

# EuPIA Annual Report 2021

EuPIA, the European Printing Ink Association, working under the umbrella of CEPE, represents and protects the common interest of the European printing ink business and promotes the image of the industry to the public. EuPIA provides a forum for discussion and decision-making regarding issues of specific interest to the printing ink industry. EuPIA members also participate in CEPE working groups dealing with issues of general interest to the wider CEPE membership.



**Martin Kanert**  
Executive Manager  
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## Market Statistics 2020

EuPIA publishes market statistics on an annual basis. The data can be accessed via the EuPIA website at [eupia.org](http://eupia.org), About Us - Statistics.

The following statistics show a summary of printing ink sales from EuPIA's more detailed Quarterly Market Sales Statistics. The findings are based on the consolidated results of data supplied by 28 EuPIA member companies, who have all submitted data on a standard basis to our independent trustee who compiles the data for EuPIA. The results show sales volume in tonnes and value in €m for the latest year, 2019.

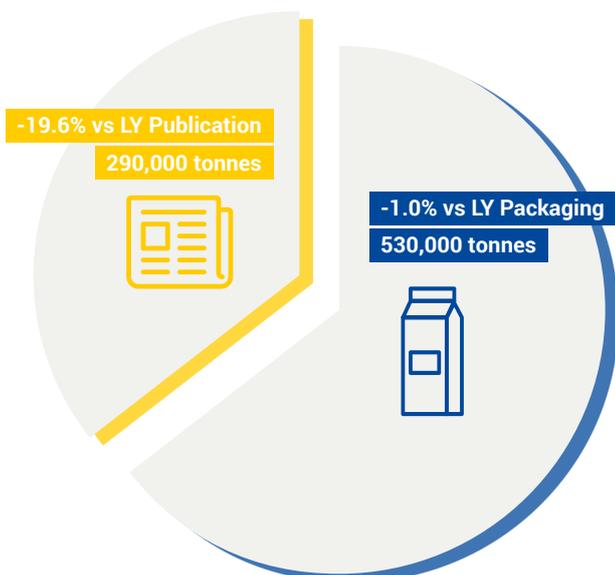
It is estimated that the sample group accounts for about 90% of total industry sales in Europe.

### Key sectors shown

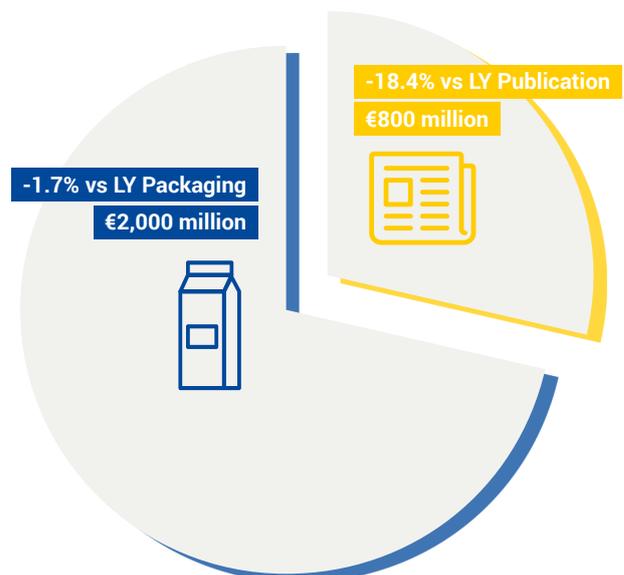
Publication Inks comprise web offset inks (coldset and heatset), sheetfed offset inks, publication gravure inks and related overprint varnishes. Examples of publications are newspapers, magazines, books and commercial prints such as brochures and flyers.

Packaging Inks comprise flexographic inks, specialty gravure inks, energy curing inks and related varnishes. Examples of packaging are flexible film packaging, rigid plastics, folding cartons and corrugated boxes (see figures below).

