

VCI-POSITION – ENGLISH VERSION

In Can Preservation: An Important Contribution to the Green Deal

The protection of products during production, transport and storage is known in professional circles as in can preservation. It prevents microbial spoilage, makes them durable and thus improves their longevity.

Detergents and cleaning agents, paints, varnishes, building materials and adhesives, and a multitude of industrial preliminary products, raw materials and starting materials are just a few examples of the most diverse applications in which aqueous formulations are preserved.

In can preservation makes an important contribution to achieving the primary goals of the European Green Deal. Without effective preservation, very large quantities of products would spoil more quickly. As many sustainable innovations are water-based, the availability of effective preservation is indispensable not only at present, but also for future-oriented products. The availability and use of substances with certain hazardous properties are under question in the Chemicals Strategy under the European Commission's Green Deal. However, they can be managed safely and may have significant economic and societal importance.

The Environment Council is calling on the Commission, for instance, to improve product durability.

[Press release, 17. Dec 2020](#)

For effective preservation of our products and goods is essential:

- Consider the benefits and advantages of chemical preservation
- Promote innovation through appropriate framework conditions
- Avoid further bureaucratisation and premature over-regulation
- Ensure the functioning of the EU internal market and strengthen the competitiveness of the industry situated in the EU.

Throughout the EU, products used for the preservation of manufactured products by the control of microbial deterioration to ensure their shelf life are regulated under the Biocidal Products Regulation (BPR)¹. They are subject to a complex, elaborate and expensive authorisation system. Due to evaluation methodology and economic considerations many of the originally permitted active substances for preservatives are no longer available. Further restrictions and bans on the remaining ones are very likely. Since neither a suitable alternative to chemical preservation is available in the near future, nor does the replacement of existing active substances with newly developed effective active substances appear very unlikely, effective preservation and achieving Green Deal objectives are critically dependant on the continued availability of existing active

¹ Regulation (EU) No 528/2012; Excluded from the scope of the BPR are food and feed, cosmetic products, medicinal products or medical devices

substances. Further bureaucratisation and premature overregulation by forestalling classifications still under discussion with consequences for the availability of preservatives would therefore not be expedient.

Many products and goods need in-can preservation

A wide variety of aqueous formulations are used in industrial and professional applications as well as by consumers. Many raw materials and intermediate products are also processed as aqueous formulations. Relevant kinds of products are detergents, care and cleaning products, paints and varnishes, construction chemical products, additives for textile, paper and leather production, lubricants, fuels, adhesives and glues.²

The amount of aqueous formulations and products produced annually is in the range of many millions of tonnes and has been growing steadily for years. The reason for this is a development strategy consistently pursued for many years by manufacturers to reduce or even eliminate the use of organic solvents. A second aspect may be the positive ecological and energy balance that aqueous formulations might have compared to solid or powdered alternatives.³ In the context of the circular economy and sustainable future, the use of aqueous products is important.

Annual production volumes and ratio of preserved products – examples from various industrial sectors:

4 million tonnes or approx. 66 % of all varnishes, paints and artists' colours worth 12 billion euros in the EU
(*VdL, VdMi, CEPE*)

900,000 tonnes or approx. 64 % of washing, care and cleaning products for private consumers in Germany worth approx. 3 billion euros (*IKW*)

340,000 tonnes or 20-25 % of construction chemical products such as waterproofing products, tile adhesives, building sealants and concrete admixtures in Germany (*Deutsche Bauchemie*)

20-60 % of processing chemicals and colourants used in aqueous formulations in the textile, leather, and paper industries (*TEGEWA*)

Preservation is a key to the European Green Deal

Extending the service life and durability of products, conserving resources, improving energy, reducing greenhouse gas emissions, and minimizing waste are important aspects of the European Green Deal. The preservation of aqueous products plays a key role in achieving these objectives. If effective preservation is no longer possible, due to technical or regulatory limits, negative impacts on the environment and the possible use of certain resources can be expected. Storage and transport would be severely limited by a short shelf life. Consequently, many

² The figures base on actually available information of the sector groups referring to the timeframe 2019-2021.

³ For the production of powdery or solid end products, water must be removed from the precursors, which requires energy. In contrast, this is not necessary for liquid products.

products may no longer be available, containers would have to be consumed immediately after the first opening, and certain manufacturing processes suddenly may become unsuitable. Many small and medium-sized enterprises as well as consumers would be directly impacted.

