

Labelling Exemptions for Carry-Over Additives and Processing Aids: The Requirement of No Technological Effect on the Final Product

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Carry-over additives and processing aids are exempted from the mandatory listing as ingredients. In both cases, this exemption requires that the respective substance has no (more) technological effect on the final product. The interpretation of this element of European law shows that such a technological effect is only to be understood as the (lasting) active effect on the final food which is marketed to the consumer. The mere fact that one can tell from the qualities of the final product that a substance with a technological effect has been used is not sufficient. This can in particular be deduced from the decision of the Union legislator itself in the area of organic food. There, the use of certain additives as processing aids has expressly been authorised although (or precisely because) their use leads to a change in the final food. The aforementioned interpretation of the requirement of no technological effect on the final product is in line with the case law of the European Court of Justice.

I. Introduction

According to Art. 9 (1) (b) Regulation (EU) 1169/2011¹, the majority of pre-packaged food must be labelled with a list of ingredients. Art. 18 (1) Regulation (EU) 1169/2011 stipulates that 'it shall include all the ingredients of the food'. A legal definition of what is meant by 'ingredient' can be found in Art. 2 (2) (f) of Regulation (EU) 1169/2011. According to this definition 'ingredient' means 'any substance or product, including flavorings, food additives and food enzymes, and any constituent of a compound ingredient used in the manufacture or preparation of a food and still present in the finished product, even if in an altered form. Residues shall not be considered as ingredients'. In principle, according to these regulations, there is a labelling obligation for all ingredients, which also includes food additives.

However, Art. 20 Regulation (EU) 1169/2011 makes an exception to this rule. In lit. b) of this article, food additives and food enzymes are excluded from ingredient labelling if they either (i) have entered the finished product with an ingredient according to the carry-over principle - under the condition that they serve no technological function in the finished product - or (ii) if they are used as processing aids. The definition of processing aids in Art. 3(2)(b) Regulation (EC) No. 1333/2018² contains, inter alia, the ele-

ment 'do not have any technological effect on the final product'. Since both labelling exceptions require that the respective substance has no technological function or no technological effect in/on the final product, the question arises as to what exactly is to be understood by this requirement. This interpretation not only decides on the question of the labelling of an additive or processing aid, but also on the legal authorisation requirement which applies to food additives but not to processing aids.

II. Regulatory Framework

Both labelling exemptions of Art. 20 lit. b) Regulation (EU) 1169/2011 refer to food additives. These are legally defined in Art. 3 (2) a) of Regulation (EC) 1333/2008.

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- 1 Regulation (EU) No. 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004.
- 2 Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives.

Accordingly, they are substances that are added to a food for technological reasons, whereby they themselves or their by-products become or may become a component of the food. It is characteristic for a food additive that it has a technological effect on the final product. On the one hand, this results from the legally defined functions that additives perform. These are listed in Annex 1 to Regulation (EC) 1333/2008. Sweeteners, colours, preservatives, etc. are substances whose purpose is to improve the final product for the consumer. In addition, a comparison of the legal definitions of additives and processing aids shows that a decisive criterion for differentiation is the technological function in the finished product, as this may no longer be the case when used as a processing aid.

There is no legal definition of the term 'technological function in the finished product' or 'technological effect on the final product' in either Regulation (EU) 1169/2011 or Regulation (EC) 1333/2008. Nor can it be inferred from other general food law provisions or the legislative materials how this requirement is to be understood. However, it is noticeable that both in the English language versions of the Regulations as well as in other language versions there are slight differences in the wording in the two Regulations.

In the English language version, the relevant passages of Art. 20 lit. b) of Regulation (EU) 1169/2011 state that they 'serve no technological function in the finished product' and Art. 3 para. 2 lit. b) of Regulation (EC) 1333/2008 that they 'do not have any technological effect on the final product'. In the French version, the passages are worded as follows: 'ils ne

remplissent pas de fonction technologique dans le produit fini' and 'n'ont pas d'effets technologiques sur le produit fini'. In Spanish they read 'ya no cumplan una función tecnológica en el producto acabado' and 'no tengan ningún efecto tecnológico en el producto final'. The German texts of the Regulations speak of 'im Enderzeugnis keine technologische Wirkung mehr ausüben' and 'sich technologisch nicht auf das Enderzeugnis auswirken'. The Dutch language versions read 'in het eindproduct geen technologische functie meer vervullen' and 'geen technologisch effect op het eindproduct hebben'. The question arises as to which interpretation can be derived from this background.