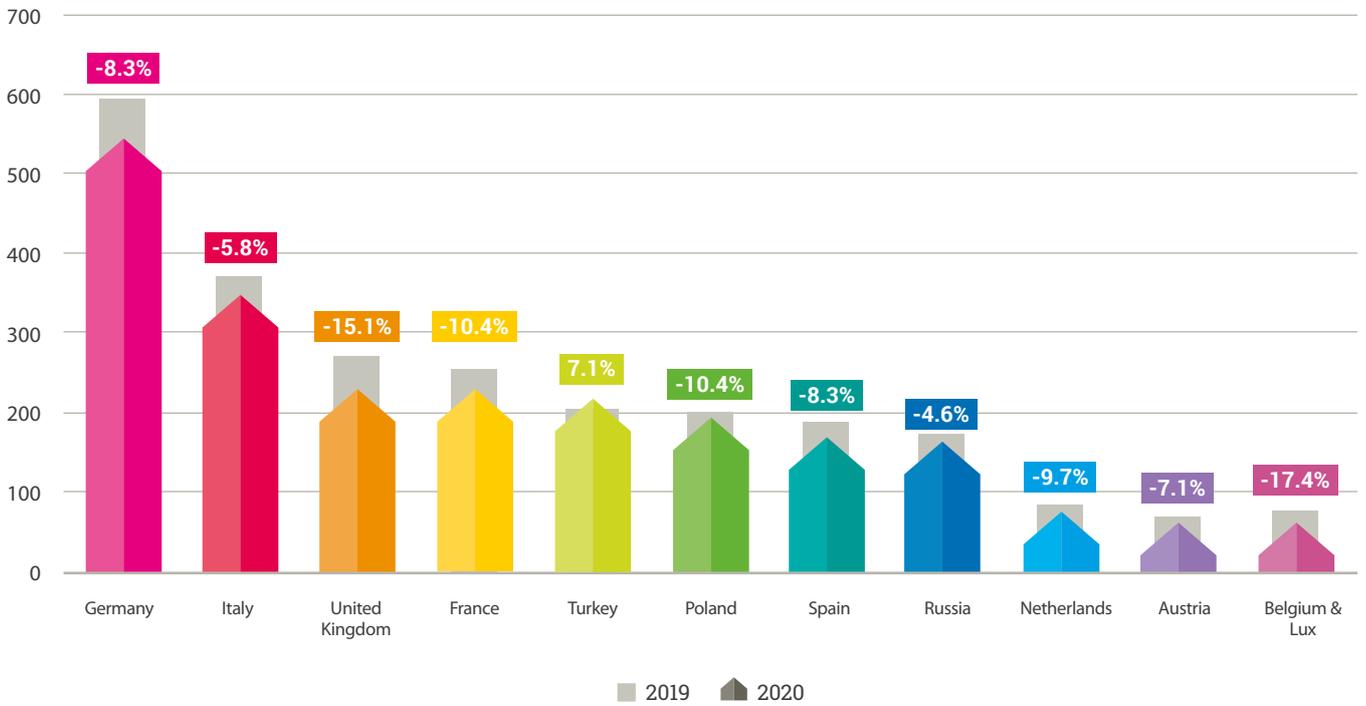
## Sales volume for 2020



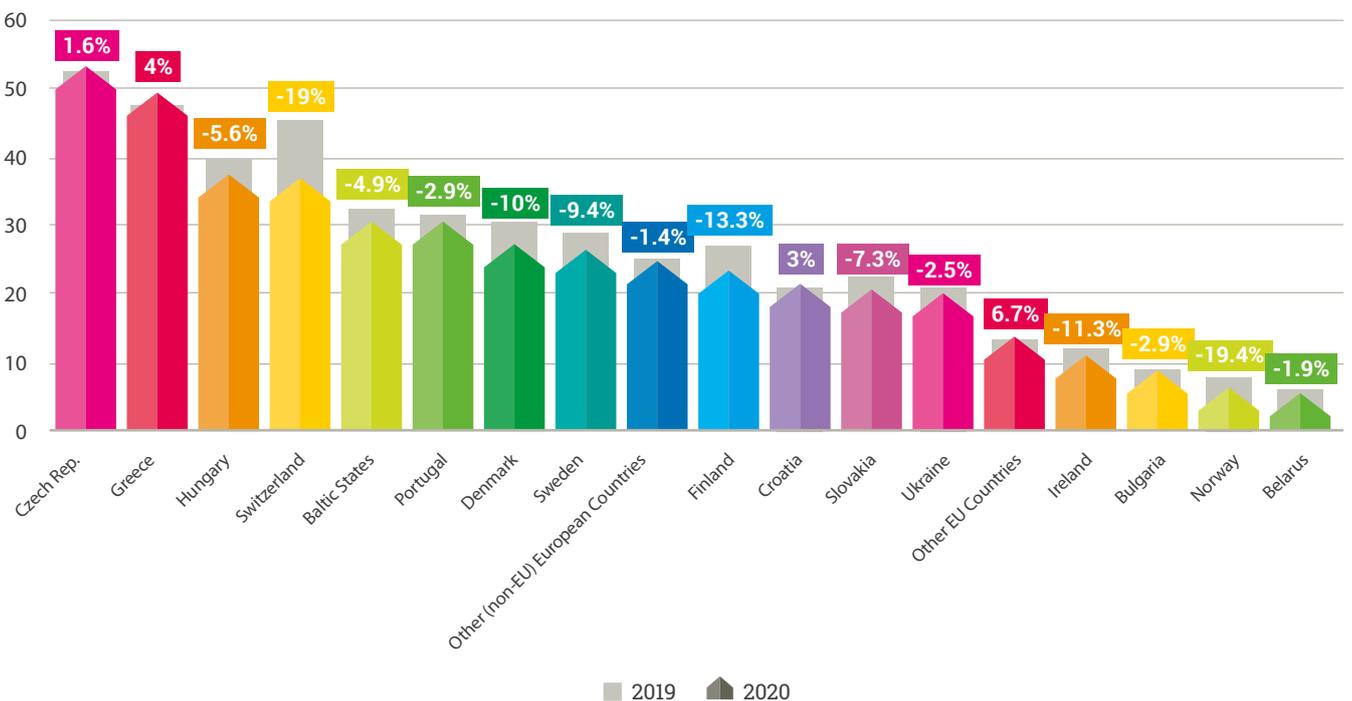
## Sales value for 2020



### Sales Value by country 2019 to 2020 in EUR millions



### Sales Value by country 2018 to 2019 in EUR millions





## Continued severe supply chain problems in 2021 and beyond

Supply chain strains are expected to continue throughout 2022. Even as some of these constraints ease and the recovery moves forward, there remains global uncertainty regarding a resurgence of the coronavirus, erratic consumer purchasing behaviours and potential trade barriers.

It is an aggregation of factors, mostly triggered by the COVID-19 crisis, which severely impact the overall raw material supply chain. Whilst EuPIA members continue to work tenaciously to minimise risks to customers, they highlight the economic pressures impacting the printing inks market below.

### Global Supply Chains

The global economy is experiencing what most economists and supply chain experts say, is the most unprecedented supply chain volatility in recent memory. Demand for products continues to surpass supply and, as a result, global raw material and freight availability has been heavily impacted.

This situation, driven by a global pandemic which continues to cause manufacturing shutdowns in many countries, was exacerbated, firstly by a homebound consumer base purchasing more items than usual and outside of peak seasons and, secondly, by the revival of the economy in all regions of the world, which led to a surge in demand. Add to that a crippled supply chain, reduced production in China due to the Chinese Energy Reduction Program, and a shortage of key raw materials.

For the printing ink and coatings producer – transportation and raw material shortages are causing a multitude of challenges. Feeding into this ‘perfect storm’ are numerous factors related to raw materials and freight transportation.

### Raw Materials

Supply and demand imbalances for many critical raw materials used in the production of printing inks – vegetable oils and their derivatives, petrochemicals, pigments and Titanium Dioxide (TiO<sub>2</sub>) – are causing significant disruption to EuPIA member companies.

