

Patent Right	Date	March 4, 2025	Court	Intellectual Property High Court, Fourth Division
	Case number	2024 (Ne) 10026		

- A case in which, regarding numerical limitation inventions (the "Inventions") of the Appellant (first-instance Plaintiff) that have the structure of "a molecular weight of 700 or more (of an ultraviolet absorber)," the court found that concerning the literal infringement caused by the Appellee's Product, etc., the molecular weight thereof does not fulfill Constituent Features of the Inventions and that concerning the infringement under the doctrine of equivalents, the fifth requirement for the doctrine is not satisfied ("there are no special circumstances to find intentional exclusion, etc.") and thus the court dismissed the claims made by the Appellant.

Case type: Appeal case of seeking injunction against patent infringement, etc.

Result: Appeal dismissed

References: Article 70, paragraphs (1) and (2) of the Patent Act

Related rights, etc.: Patent No. 4974971

Court of prior instance: Osaka District Court, 2024 (Wa) 9521

Summary of the Judgment

1. Summary of the case

(1) In the present case, the Appellant, which is a right holder of the patent for the Inventions titled "A thermoplastic resin composition and a resin molded article using the same, polarizer protective film, and a method for manufacturing a resin molded article," sought an injunction, compensation for damage, etc. against the Appellee, alleging that the Appellee's production, sale, etc. of the Appellee's Product (a thermoplastic resin composition with an ultraviolet absorber [UVA] $C_{42}H_{57}N_3O_6$ having a molecule weight of 699.91848) have been infringing the Appellant's patent right in question (the "Patent Right") (Claims 1 and 6).

(2) In the judgment in prior instance, the court ruled as follows and dismissed both of the Appellant's claims: [i] Concerning the calculation of a molecular weight of UVA used in the Inventions (inventions relating to Claims 1 to 6), there are no statements in the description in question (the "Description") about the method of calculating a molecular weight or the ground for the processing of integers, and in addition, it is not found that rounding the calculated molecular weight to a specific digit (integer) is common general technical knowledge; Accordingly, the molecular weight of UVA relating to the Appellee's Product (the "Appellee's UVA") is not the UVA having "a molecular weight of 700 or

more" in Constituent Feature 1B (Claim 1) and Constituent Feature 6B (Claim 6), and thus the literal infringement is not established; [ii] Concerning the argument of the infringement under the doctrine of equivalents, it should be construed that if an invention provides any value to limit its technical scope (numerical limitation invention) and has the significance in setting the value, the limitation of the technical scope by the value constitutes an essential part of the patented invention, unless there are any special circumstances; The difference from the molecular weight being not "700 or more" mentioned above is a difference relating to the essential part of the Inventions, and thus the first requirement for the doctrine of equivalents is not satisfied.

(3) In this judgment, the court dismissed the appeal based on the following grounds: [i] concerning the literal infringement, as determined in the judgment in prior instance, the Appellee's Product, etc. do not fulfill Constituent Features 1B and 6B, and [ii] concerning the infringement under the doctrine of equivalents, contrary to the determination made by the first instance, the first requirement for the doctrine is found to be satisfied, but the fifth requirement ("there are no special circumstances to find intentional exclusion, etc.") is not satisfied, and therefore, the infringement under the doctrine of equivalents is not established.

2. Regarding the literal infringement

The numerical range of a molecular weight, "700 or more," of an ultraviolet absorber, that is at issue in the present case, was determined by the right holder (the Appellant which is also the applicant) themselves to define the scope of the right, and this is nothing but a line drawn to separate matters that belong to the technical scope of the patented inventions (scope of monopoly) from those that do not. Given this, it is reasonable to interpret that the lower limit, "700," of the numerical range is an integer in the inherent sense, meaning that it does not include any fractions after the decimal point that are rounded down or those after the decimal point that are rounded up. The molecular weight of the Appellee's UVA is 699.91848, which is less than 700. Therefore, the Appellee's Product, etc. do not fulfill Constituent Features 1B and 6B.