III. Interpretation of the Norm

1. Uniform Interpretation Despite Slightly Different Wording

European legal acts are enacted in all the official languages of the Union. Each language version is equally valid. However, for reasons of practicality, the legislative process regularly takes place in one working language and only when the act in question has been completely drafted is it translated into all the official languages. The usual working languages in the legislative process are French and English, the latter having become widely used nowadays. The legislative materials show that the draft of the older Regulation (EC) 1333/2008 was drawn up in French.³ The later draft of Regulation (EU) 1169/2011, on the other hand, was drafted in English.⁴

Naturally, the translation of legal acts into other languages may result in inaccuracies in the wording. Nevertheless, according to the established case law of the European Court of Justice, the English version, even as the original version does not take precedence over other linguistic versions.⁵ In the event of discrepancies between different language versions of a text of European Union law, the provision in question shall be interpreted in accordance with the general scheme and purpose of the system of which it forms part.⁶

The terminology examined here is taken from two different Regulations with years between their legislative processes. It can therefore be assumed that the persons involved did not have the exact wording of the other legal act or its predecessor regulation at

3 See <https://data.consilium.europa.eu/doc/document/ST-12181-2006-INIT/en/pdf>; <https://www.consilium.europa.eu/de/documents-publications/public-register/public-register-search/results/?AllLanguagesSearch=False&OnlyPublicDocuments=False&DocumentNumber=12181%2F06%7C12181%2F%2F06&DocumentLanguage=FR>.

4 See <https://www.consilium.europa.eu/de/documents-publications/public-register/public-register-search/results/?AllLanguagesSearch=False&OnlyPublicDocuments=False&DocumentNumber=6172%2F08%7C6172%2F%2F08&DocumentLanguage=FR>; all language versions except EN bear the indication that the original is in English.

5 Cf. ECJ, Judg. v. 22.9.2016 - C-113/15 = LMuR 2016, 233 para. 58; Judgment of 27.3.1990 - C-372/88, para. 18 f.; Judgment of 15.11.2012 - C-558/11 = BeckRS 2012, 82445 marginal no. 48; Urt. v. 17. 3. 2016 - C-112/15 = BeckRS 2016, 80492 marginal no. 36.

6 Cf. ECJ, Judg. v. 22.9.2016 - C-113/15 = LMuR 2016, 233 para. 58; Judgment of 27.3.1990 - C-372/88, para. 19; Judgment of 15.11.2012 - C-558/11 = BeckRS 2012, 82445 marginal no. 48; Urt. v. 17. 3. 2016 - C-112/15 = BeckRS 2016, 80492 para. 36.

hand. This assumption is supported by an examination of the overall wording. Not only do the terms 'technological function' and 'technological effect' (between which one might still suspect a difference) differ, but also the terms 'final product' and 'finished product' show a difference in the exact wording, although there is clearly no difference in meaning. Of the language versions examined here, the English version shows this peculiarity with regard to the designation of the final product. The German version, on the other hand, is the only one that does not use the term technological effect. This already shows that there are minor differences in the comparison of the wording due to different linguistic peculiarities in the Member States. The linguistic deviations could lead to a different interpretation of the provisions. It goes without saying, however, that the respective rule is intended to have the same meaning in all Member States. It should therefore be assumed that the described linguistic differences in the translations are to be interpreted in such a way that the meaning of the regulations is identical. Accordingly, there can be no difference between 'finished product' and 'final product' in the English version, and the German wording 'sich technologisch nicht auf das Endprodukt auswirken' must be interpreted in the same way as the uniform wording in the other comparative languages in the sense of 'no technological effect on the final product'.