Materials in all of these categories, to a differing extent, are seeing increased demand while supply continues to be constrained. Moreover, the demand volatility has caused increased complexity in vendors’ ability to forecast and plan shipments.

When looking at each material group, unique contributing drivers can be spotted:

- Pigments, including TiO<sub>2</sub>, have surged recently due to increased demand and factory shutdowns in China caused by the Chinese Energy Reduction Program. TiO<sub>2</sub> has seen increased demand for architectural paints and wind turbine production.
- The supply of organic vegetable oils has been affected by unfavourable weather conditions in the U.S. and Latin America – at a time when Chinese imports and consumption of this raw material category has increased.
- Petrochemicals – UV, polyurethane & acrylic resins and solvents – have been rising in cost since early 2020 with some of these materials having demand increases outside of normal levels.

The market has witnessed a multitude of force majeure events which have further constricted supply and exacerbated an already unstable situation. As costs continue to increase and supply continues to tighten, printing ink and coating producers are increasingly affected by immense competition for materials and resources.

## Packaging, Freight & Transportation

### Packaging Materials

The industry continues to face shortages in steel for drums and High-Density Polyethylene feedstocks used for pails and jugs. Increased demand in online commerce is driving a tight supply of corrugated boxes and inserts. Material allocation, production delays, feedstock, Force Majeures, and labour shortages all contribute to packaging increases. Extraordinary demand continues to outweigh supply.

### Air and ocean freight capacity limits

The pandemic has been a catalyst for abnormal consumer purchase activity (both during and after shutdowns), causing unusual demand within multiple industries and straining both air and sea freight capacity. Jet fuel costs have increased along with shipping container costs (in some routes from Asia/Pacific to Europe and/or the United States, container costs have increased 8-10x the norm). Unusual ocean freight schedules have emerged and freight carriers are stranded or challenged to find ports to offload containers. Ultimately, increased demand and ill prepared logistics have caused a critical shortage of freight capacity.

**Congestion at ports**

Due to the coronavirus pandemic, strict health and safety measures remain in place at global ports which is affecting port capacity and throughput. The majority of ocean freight liners are missing their scheduled arrival times and ships, which do not arrive on time, experience delays as they wait for new slots to open up. This has contributed to escalating shipping costs since the autumn of 2020.

**Truck driver shortages**

Another contributing factor is driven by a critical shortage of truck drivers in many regions but perhaps most pronounced across Europe. Interestingly, this shortage is not new and has been a concern for at least 15 years. It is simply been heightened due to the global pandemic.

The pandemic has disrupted international trade, driving up the cost of shipping goods and adding a fresh challenge to global economic recovery.

**EuPIA Annual Conference**

As another consequence of the pandemic, it was not possible to conduct the EuPIA Annual Conference as a physical meeting; it was held virtually instead. However, this did not detract from the attractiveness of the conference: the number of participants was even higher than in previous years.

**The EuPIA Exclusion Policy for Printing Inks and Related Products**

For the last 25 years, the EuPIA Exclusion Policy for Printing Inks and Related Products, and its predecessor, the EuPIA Exclusion List has had a tremendous value for the printing ink industry, the printers/convertors, brand owners and consumers as it contributes to the safety of inks used across Europe. In short, the policy is about excluding hazardous chemical substances from the manufacture of printing inks which have a serious

adverse effect on human health. The EuPIA Exclusion Policy is THE product stewardship initiative of the ink industry in Europe and as such, is well respected across the market.

Members’ commitments to the Exclusion Policy have always been voluntary. In the past, they were “collectively” confirmed by the National Associations on behalf of their printing ink members. Since the publication of the 4th edition of the Exclusion Policy in March 2021, member companies confirm their commitments individually. A list of EuPIA members that commit to the Exclusion Policy is available on the EuPIA website.

Raw materials which, by reason of re-classification, fall under the exclusion criteria, must be substituted as soon as practicable. If, however, substitution cannot be completed in the short term for technical reasons, then a temporary exemption from substitution can be granted/can be made use of. The fourth edition of the Exclusion Policy introduces clear rules under which circumstances the time limited exemptions can be applied.