A calculation example of the European Association of the Paint, Printing Ink and Artists' Colours Industry, CEPE, illustrates the consequences of not having effective preservation for DIY paints.⁴ It can be assumed that of the total of ca. 40 million buckets of paint produced in Germany every year, one in four, this means a total of ca. 11 million buckets of paint would spoil, corresponding to a chain of buckets from Stockholm to Gibraltar or a value of approx. half a billion Euros.

Microbial contamination is a loss of quality. Even if not yet visible, contamination can already lead to measurable declines in product performance and negative impacts, for example, on the service life and durability of coated products or building components bonded with adhesives. Consumers reject contaminated products not least because of the strong odour caused by some biological degradation processes. Severe health impacts from contact to spoiled products cannot be ruled out.⁵

At present, there are no alternatives to chemical preservation

The availability of water is the basis for the development of life. However, this also means that aqueous media containing organic, and thus biodegradable, substances present a favourable environment for microbial growth. For this reason, the preservation of water-based end products, intermediates and raw materials is essential. The chemical preservatives used today are highly effective and only used at minimal doses, i. e. dose levels as low as necessary to be efficacious. A recent study on the example of the paint and varnish industry confirms that currently suitable non-chemical alternatives for the preservation of industrial or consumer articles are not yet available as substitutes.⁶

In principle, there are other techniques besides chemical preservation that can be used to prevent, eliminate or control microbial infestation. However, for the majority of industrial and consumer products and goods, each of these alternative approaches is neither practical nor feasible or has other kinds of disadvantages. For example, resource and energy requirements may be high or the alternative technologies may not be compatible with certain raw materials or production processes. Other limitations may refer to the application or reuse of products. Alternative methods may also impact functionality, quality, or product safety. The few "biocide-free" approaches, such as alkali silicate paints, are usually not transferable to other products. The reason for this is a lack of technical feasibility, e.g., due to complex production processes, side reactions. Often, there is also a lack of consumer acceptance.

⁴ <https://www.cepe.org/campaign-coatings-need-preservatives>

⁵ The bacterium *Pseudomonas aeruginosa* can cause illness in seniors, immunocompromised persons and children and led to a recall of a children's paint in 2019

⁶ Dutch Ministry of Infrastructure & Water Management (2021) In-can preservatives in the paint industry - How to stimulate alternatives to biocides (Reference: BH7424RP001F01)

Current practice: influence of ongoing discussions on authorisation of preservatives

Since the Biocidal Products Directive 98/8/EC (BPD) came into force in 1998 and under the Biocidal Products Regulation (BPR) now in force, only 11 active substances have been approved for in can preservation. On the other hand, of the total of 61 active substances from the review programme, 14 are no longer available. 33 active substances are currently in the evaluation process.⁷ It is estimated that there will be further restrictions or bans on the active substances currently in use.

The effective control of various harmful microorganisms often requires a combination of different, complementary active substances. However, based on the technical requirements of the various applications the suitability of active substances is already very limited. In practice, only a small number of active substances are used. With the re-evaluation of classification and labelling as part of the active substance approval process, in combination with increasing requirements, it is very likely, that many of the relevant active substances will no longer remain to be used in near future. Should this case indeed occur, effective preservation of water-based products and goods from microbial contamination would no longer be technically possible. In some areas, a step backwards to products based on organic solvents would have to be expected.

The BPR is definitely the appropriate legal framework to be able to evaluate biocidal products with regard to their effects on humans, animals and the environment. The authorisation procedure can ensure that only safe products are made available on the market. However, the processes must not undermine the principal goals of the Green Deal - such as the ambitious climate protection targets, the mobilisation of industry for a clean and circular economy, and finally energy- and resource-efficient construction and renovation. Additional obstacles towards approval or authorisation and a shift towards a primarily hazard-based assessment instead of the originally envisaged risk assessment approach are not conducive to the Green Deal overall.

Innovation for a sustainable future

For many years, manufacturers and users have been working to implement the guidelines for sustainable use of biocides as preservatives.⁸ Typically, available alternatives are evaluated and the amount of preservatives is minimised to the lowest effective dose. Introduction of new active substances is very unlikely or at least rare for economic and regulatory reasons. Innovation in the field of preservatives is currently largely limited to variations of formulations with existing active substances. Innovative formulations rely, for example, on the use of new co-formulants or improved efficacy through the clever and intelligent combination of active substances. The approach allows achieving a broad spectrum of efficacy whilst minimising concentrations used or targeting specific microorganisms selectively. In any case, the continued availability of a spectrum of active substances with complementary efficacy is vital.

