

Impact of the draft French order specifying the substances contained in mineral oils prohibited for use on packaging and for printed matter distributed to the public

Notification Number: 2022/4/F (France)

Executive Summary: The proposed draft order will create a massive barrier for the free movement of printed products such as (food) packaging, books, magazines or newspapers within the EU internal market. Most print products, which are legally placed on the EU market, could no longer be placed on the French market. This would have a high economic impact, but also lead to negative societal effects. Furthermore, the draft ignores the complexity of the issue to be regulated, and neglects recent scientific developments. Moreover, several of the provisions are technically not achievable resulting in a persisting barrier in the EU internal market for printed products. Many practical aspects are still unclear, and, therefore, the provisions stipulated in the draft order, cannot be enforced. The measures in the draft order are having an effect equivalent to a quantitative restriction (MEEQR), which is not in line with article 34 TFEU. Furthermore, the provisions are not proportional: On the one hand, they fall short of reaching the objective. On the other hand, more effective measures with a smaller impact are possible and have already partially been implemented by the food packaging chain. The provisions are also conflicting with harmonized EU legislation.

Introduction: Printing inks are a highly important medium of communication, education and decoration in our society. Printed products can be found literally everywhere in the every-day live and form a great variety, from books, newspapers, magazines, to packaging for consumer products such as toys or foodstuff. Printing inks are obviously a necessary component of any graphic print product, but they are also essential for the packaging of foods and beverages, as producers are legally required to provide the consumer with certain information, such as the ingredients, allergen status and so on.

Over the last few decades, the packaging chain has become increasingly interconnected within the European Single Market, where the free movement of goods and raw materials for this high-volume market is essential. Also, the market for graphic products is more interconnected than ever. Print products that are placed on the market in one member state, are often printed in another member state. Larger magazines and newspapers such as El País, Le Monde or FAZ can be found in many newspaper kiosks across Europe. Although the economic impact of abroad sales of these newspapers may be small, its importance for the growing together of the EU society cannot be underestimated. The same applies for the works of literature or university textbooks. It is of tremendous importance that the print products of one member state can also be sold and read in the rest of Europe.

Therefore, it is of high concern that France has notified a draft order, which has the potential to disrupt the integrity of the Single Market for packaging, packaged goods and printed products, such as books or newspapers.

Summary of the French decree: The French Circular Economy Law from 2020¹ foresees that the use of mineral oils on packaging is prohibited from 1st January 2022 and on prints for the general public from 1st January 2025.

The technical details are set out in the “*Arrêté précisant les substances contenues dans les huiles minérales dont l’utilisation est interdite sur les emballages et pour les impressions à destination du public*”, which has been notified to the TRIS database under the notification number 2022/4/F. Contrary to the scope of the Circular Economy Law, which covers mineral oils on printed products and packaging, the decree is only focussing on the mineral oil content of the used printing inks. It defines limit values of certain Mineral Oil constituents for the inks, which may be used for the printed products in scope. For Mineral Oil Saturated Hydrocarbons (MOSH) with a carbon chain length of C16 and above a limit value of 1 % shall apply by 2023 and of 0.1 % by 2025. For Mineral Oil Aromatic Hydrocarbons (MOAH) a limit value of 0.1 % (2023) and 1 ppb (2025) is foreseen. However, although the provisions are for the inks, the printed matter remains in scope and responsibility lies with the one placing the printed matter on the market. The provisions will also apply to imported printed products.

The objective of the decree is to ban substances that disrupt the recycling of wastepaper or limit the use of recycled materials because of the risks they pose to human health. The details and limit values are based on the opinion of the *Agence nationale de sécurité sanitaire de l’alimentation, de l’environnement et du travail* (ANSES) of 8 March 2017 on the migration of mineral oil compounds from recycled paper and cardboard packaging to foodstuffs.²

Scientific background and technical aspects: The measures of the notified text will fail to meet its intended objectives. The paper and board recycling market in Europe is a well-performing market. In 2020, the European paper recycling rate reached 73.9%.³

Already several years ago monitoring in Europe of packaging and foods has identified mineral oil contamination in a range of packaged foods. Mineral oils are widely used and can end up in foodstuffs by various routes. Migration from recycled paper and board used for food packaging is one of them. However, since the first findings the industry has gained a comprehensive understanding of the different sources of mineral oil contamination.⁴ Many measures for the reduction of the transfer and occurrence of undesired mineral oils that have already been taken show objectively measurable success. Therefore, since the ANSES opinion from 2017 a lot of scientific knowledge has been gained, which needs to be considered and which demonstrates that a sole focus on the printing inks falls short of solving the issue. In fact, more effective measures have already been taken by the food packaging chain.⁴ Furthermore, recycled paper and board can safely be used for food packaging, if certain measures are taken. Also, the European Food Safety Authority (EFSA) acknowledges that “the