An Exclusion Policy Advisory Panel (EPAP) will advise the EuPIA secretariat in case where expert judgment is deemed necessary to understand the appropriateness of a temporary exemption notification. Moreover, the EPAP can be called by a EuPIA member company if the EuPIA Technical Committee had refused an application for exemption (for group A substances).

Member companies having committed to the Exclusion Policy have established Designated Company Focal Points through which the information flow between the EuPIA secretariat and the member company will be organised.

**Printing Inks and Varnishes for Food Contact Materials**

Printed food contact materials (FCMs), such as food packaging, are regulated in principle at EU level, however, specific provisions are lacking.



Source: Patrick - stock.adobe.com

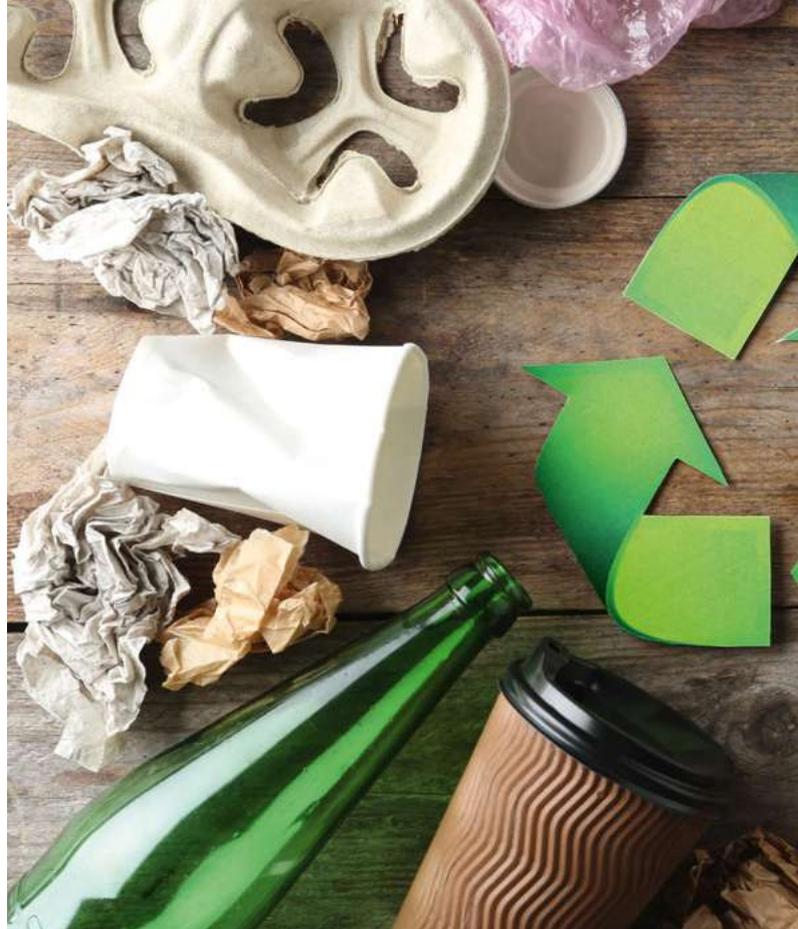
Therefore, EuPIA has over the years developed comprehensive concepts, which have been successfully implemented and are constantly adapted and improved. They support the converters and distributors of food contact materials in their compliance work and set standards in many areas such as migration testing or risk assessment. In 2021, EuPIA issued the 5th amendment of the “EuPIA Guidance for Risk Assessment of Non-Intentionally Added Substances (NIAS) and Non-Evaluated or Non-Listed Substances (NLS) in printing inks for food contact”, which contains more details on the exclusion of genotoxic properties with QSAR tools and experimental methods. Furthermore, the 3rd revision of the EuPIA “Guidance on Migration Test Methods for the evaluation of substances in printing inks and varnishes for food contact materials” was published, which features a completely revised and updated section on analytical identification and quantification. The EuPIA Analytical Experts Working Group is also conducting a research project to define improved testing methods for the evaluation of the migration of components of packaging inks, by comparing accelerated migration testing with real food migration. The study was delayed due to the Covid situation but is expected to be finalised beginning of 2022.