The question also arises whether the different wordings of the two Regulations imply a different meaning or whether there is no material difference between 'no technological function in the finished product' and 'no technological effect on the final product'.

At first sight, it appears that both phrases are confusingly similar. If the legislator intended to create different rules, one would expect this would become clear in the wording. That is not the case here. Nevertheless, one can find an opinion in German literature which focuses on the subtle linguistic deviation in both phrases. Sticking closely to the diction in the German version, it is argued that the labelling exemption for processing aids does not apply if the substance in question has changed the character of the final product more than insignificantly. Even if the substance does not influence the final food at the time it is marketed, it is not classified as being used as a processing aid.⁷ This approach is not convincing as it is not based on the Regulation itself. Neither the

definition of processing aid itself, nor any of the other relevant provisions in this context contain the criterion of insignificance of the change to the final food. Also, the above-mentioned factual circumstances of the legislative process, from which it is apparent that the Regulations were not drafted with a view to the respective other wording, clearly contradict such interpretation.

A look at the history of the predecessor regulations to Regulation (EC) 1333/2008 and Regulation (EU) 1169/2011 also shows that there were always minor differences in the wording, sometimes only in individual language versions, which, however, were not recognisably supported by the intention of a divergent regulation. For example, the German language predecessor regulation to the current definition of processing aid in Directive 89/107/EEC did not use the term 'technological' but 'technical'. The previous provision of the current labelling derogation in Article 6(4) of Directive 79/112/EEC read in its French version 'ils ne remplissent plus de fonction technologique dans le produit fini' and thus describe the substance as no longer having a technological function in the finished product.

Another argument against an individual interpretation of the wording is that the labelling exemptions for the so-called carry-over additives on the one hand and for processing aids on the other hand are based on the same regulatory purpose. The purpose of the provision is to provide the consumer with appropriate information. It would be misleading for the consumer if an additive, which must be indicated by its class name, were to appear in the list of ingredients even though the substance does not have the stated effect. It is not relevant why this effect has been ended. If, for example, a substance was mentioned as 'Preservative [name of substance]' in the list of ingredients, the consumer would assume that the foodstuff is to some extent protected against spoilage, in particular also after opening. The example shows that such a labelling of a substance which does not have or no longer has this effect in or on the final product may not only be misleading for the consumer but also a health risk. The legislator's objective to provide the consumer with appropriate information⁸, as also

7 Preuß, ZLR 2/2017, 268, 272.

8 Cf. also already <https://data.consilium.europa.eu/doc/document/ST-6172-2008-ADD-2/en/pdf>.

documented in recitals 3, 4, 26 and 37 to Regulation 1169/2011, would be contradicted by such a result. Substances used for technological reasons that no longer exert their technological effect in the finished product should therefore not be listed in the list of ingredients.

In view of the above, a uniform interpretation of the wordings in all language versions and in both Regulations is assumed for the further assessment.

2. Linguistic Interpretation

The term 'no technological effect on the finished product' allows for a certain range of interpretations, depending on a narrow or broad understanding of the term.

- a) In a narrow understanding of the term, 'technological effect on the final product' describes an active effect in the finished food.⁹ This means that the technological effect, for the purpose of which the use of the respective substance is mainly carried out in the individual case, is either actively exerted in the final product for the first time or is still ongoing there. In this case, there is clearly a technological effect on the finished product within the meaning of the definition of processing aid and the exemption clause of Art. 20 (b) i) Regulation (EU) 1169/2011.¹⁰ Examples are classic food additive applications like colourings or preservatives.
- b) Based on a broader understanding of 'technological effect on the final product', the maintenance of a completed process result could also be considered to come under the legal term. This covers cases where the active effect of the substance is com-

pleted, but the substance cannot – even in theory – be removed without damaging the effect once achieved. Examples of use are substances whose main function is to change the texture of the final food and which become part of the product structure, e.g. magnesium chloride in tofu. In this situation, there is still a need for the substance to stay in the final product to uphold the achieved effect. In the example, the molecular structure of tofu requires the coagulant magnesium chloride; even if it was technically possible to separate this substance from the firm tofu, it would not be possible without destroying the tofu's structure. Although no active coagulation takes place in the final food, its result requires the presence of the substance which effects this in the first place.