3. Regarding the first requirement for the doctrine of equivalents

As mentioned above, the molecular weight of the Appellee's UVA is not included in the numerical range, "a molecular weight of 700 or more," in the Constituent Features of the Inventions. However, the aforementioned numerical range does not have critical significance, and it is understood that the Appellant adopted the numerical limitation of "700 or more" as a so-called "round number." It is difficult to consider that a substantial difference exists between a molecular weight of 699.91848 and that of 700 in the property of an ultraviolet absorber. As the aforementioned difference in the molecular weights

cannot be said to be related to the essential part of the Inventions, the first requirement for the doctrine of equivalents is satisfied.

4. Regarding the fifth requirement for the doctrine of equivalents

The molecular weight of a compound is equal to the sum of the atomic weights of the atoms that consist of the molecule, and this calculation, which is made based on the values listed in the table of atomic weights expressed by values in the fourth or fifth decimal place, was common general technical knowledge as of the filing date of the application for the Patent. Nevertheless, the Appellant intentionally uses an integer of "700 or more" as a numerical range for the structure described as "an ultraviolet absorber having a molecular weight of 700 or more" stated in Claims 1 and 6 of the scope of claims for the Patent. Moreover, as the value, "a molecular weight of 700," is not found to have a critical significance, it can be said that the value is the one that the Appellant has, so to speak, arbitrarily selected and determined. Furthermore, the Appellant could have easily set the numerical range at "699.5 or more" and determined an approach for processing values after the decimal point for the molecular weight, but actually the Appellant did not take such actions. This shows that the Appellant understands that values after the decimal point have no technical meaning and assumes that these values have no particular legal implication (giving no special meaning to the values).

Thus, as the Appellant has set the numerical range of the molecular weight at "700 or more" in the scope of claims, it is reasonable to find that the Appellant defined the technical scope of the patented inventions by drawing a line between the values "700 or more" and the values "less than 700" and objectively and visibly acknowledged that if a molecular weight decreases below the lower limit of "700" by even just a little, a product with that molecular weight is excluded from the technical range. Therefore, the fifth requirement for the doctrine of equivalents is not satisfied.

Judgment rendered on March 4, 2025

2024 (Ne) 10026

Appeal case of seeking injunction against patent infringement, etc.

(Court of prior instance: Osaka District Court, 2022 (Wa) 9521)

Date of conclusion of oral argument: January 28, 2025

Judgment

Appellant: Nippon Shokubai Co., Ltd.

Appellee: Kaneka Corporation

Main text

1. The present appeal shall be dismissed.
2. The cost of the appeal shall be borne by the Appellant.

Facts and reasons

(Abbreviations are in accordance with those determined in this judgment as well as those stated in No. 2, 1. of the "Facts and reasons" section in the judgment in prior instance.)

No. 1 Summary of the case

In the present case, the Appellant, which is the right holder of the patent in question (the "Patent"), seeks an injunction, compensation for damage, etc. against the Appellee, alleging that the Appellee's production, sale, etc. of the Appellee's Product (the resin stated in the List of the Defendant's Product in the Attachment to the judgment in prior instance) and the Appellee's use of the Appellee's Method (the method of producing the Appellee's Product) have been infringing the Appellant's patent right in question (the "Patent Right") (Claims 1 and 6).

No. 2 Judicial decisions sought by the parties

No. 2-1 The Appellant's claims (A legal ground for each claim will be shown at the section with an asterisk (*) below.)

(1) The Appellee shall not produce, sell, export, or offer to sell the Appellee's Product.

* Claim for an injunction under Article 100, paragraph (1) of the Patent Act

(2) The Appellee shall dispose of the Appellee's Product and the

relevant semi-finished products (products which are equipped with the structures respectively stated in the Explanation of the Defendant's Product in the Attachment to the judgment in prior instance but which are not finished as the Appellee's Product yet).

* Claim for disposal under Article 100, paragraph (2) of the Patent Act

(3) The Appellee shall pay to the Appellant 1 billion yen and amounts accrued thereon at the rate of 3% per annum for the period from November 10, 2022 until the completion of the payment.

* The main claim is a claim for compensation for the damage caused by the tortious act (partial claim), while the incidental claim is a claim for delay damage (at the rate as prescribed in the Civil Code and from the date following the date of service of the complaint as the initial date for the calculation of delay damage).