Notwithstanding all these efforts to further enhance the safety of printed food contact materials through industry initiatives, EuPIA together with the entire food packaging chain in Europe has long been advocating a harmonised European regulation for printed food contact materials. During the notification of the German “Printing Ink Ordinance”, the European Commission (EC) had announced in 2016 that indeed it intended to develop and adopt such a piece of legislation. However, while working on it, the EC identified potential fundamental deficiencies in the existing legal framework, which should first be examined in the context of a broad-based evaluation.

#### **EU Commission started evaluating the legal framework**

As the framework legislation is over 40 years old (originally Directive 76/893/EEC, now Regulation 1935/2004), has never been systematically evaluated and does not take “new” developments such as REACH into account, a thorough evaluation makes sense. The EC’s processes foresee a so-called inception impact assessment, including a public consultation on the policy options, followed by the actual impact assessment, in which the policy options are assessed in detail. Afterwards the results will be published and the new legislation will be drafted. In December 2020, the public consultation on the inception impact assessment started roughly half a year later than originally announced. The EC identifies eight “fundamental issues” with the current legal framework, which need to be addressed. It is proposed to shift the focus onto the final article and to prioritise the assessment and management of substances via a tiered approach. EuPIA carefully evaluated the policy options and provided detailed feedback. The feedback was also coordinated with the whole food packaging chain and an aligned position of the Packaging Ink Joint Industry Task Force (PIJITF) was issued.

The proposal of the EC contains some chances for the ink industry, but also several risks: the EC acknowledges that a regulatory approach purely based on positive lists is not a practicable way forward and consequently sees the possibility of industry self-assessments as one part of its tiered approach. Although the details are yet undefined, with these ideas the EC seems to recognise the work done by EuPIA and the whole food packaging chain, who have long advocated to adequately reflect



Source: New Africa - stock.adobe.com

the current practice of industry self-assessments in the legal framework. On the other hand, some of the more hazard-based approaches envisaged in the EU’s Chemical Strategy for Sustainability are also reflected in this proposal, which marks a paradigm shift in the EU’s regulatory approach for food contact materials, away from the current purely risk-based approach.

The EC sees two basic options to move forward: either to work with the current regulatory framework (with Regulation (EC) No 1935/2004 as a cornerstone) or to develop a new regulatory framework, replacing the current Regulation. EuPIA as well as the PIJITF see the framework as being in principle fit for purpose and hence the priority should be the timely development of further specific measure(s) for non-plastic materials, especially printed FCM. In these specific measures industry risk-assessment for non-listed substances should be incorporated, in line with the PIJITF proposal.

The original timetable of the EC as set out in the Farm-to-Fork Strategy of the Green Deal foresaw that the final legislation should be presented end of 2022, however, currently it seems as it will be rather mid-2023.

#### **Germany published the so-called Printing Ink Ordinance**

In 2016, when the EC had announced to work on a harmonised measure on printed food contact materials, it seemed as if the plans for the German Ink Ordinance had become obsolete. However, due to the changed timeline on the European level, the German Federal Ministry of Food and Agriculture (BMEL) presented a new draft of the 21st ordinance amending the German Consumer Goods Ordinance, the so-called “Printing Ink Ordinance” (GIO) in 2020, arguing that the EC has failed to keep its promise to provide a European legislative measure. The wording of the draft was largely identical to the draft notified in 2016 and the positive list was still incomplete, and hence not workable in practice. Also, the general objections against a national measure, which ignores the reality



of the complex flows of goods in the internal market. However, despite severe criticism of the German national association, VdL, and the entire German packaging value chain, the draft passed the Federal Chamber (Bundesrat) in November 2021 and was published in the Official Journal in December, thus bringing the legislative process, which started in 2010, to an end.