- c) With an even broader understanding of the term, a technological effect in the final product could in addition be assumed even if the substance neither has an active function in the finished product nor an effect is preserved, i.e. the substance still present in the finished product no longer has to be present for its intended use. If it was technically possible, the substance could in this case be removed from the finished product without any perceptible change for the consumer. This interpretation includes all situations in which the result of the completed technological effect is observable. This interpretation relates to the view discussed above¹¹, according to which it is decisive whether the substance in question has changed the character of the product more than insignificantly.¹²

However, such an understanding seems to overstretch the term 'effect' or 'function'.¹³ An effect or function is not present if the substance could be completely eliminated without any perceptible change in the final product. The concept of 'technological effect' cannot be about the mere perceptibility of the result of a preceding effect, but rather requires at least a continuing effect.¹⁴ Otherwise, no substance which exercises a technological effect during processing would fulfil the requirement of 'no technological effect on the final product'. As it is a condition for any processing aid to fulfil a technological purpose, it seems that such a broad interpretation would de facto end this statutory category.

- d) According to the broadest possible interpretation, even substances which have completed their active effect, are not needed to maintain the corresponding result in the product and do not even

9 Gorny/Kuhnert, *Zusatzstoffrecht: Kommentar der Rechtsvorschriften der EU*, 2nd ed. 2013, para. 286/p.118, "if the substances or their residues still have any active effect in the food supplied to the consumer".

10 So probably *Meisterernst*, *LebensmittelR*, § 17 Technologische Stoffe und Verfahren, marginal no. 61. Cf. also *Schulz*, *ZLR* 1/2017, 1, 8.

11 See III.1.

12 Rightly criticising this approach, *Sirakova/Tschandl*, *StoffR* 4/2018, 144, 149.

13 Cf. also *Schulz*, *ZLR* 1/2017, 1, 8.

14 In this sense, *Siakova/Tschandl*, *StoffR* 4/2018, 144, 149, who rejects the examination of the technological effect in the final product on the basis of the question whether the substance in question has changed the character of the product more than insignificantly, since it is precisely the purpose of a processing aid to have an effect on the final product.

need to be thought away with regard to an effect could have a 'technological effect' or a 'technological function' within the meaning of the law. The latter is the case if the substances have left only residues in the trace range in the finished product by active removal or have been degraded by a complete reaction and are therefore no longer present in the finished product in their effective initial form. This is clearly not compatible with the regulatory purpose to create a labelling exemption. First of all, it is in general not required to label a substance which is not part of the final product as this does not constitute an ingredient. Also, as discussed in the section above the category of processing aids would essentially no longer exist if it required substances used for a technological purpose, which is naturally related to the improvement of the final food, but at the same time did not allow for the end product to be altered by its use.

Taking into account the relevant wordings and the general language usage, the interpretation which includes an active effect of the substance in the final product seems to reflect the most convincing understanding of the statutory wording. If the term is understood in the sense of the first variant of interpretation and requires a sustained active effect of the substance in the final product, the consumer information via the list of ingredients is accurate and unambiguous. The substance is still present in the final product and has an (active) effect in it. From the wording, also the second interpretation seems reasonable. If the relevant substance is required to preserve a production result that has already been completed, it continues to perform the function indicated in the list of ingredients. In this case, the consumer information is also correct. In contrast, it would stretch the meaning of the phrase 'technological effect in the final product' beyond its literal meaning and moreover confuse the consumer if the list of ingredients includes substances which do not have the labelled effect.