¹ LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l’économie circulaire

² l’avis de l’ANSES du 8 mars 2017 relatif à la migration des composés d’huiles minérales dans les denrées alimentaires à partir des emballages en papiers et cartons recycle, <https://www.anses.fr/fr/content/avis-de-lanses-relatif-%C3%A0-la-migration-des-compos%C3%A9s-dhuiles-min%C3%A9rales-dans-les-denr%C3%A9es-alimentaires-%C3%A0-partir-des-emballages-en-papiers-et-cartons-recycle>

³ EPRC Monitoring report, <https://www.paperforrecycling.eu/publications/>

⁴ FoodDrinkEurope: Toolbox for preventing the transfer of undesired Mineral Oil hydrocarbons into food, <https://www.fooddrinkeurope.eu/resource/preventing-transfer-of-undesired-mineral-oil-hydrocarbons-into-food/>

transfer of mineral oil components can be effectively prevented by the inclusion of functional barriers into the packaging assembly.”⁵

The relevance of mineral oils for printing inks depends on the ink technology and the application. In any case, in line with the EuPIA Exclusion Policy⁶, only refined mineral oils are used, which fulfil the IP346 test and are non-carcinogenic.

For the sector of food contact materials, such as printed food packaging, specially designed printing inks are available which are formulated without mineral oils.⁷ However, these are typically not used for all other types of non-food packaging. Furthermore, as the proposed limits are extremely low, there will be immense technical and analytical difficulties. Even if printing inks are formulated using vegetable-based oils, mineral oil impurities in the range of 1 ppb cannot be avoided. Due to the complexity of the composition of mineral oil and the lack of an analytical protocol in the regulation it is also more than questionable, whether these low amounts can be analytically verified. Hence, the French proposal is not practical and will heavily impact the sector of printed packaging.

In the graphic sector (newspapers, magazines, books, ...), several print technologies, namely heatset offset, coldset offset and sheetfed offset, use inks which are formulated with mineral oils.⁸

In the case of heatset the oils are evaporated during the drying process and used to fuel the dryers and only residues remain in the paper. Vegetable-based oils or vegetable-based solvents are generally not suitable, as their high boiling point does not allow an efficient evaporation in the heatset dryer. Furthermore, hydrocarbons with a carbon chain length below C16, which are not regulated by the decree, are also not suitable, due to their high vapour pressure. These hydrocarbon solvents would already evaporate during the printing process, and cause premature drying, leading to additional paper waste and significant VOC emission. Therefore, no broadly applicable mineral oil-free heatset ink is currently available on the market. However, the printing ink industry is already producing inks with a reduced content of aromatic hydrocarbons to minimize the MOAH which are of higher toxicological concern.

Coldset inks dry by absorption of the mineral oils into the underlying paper. Two publicly funded projects in Germany and France have been investigating the potential use of mineral oil-free coldset inks. EuPIA members have been heavily contributing to both projects. Within these projects it could be shown that mineral oil-free coldset inks are in principle possible. However, the transfer of the results of these pilot projects to the complete market, as well as the formulation of printing inks which run on all coldset printing machines without further changes and investments in the machinery, is a challenging task, as a lot of unforeseen technical difficulties may arise. In any case a significant transition time would be needed. Furthermore, some technical specifications deviate from the provisions of the research projects, even from the project driven by CITEO on behalf of the French government. This may require further research work which is not feasible within the given timelines.

⁵ Scientific Opinion on Mineral Oil Hydrocarbons in Food. EFSA Journal 2012;10(6):2704. doi:10.2903/j.efsa.2012.2704, <https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2012.2704>

⁶ EuPIA Exclusion Policy for Printing Inks and Related Products, <https://www.eupia.org/our-commitment/eupia-exclusion-policy-for-printing-inks-and-rel>

⁷ Printing ink industry contribution to the paper, paper converting and food industry initiatives to reduce mineral oil in paper and board packaging https://www.eupia.org/fileadmin/FilesAndTradExtx_edm/2018-08-02_Printing_Ink_Industry_Contribution_to_Mineral_Oil_Reduction_in_Paper_and_Board.pdf

⁸ EuPIA statement on the use of mineral oils in offset inks [2019-11-06 EuPIA Statement on Mineral Oils in Offset Inks.pdf](https://www.eupia.org/fileadmin/FilesAndTradExtx_edm/2019-11-06_EuPIA_Statement_on_Mineral_Oils_in_Offset_Inks.pdf)

Publication Gravure inks use toluene as single solvent. Whilst toluene is considered as a solvent and not a mineral oil, the decree does not provide a clear differentiation. Since Toluene is an aromatic hydrocarbon, we have to assume that it is affected by the decree which limits the MOAH content of inks to 0.1 %, so products printed with this process could no longer be placed on the French market.

Additionally, as for packaging inks, a limit of 1 ppb for MOAH is neither technically nor analytically feasible for all graphic printing processes mentioned above.