However, in the final version some small, but nevertheless, important changes in the wording of the legal text were incorporated. Furthermore, the incompleteness of the positive list was acknowledged by the legislator and a corresponding transition period of four years has been set. This period must now be used by the raw material suppliers to complete the list. Therefore, there is currently also no basis for requesting confirmations of compliance with the requirements of the Printing Ink Ordinance. Furthermore, a “regulatory sandbox” was announced by the BMEL, in which concepts of cost and data sharing – which are missing in the legal text – shall be discussed.

EuPIA and the entire food packaging chain strongly believe that only a European regulation can satisfy the functioning of the European internal market and ensure a uniform level of consumer protection. This view is also shared by the German Federal Chamber. Although it adopted the GIO, the Chamber calls on the Federal Government in an accompanying resolution to support the EC in its review of the EU legal framework “and to strongly advocate the development of a uniform European regulation”. In their explanatory statement, the Federal States conclude that the “established concepts of the European printing ink industry EuPIA ensure the safety of printed packaging” and thus confirm the successful EuPIA concepts for safe food packaging. In principle, the German Federal Government also recognises the priority of a European regulation. Thus, an extension of the transitional period is envisaged should the EC present a corresponding specific measure on printed food contact materials within this period. EuPIA together with

its partners advocates the adoption of a European measure within the transitional period, which will be one of the major tasks on EuPIA’s political agenda in the next years.

Although the GIO entered into force, it needs to be emphasised that printing inks for food contact materials, which are manufactured or distributed in accordance with the guidelines of EuPIA, comply with all relevant European legislation on food contact materials. This also applies for Germany until the transitional period has expired and is applicable regardless of whether the ink components are listed in the still incomplete positive list of the German regulation or not.

#### **Switzerland updated its positive list and announced further changes in the future**

Section 12 of the Swiss Consumer Goods Ordinance sets out provisions specific to food contact material inks. Substances which only may be used in the manufacture of printing inks in scope of the Ordinance are listed in the positive list in Annex 10. The so-called part A lists evaluated substances, while part B contains substances, which have not been fully evaluated, but which may be used under certain conditions and if they do not migrate with a detection limit of 10 ppb. More details can be found in the Q&A document on the EuPIA website, which was completely revised in 2021 in collaboration with the Swiss Coatings Federation VSLF.

In December 2020, an updated version of Annex 10 entered into force, where all monomers with certain hazard categories (CMR) were deleted from part B. It must be noted that although the monomers feature these hazard properties, the corresponding polymers, which are used in the formulation of the printing inks are obviously not falling under these hazard categories and are safe to use. After discussions with the VSLF, the Swiss authorities agreed to accept a 2-year transition period for four of these monomers with a high relevance for the ink industry.

Furthermore, the Swiss authorities announced that they are planning to completely remove Part B in the future. It is currently planned that non-listed substances may be used, as long as they do not possess CMR-properties and do not migrate with a detection limit of 10 ppb. Currently, it is assumed that all inks that are currently compliant would also be compliant after the revision, however, the details are not yet known.

### **Printing Inks and Circular Economy**

The ‘Circular Economy’ has in recent years become a hot topic and is also one of the corner stones of the Green Deal - the programmatic centerpiece of the von der Leyen Commission. The Circular Economy Action Plan foresees many legislative measures, which aim to set the guiding principles to achieve circularity. The details of the implementation of the legislation are not yet clear, however the principles of circularity themselves are well understood and industry has already implemented many working concepts, which are continuously improved.

In the area of packaging, cross-sector platforms such as CEFLEX or 4evergreen are working on improving the circularity of flexible and fibre-based packaging by bringing together the entire value chain and to collaborate on topics such as “design for circularity” guidelines.

The ink industry will clearly play its role in the transformation process and propose and support solutions to the many challenges ahead.