3. Systematic Interpretation of Art. 20 lit. b) Regulation (EU) 1169/2011

a) Art. 20 lit. b) of Regulation 1169/2011 contains both the exemption from the basic ingredient labelling requirement for food additives used as processing

aids (ii) and the exemption for so-called carry-over additives (i). The latter are substances that have or have had a technological effect in at least one ingredient of the final product, but which do not (or no longer) exert this effect in the final product. The substance becomes or can become - deliberately - a component of the final product through the addition in the intermediate product.¹⁵ Technological effects which were present in an earlier process step are no longer relevant as far as these effects do not continue in the final product.¹⁶ An original technological effect of the additive may be completely absent due to a later processing step ('new onset causality'¹⁷).¹⁸ Its absence may also be due to the fact that the ingredient with the additive is contained in the final product only in such a small proportion that the concentration of the technologically active substance in the final product is too low to exert a technological effect.¹⁹

The exemption for processing aids relates to the respective definition in Art. 3(2)(b) of Regulation (EC) 1333/2008, according to which only unintentional, technically unavoidable residues of the processing aid - which is also used for technological reasons during the treatment or processing of a foodstuff - may occur in the final product and these residues do not have any technological effect on the final product. Where technically possible, the processing aid shall be completely removed from the final product.

The labelling exceptions are therefore based on different factual situations. Nevertheless, it is not apparent that different requirements would have to be imposed on the requirement of the absence of a technical effect in the final product. Both exemptions are based on the same legislative goal, namely to ensure

¹⁵ *Sirakova/Tschandl*, StoffR 4/2018, 144,148.

¹⁶ *Voit/Grube*, 2nd ed. 2016, VO 1169/2011 Art. 20, para. 17.

¹⁷ Using this term *Voit/Grube*, 2nd ed. 2016, VO 1169/2011 Art. 20 marginal no. 18.

¹⁸ Such a situation was the basis of the decision of the ECJ, Judt. v. 28.09.1994 - Rs C-144/93 - "Diphosphate": Diphosphates, which are added to an aqueous potato mash to prevent enzymatic grey discolouration and which are subsequently used for the production of potato croquettes, no longer have a technological effect in the croquettes because the enzymatic activity has been eliminated due to the heating process; see also *Voit/Grube*, 2nd ed. 2016, VO 1169/2011 Art. 20, para. 18.

¹⁹ This was the case in the decision of the OVG Magdeburg, *Urt. v. 22.6.2011 - 3 L 149/09 - "Wurstsoljanka"*: The sausage meat added with nitrite curing salt accounted for only 12.5% of the final product, so that only 9 to 11 ppm nitrite were contained in the final product. For a (technological) effect, however, a proportion of 40 ppm nitrite would have been required.

that the consumer is provided with clear and comprehensible information about the finished product. Against this background, there is nothing to suggest that, in order to achieve this identical objective, different requirements would have to be imposed on the existence of a technological effect in the finished product depending on the classification of the relevant substance as a (carry-over) additive (i) or additive used as a processing aid (ii). The assumption of a relevant technological effect, which makes it appropriate and necessary to inform the consumer about the substance used in food production, should be based on the same requirements in both cases. Against this background, in particular, interpretative decisions already taken by the courts on the question of a technological effect in the final product are to be considered as precedent cases for both exemptions.

b) Furthermore, in the context of a systematic interpretation of the norm, the rule-exception-concept of the Regulation has to be observed. In order not to excessively limit the scope of application of the principle of comprehensive ingredient labelling according to Art. 18 of Regulation 1169/2011 and not to upset the balance of the rule-exception relationship intended by the legislator, the provision of Art. 20 of Regulation 1169/2011 must therefore be interpreted narrowly. This means that the requirements for the absence of a technological effect in the final product should not be too low. Rather, the characteristic is to be understood comprehensively in the sense that the relevant substance has no technological effect on the final product either at the time of distribution or at the time of any downstream opening, preparation or other use.²⁰

At the same time, it must be borne in mind that an exception must not be interpreted in such a way that its scope is inadmissibly reduced. Such a danger is particularly likely if, in the case of various interpretations which are all covered by the wording, an interpretation is chosen which leaves more or less no

cases of application. Such an inadmissible restriction would be the interpretation of the labelling exceptions of Art. 20 lit. b) Regulation (EU) 1169/2011 to include technological effects completed before the placing on the market of the final product as technological effect on the final product. Both for the use of additives that end up in the finished product due to a carry-over situation and for substances that are used as processing aids, there is equally the legal requirement that they were used for technological reasons. If there are any examples of use in which such use for technological reasons is not noticeable in any form in the manufactured product, this is in any case the great exception. The technological reasons for which additives and processing aids are used serve product safety and/or quality. If the condition for the labelling exception, namely that there is no technological effect on the finished product, were to be understood as meaning that the previously completed technological effect of the added substance may no longer be noted on the finished product, no (significant) scope of application would remain. Therefore, according to a systematic interpretation, there is 'no technological effect on the final product' if the substance in question does not (continue to) actively perform its function in the finished food.