Further, innovation and the development of new alternative preservation solutions, active substances and biocidal products requires sufficient time. In order to ensure efficient preservation in the future, new restrictions and bans of currently used preservatives need to be

⁷ ECHA website, <https://echa.europa.eu/de/information-on-chemicals/biocidal-active-substances>, (as at 8 September 2022)

⁸ OECD (2021) Towards a Sustainable Use of Biocides - Series on Biocides No. 17, ENV/CBC/MONO(2021)4

aligned with sustainable alternatives becoming available. Only with a coordinated approach the safe and sustainable production and use of water-based formulations will stay possible. It is essential to take into account, that hazardous substances can be handled safely under specific conditions. Simply restricting or banning substances with specific properties should not be a main goal, but the implementation of the Green Deal as a whole must be the objective.

Important interest of manufacturers and users

The VCI is striving to ensure that effective preservation of goods and products is possible today and in the future. The benefits of preservation must be recognised and innovations as well as further developments must be supported. A central aspect is also the competitiveness of companies with production sites in the EU.

Consider the benefits and advantages of chemical preservation

◆ Preservation makes an important contribution to the Green Deal

Appropriate conservation has many benefits for society and the environment. It has a positive effect on worker and consumer protection. By avoiding waste, it also contributes to the protection of resources and the environment.

◆ Risk assessment instead of consequences from hazard-based substance classification

Restricting active substances simply based on hazard classification (CLH⁹) is not expedient. Instead, the real risk and benefit of the intended product use for the environment and for the society as a whole must be taken into account.

Strengthen innovation and avoid increasing bureaucratisation and premature consideration in implementing BPR

◆ Improve framework conditions for the availability of active substances

New and innovative biocidal products can only be formulated when there is a sufficiently large spectrum of active substances available with different modes of action as diverse as possible. Restrictions and non-approvals of active substances must be justified on the basis of risk and aligned to the development of alternatives.

◆ Provide planning certainty for active substance approvals

A stable regulatory environment provides reliable framework conditions. Continuous advancement and refinement of the assessment criteria must not delay ongoing approval and authorisation procedures. The implementation of existing rules must be focused.

◆ Reduce the time spent for active substance approval and biocidal product authorisation

The faster marketing of new active substances and biocidal products based on them can be achieved, for example, through pragmatic implementation of BPR Article 55(2).

⁹ Harmonised classification and labelling process

Ensure functioning of the EU internal market and competitiveness

◆ **Adapt data requirements**

Reduced data requirements according to the intended volume of use and application profile ("tonnage approach") would lower the economic burden

◆ **Reduce bureaucracy and lower fees**

New and innovative products need to be affordable. In order to encourage new applications, and in view of the already high costs for dossier preparation, the fees for the approval of active substances and for the authorisation of products should be reduced.

◆ **In the light of competitiveness and resilience, do not raise the hurdle for manufacturing processes within the EU even more**

Outside the EU, products can often be manufactured with considerably less effort. The time-consuming approval and authorisation procedures under the BPR are not relevant when raw material or intermediates are used outside the EU.¹⁰ Often also comparable regulations are lacking. This means that manufacturers outside the EU or importers of goods or articles often have a competitive advantage. In terms of competitiveness and resilience, the hurdle for manufacturing processes within the EU must not be raised further.

¹⁰ There is a competitive advantage in importing if the products or articles are manufactured from preserved precursors and the preservatives used herein do not have to pass a complex approval and authorisation procedure if any. An advantage could result as well, when the preservatives used in precursors are not restricted or not banned in the country of manufacture, unlike in the EU/EEA. According to BPR Art. 94, a treated article may only contain active substances that are included in the Art. 94 list (as approved or still in the process) or Art. 95 list for the corresponding PT. An authorisation of the biocidal product used is not required in any case.

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The VCI represents the interests of around 1,900 companies from the chemical-pharmaceutical industry and related sectors vis-à-vis politicians, public authorities, other industries, science and media. In 2021, the VCI member companies realized sales of ca. 220 billion euros and employed more than 530,000 staff.