However, it is vital that circularity is seen holistically to achieve a true “design for sustainability”, by looking at the whole life cycle of the products and taking all different possible material loops into account. Obviously, recycling is one very important cornerstone to achieve circularity. However, due to the inherent complexity of this topic, all involved actors must collaborate and do their part to improve the recycling rate. This involves the design stage, but also the recycling processes as well as collecting and sorting.

EuPIA has established two task forces, the Paper Recycling Task Force and the Plastics Recycling Task Force which monitor and assess the impact of the transformation to a Circular Economy on the ink industry, as well as the legislative initiatives such as the revision of the packaging and packaging waste directive, the sustainable product policy framework or the single-use plastic directive.

### **Task Force Paper Recycling**

The Task Force Paper Recycling covers all aspects regarding the circularity of graphic paper and fiber-based packaging. Originally the activities focused on graphic paper, but topics around paper-based packaging are becoming increasingly important. The task force organizes the exchange with all relevant stakeholders, for instance via the European Paper Recycling Council (EPRC), formerly European Recovered Paper Council (ERPC), which is an industry initiative that monitors the progress towards meeting the paper recycling targets. EuPIA is a supporter of the EPRC and is actively involved in many of its activities. In 2020, the recycling rate for paper was 73.9 %, which demonstrates that paper is already a very well-functioning circular economy. The task force also monitors the work of the 4evergreen alliance, where EuPIA is a member of the Industry Association Advisory Board.

In 2021, the Task Force was also involved in activities related to the recent revision of the different Ecolabels, namely the Blue Angel, the EU Ecolabel, the Nordic Swan and the Austrian Ecolabel.

As in previous years, the use of mineral oils in publication inks was an issue on the agenda of several member states. France and Spain are both working on regulations limiting or banning the use of mineral oils in the design stage. These developments are followed by the task force in close collaboration with the Spanish (ASEFAPI) and French Association (AFEI).

### **Task Force Plastics Recycling**

In the light of the EU Circular Economy Action Plan (CEAP), there are stringent measures that focus on improving the overall quality of plastic recycling and curbing wastage. The Task Force covers all the aspects of inks regarding the circularity of plastic-based packaging. One important focus of this group includes monitoring activities around CEFLEX (A Circular Economy for Flexible Packaging) that bring a wide range of industry stakeholders to represent the full flexible packaging value chain. Initiatives related to ink behavior in mechanical recycling and smart testing methodology for ink recyclability are being overseen where EuPIA members represent under the sub-group 9 of CEFLEX. Similarly, the Task Force concentrates on the activities around the program RecyClass, which focuses on the recyclability of plastic packaging and products through the development of recycling methodology and testing methods. The Task Force constantly monitors the scope of inks in

the definitions and interpretation of different national and EU legislation and policies related to plastics. In 2021 the TF published a Q&A on Printing inks and Plastics Recycling, which is available on the EuPIA webpage. Furthermore, a EuPIA Guidance Document on the Single Use Plastics Directive was published.

### **Environmental Footprint of Printing Inks (EFPI)**

Discussions around measuring the environmental performance of many kinds of products have gained momentum in recent years, particularly, after the advent of the EC’s initiative for a single market for green products and the EF methods. In the past, EuPIA published the virtual ink reference that represents printing inks for all print processes actually in use. This could be used by different stakeholders further downstream as ink input into their like cycle assessment (LCA) for printed matter.

As LCA is a dynamic tool, it requires constant updates so that the methods, data availability and technology representativeness remain valid also if time and progress will change situation and values. In line with this, EuPIA commissioned a working group called EFPI, that actively investigates LCA requirements for printing inks so that the customer base and stakeholders can take account of the impacts arising from inks within their LCA calculation.

To this end, the WG is involved in activities such as identifying and updating the list of commonly used raw materials in the ink industry and developing Life Cycle Inventory (LCI) for the same, evaluation of different printing technologies under the scope of the LCA framework, monitoring PEF-related activities and their relevance for the printing ink industry, and preparing guidance documents in order to aid the ink industry and its customers to carry out updated and scientifically sound LCA studies. 



# EuPIA – Printing inks groups

Situation as of December 2021