4. Uniform Interpretation of Food Law

The criterion of technological effect on the finished product serves to distinguish processing aids, which do not require labelling from additives, which do. The distinction between additives and processing aids must be uniform throughout the legal system. In almost all cases, the differentiation is decided on the basis of the third element of the legal definition of processing aids, which is found in Art. 3 (2) b) III) Regulation 1333/2008. Within that third element, the technological effect on the final product very often constitutes the decisive part.

A differentiation of substances used for technological purposes cannot only be found in the regulations of general food law discussed here, but also in the specific regulations for organic food. In Regulation (EC) No 889/2008²¹ (as well as from 1.1.2022 in its follow-up Regulation (EU) 2021/1165²²), both food additives and processing aids are authorised for use in the production of organic products. While Annex VIII Section A lists food additives including carriers,

20 Schulz, EFFL 1/2015, 1, 5.

21 Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control.

22 Commission Implementing Regulation (EU) 2021/1165 of 15 July 2021 authorising certain products and substances for use in organic production and establishing their lists.

Section B of the same Annex contains authorised processing aids. A look at the substances listed there shows that many of them have an additive authorisation according to Regulation 1333/2008. From this, it can be deduced that the legislator assumes that authorised additives can equally be used as processing aids depending on their individual properties. Furthermore, as the Community legislator classifies substances as processing aids he thereby clearly indicates that they cannot have a technological effect on the finished product within the meaning of the legal definition of processing aid – otherwise the legislator would be contradicting himself.

An examination of the substances which are authorised as processing aids delivers evidence of the correct interpretation of the concept of technological effect on the finished product. By looking at some examples, it becomes clear that the legislator does not identify a technological effect on the finished product if the consumer product merely shows differences from a (theoretical) product which has been produced without the respective substance. It is not even enough that the substance is needed in the finished product to maintain the technological effect which was caused earlier in the production process.

Hydrogen peroxide (H₂O₂) is approved as a processing aid in gelatine production. At the end of the manufacturing process, the extracted gelatine is filtrated and sterilised, amongst other refining steps. During the filtration stage, hydrogen peroxide is used for sterilisation and/or bleaching.²³ H₂O₂ forms hydroxyl radical (OH⁺) and perhydroxyl ion (OOH⁻) which has the technological effect of bleaching and sterilisation of food products in general and of gelatine specifically. The hydrogen peroxide used is being decomposed into oxygen and water during processing. While the water might stay in the finished product, evidently there is neither an active effect ongoing in the end consumer product, nor is any hydrogen peroxide needed in it to maintain the sterilisation and/or bleaching effect. Naturally, the finished product is characterised by a different colour due to bleaching and a lower germ content due to sterilisation. However, this result in the finished product does not constitute a technological effect on the final product in its statutory meaning. Notably, hydrogen peroxide is not classified as a preservative although it sterilises the product during processing as it does not prevent new germ growth.

The list in Annex VIII Section B also contains coagulation agents, namely calcium sulphate and magnesium chloride. These substances are authorised as food additives and carry the numbers E 516 and E 511. The technological effect of such substances is to change the food they have been added to from a fluid to a solid or gel state. It is necessary for these substances to stay in the finished product as the stability of the end consumer product does depend on their presence.²⁴ In these cases, one can not only tell that the substances have been used during processing but they are still needed in the finished product for the technological effect to be preserved. Thus, the Community legislator even qualifies food additives which are used in such a way that their presence is needed for technological reasons in the final product, as processing aids. Consequently, the concept of ‘no technological effect on the finished product’ can only mean that the respective substance does not actively affect the finished product – however, the result of the use of the substance and also its effect of ‘actively’ preserving the result of the technological effect does not make the substance a food additive or require labelling in the list of ingredients.