Therefore, the French proposal would have a massive impact on the graphic sector, as compliant inks for several key technologies are so far not available on the market.

This means that most products, which are printed within the EU with the current ink technologies, would not be compliant with the French law and hence could not legally be placed on the French market.

Practical Aspects/Enforceability: As the draft decree provides no analytical protocol it is currently unclear, how compliance with the limit values can be analytically demonstrated and whether it is even possible to measure such low quantities in inks. In any case, the results will depend on the analytical method applied and hence a clear standard would need to be defined.

Article 112 of the overarching law AGECE clearly covers minerals oils on packaging and printed matter. However, the decree only defines provisions for the inks and not the printed product. As the printed products are, however, in scope of the regulation, it is unclear how to demonstrate or control compliance. It needs to be demonstrated that a printed product has been printed with compliant inks. However, this cannot be verified on the final product: If mineral oils are found, it is hardly possible to distinguish, whether these originate from the ink or the paper or another component.

Therefore, the the current draft cannot be enforced.

Legal aspects: Article 34 of the Treaty on the Functioning of the European Union (TFEU) prohibits quantitative restrictions on imports and measures having an effect equivalent to a quantitative restriction (MEEQR). According to the European Court of Justice (ECJ) “*all trading rules enacted by member states which are capable of hindering, directly or indirectly, actually or potentially, intra-community trade are to be considered as measures having an effect equivalent to quantitative restrictions*”⁹ The French decree clearly hinders imports of packaging and printed papers. The exceptions invoked in article 36 TFUE do not apply to this case, as there is no threat to the health and life of humans. Concerning public health several harmonized laws already ensure the consumer protection, namely the so-called framework regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food, regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food, regulation (EC) No. 203/2006 on good manufacturing practice for materials and articles intended to come into contact with food, as well as the regulation (EC) No 1907/2006 on the registration, evaluation and authorization of chemical substances (REACH). The conditions set out in the framework regulation can be fulfilled by recycled paper and board, if measures like functional barriers are applied. Furthermore, it should be noted that

⁹ ECJ, July 11, 1974, case C-8/74, Dassonville

the issue is also addressed at EU level, as set out in the Commission Recommendation (EU) 2017/84 of 16 January 2017 on the monitoring of mineral oil hydrocarbons in foodstuffs and in materials intended to come into contact with foodstuffs. In line with this recommendation an intensive monitoring is carried out at the EU level. Further regulatory action, be it national or harmonized, should await the results of this monitoring programme.

The French proposal also violates the principle of proportionality. The regulation clearly constitutes an obstacle to intra-European trade and will have a massive impact on the free movement of printed products. The issue does not fall within the textual and jurisprudential derogations of Article 36, which would make it possible to justify the infringement of the principle (see details above). The measure is inapt to achieve the intended objective: The sole focus on inks falls short of the complexity of the problem, several provisions are currently technically not achievable and the difficulties in measuring the levels of MOAH and MOSH do not make it possible to demonstrate compliance. On the other hand, there are means that are less detrimental to the principle of free movement and that are appropriate to achieve the intended objective. Many of those measures have already been applied by the food packaging chain, such as the use of functional barriers.¹⁰ There is hence a high disproportionality of the proposed regulatory measure and the objective pursued.

The current legislative proposal is also conflicting harmonized EU regulations:

As the draft order defines limit values for printing inks, which are chemical mixtures, and not for the packaging or printed product, it conflicts with chemicals legislation and bypasses the REACH procedure. Restrictions for chemicals are in the scope of the REACH regulations and hence the procedures set out in the regulation need to be followed.

Annex I of regulation (EU) No. 10/2011 explicitly lists certain waxes, white mineral oils and hydrocarbons (FCMs No. 93, 94,95, 97, 549, 550), which are allowed for the manufacture of food contact materials made from plastic, but which are likely to be identified as prohibited substances under the French draft decree. However, substances explicitly allowed under harmonized law should also be legally usable in the member states. To avoid this conflict article 4 of the draft order would need to be adapted.

Conclusion: The French draft order would have a massive impact on the internal market for packaging, packaged goods and printed products. Most printed products, which are legally on the market of the other member states could no longer be placed on the French market. This would have a high economic impact as packaging for consumer goods, such as foods, toys and other articles is a high-volume market. Furthermore, the provisions would also have a negative impact on the coherence of the EU society as newspapers and magazines from other member states could no longer be sold in France. The same applies to other printed products such as books. Works of literature or university textbooks, which are printed according to the current standards in other member states would no longer be available in France. As some of the provisions are technically not achievable, it cannot be expected that this may change in the near future, which results in a persisting barrier in the EU internal market for printed products.

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¹⁰ FoodDrinkEurope: Toolbox for preventing the transfer of undesired Mineral Oil hydrocarbons into food, <https://www.fooddrinkeurope.eu/resource/preventing-transfer-of-undesired-mineral-oil-hydrocarbons-into-food/>