harmonized with pesticide regulation.

► Advocate an assessment and evaluation guidance for identifying EDs that ensures that false-negative assessments are effectively precluded, that gaps in data and assessment are systematically closed as soon as possible, and that the procedures are evaluated regularly and in a transparent way.

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