5. Case Law of the European Court of Justice

As early as 1994, the European Court of Justice made a fundamental decision on the question of technological effect in the final product. The decision was based on a legal dispute in Germany. During the production process of potato croquettes, diphosphate was added to the preliminary product, a watery potato mash, in order to prevent an enzymatic grey discoloration. In the further course of production, the product was heated which terminated the enzymatic activity in the product by denaturing the enzymes. The technological effect of the diphosphate, which was visible from the time the substance was added,

23 Donnelly, T.H., McGinnis, R.S. 1977. Gelatine manufacture; peroxide liquefaction process. U.S. Patent 4,043,996; Schrieber, R., Gareis, H. 2007. Gelatine Handbook: Theory and Industrial Practice: 45-117. Weinheim: WILEY-VCH Verlag GmbH & Co. KGaA.

24 Zheng, L., Regensteinst, JM, Teng, F, Li, Y. Tofu products: A review of their raw materials, processing conditions, and packaging. *Compr Rev Food Sci Food Saf.* 2020; 19: 3683–3714, see <https://doi.org/10.1111/1541-4337.12640>.

thus ended at the process step of heating, which excluded further enzymatic activity. The effect of the use of diphosphate was – as intended - still visible in the final product, as the product did not show any grey colouring.

The ECJ ruled that ‘an additive preventing discoloration of an ingredient during its manufacture no longer serves a technological function in the finished product, where its presence in the finished product is no longer necessary to prevent the discoloration of that product’. Although this ruling concerned a carry-over-situation, it is equally applicable to the interpretation of both the exemption in Art. 20 lit. b) i) Regulation (EU) 1169/2011 and the definition of processing aids, see discussion above. The discernible result of the action of a processing aid therefore does not constitute a technological effect in the final product in the meaning of the law. An interpretation of the concept of technical effect in the final product in the sense of the third and fourth variants of interpretation mentioned above is therefore not compatible with this decision.

The judgement is based on the provision of Art. 6(4) of Directive 79/112/EEC which expired on 25.05.2000. In this act, the same exemptions from the labelling of ingredients were made, namely for additives (i) ‘whose presence in a given foodstuff is solely due to the fact that they were contained in one or more ingredients of that foodstuff, provided that they serve no technological function in the finished product’ and (ii) ‘which are used as processing aids’. Despite the age of the decision and the amendment of the relevant legal acts, the standards that can be derived from the judgement continue to apply unchanged today with regard to the subsequent Regulations. There is no evidence whatsoever that the legislator intended to change or abandon the interpretation of the previously existing regulations and features in the course of further harmonising the legal

provisions by introducing Regulations replacing the earlier Directives. This is particularly supported by the fact that the wording of the exemptions was transferred to Art. 20 lit. b) i) Regulation 1169/2011.

IV. Conclusion

It has been shown that due to their history and the different language versions of the legal acts, the phrases ‘serve no technological function in the finished product’ in the labelling exemption for carry-over-additives and ‘do not have any technological effect on the final product’ in the definition of processing aids have to be interpreted uniformly. Both the linguistic and the systematic interpretation of the provisions result in an understanding in the meaning of ‘the substance does neither perpetuate an achieved effect nor does it (still) actively effect the finished food’. It does not in itself constitute a technological effect in the meaning of the law if the result of a completed technological effect is still visible in the final food. The case law of the ECJ shows an identical interpretation of a former Directive, which can however be applied to the present provisions. Despite the results of the legal interpretation and the case law, the legislator himself has proven with the authorisation of processing aids for organic food that even the results stated before are too strict. As the concept of processing aid has to be uniform for organic and conventional food, one has to draw the conclusion from the authorisations of processing aids for organic food (especially the coagulation agents) that even the preservation of a technological effect in the final product does not come under the phrases interpreted here. Consequently, taking the will of the legislator and his legislative objective into account, a technological effect in the final product requires an active effect of the substance in the final food.