No. 2-2 Judgment of the court of prior instance and filing of an appeal

The court of prior instance made a judgment to dismiss all claims of the Appellant. Dissatisfied with this, the Appellant filed an appeal as shown below.

[Object of the appeal]

- The judgment in prior instance shall be revoked.
- Same as No. 2-1, (1) to (3) above.

No. 3 Basic facts (those undisputed between the parties or found based on the entire import of oral arguments)

No. 3-1 The Patent

The Appellant is the patent right holder of the Patent below.

- Patent number: Patent No. 4974971
- Title of the invention: "A thermoplastic resin composition and a resin molded article using the same, polarizer protective film, and a method for manufacturing a resin molded article"
- Filing date: June 13, 2008
- Priority dates: June 14, 2007 and August 1, 2007
- Date of establishment of registration: April 20, 2012

No. 3-2 Separate descriptions of the constituent features in the inventions in question (the "Inventions") (Invention 1 is an invention that is a product relating to a resin composition and Invention 6 is an invention that is a process relating to a method of producing the same)

(1) Invention 1 (Claim 1)

1E: A thermoplastic resin composition

1C: which contains

1A: a thermoplastic acrylic resin having in its main chain at least one ring structure selected from a lactone ring structure, a glutaric anhydride structure, a glutarimide structure, an N-substituted maleimide structure, and a maleic anhydride structure, and

1B: an ultraviolet absorber having a molecular weight of 700 or more, which has a hydroxyphenyltriazine skeleton, and

1D: which has a glass transition temperature of 110° C or higher,

1F: wherein the hydroxyphenyltriazine skeleton is a skeleton ((2-hydroxyphenyl)-1,3,5-triazine skeleton) composed of triazine and three hydroxyphenyl groups bonded to the triazine.

(2)

Invention 6 (Claim 6)

6E: A method of producing a thermoplastic resin composition

6D: to obtain a thermoplastic resin composition having a glass transition temperature of 110° C or higher

6C: by melting and mixing

6A: a thermoplastic acrylic having in its main chain at least one ring structure selected from a lactone ring structure, a glutaric anhydride structure, a glutarimide structure, an N-substituted maleimide structure, and a maleic anhydride structure, and

6B: an ultraviolet absorber having a hydroxyphenyltriazine skeleton and a molecular weight of 700 or more,

6F: wherein the hydroxyphenyltriazine skeleton is a skeleton ((2-hydroxyphenyl)-1,3,5-triazine skeleton) composed of triazine and three hydroxyphenyl groups bonded to the triazine.

No. 3-3

Technical features of the Inventions

The technical features of the Inventions disclosed in the description in question (the "Description") are as below.

(1)

[Technical field]

The present invention relates to a thermoplastic resin composition suitable as a heat-resistant transparent material, as well as a resin molded article made of the resin composition and a polarizer protective film that is a specific example of the resin molded article. The present invention also relates to a polarizing plate including the protective film and an image display apparatus including the polarizing plate, and

further relates to a method of producing the resin molded article.
([0001])

(2) [Background art]

(2) A. Thermoplastic acrylic resins (hereinafter simply referred to as "acrylic resins") typified by polymethylmethacrylate (PMMA) not only have excellent optical properties such as high light transmittance but also have well balanced mechanical strength, molding processability, and surface hardness. Therefore, such thermoplastic acrylic resins are used widely as transparent materials for various industrial products such as automobiles and home electric appliances.
([0002])

(2) B. Acrylic resins sometimes may turn yellow and lose their transparency when they are exposed to light including ultraviolet rays. A known method for preventing such a problem is an addition of an ultraviolet absorber (UVA). If a commonly-used UVA is added, however, foaming may occur or the UVA may bleed out during the molding of an acrylic resin composition containing the UVA. In addition, evaporation of the UVA may occur due to the heat applied during the molding, and as a result, the ultraviolet absorbing ability of the obtained resin molded article may decrease, or a molding machine may be contaminated by the evaporated UVA. ([0003])

(2) C. As the glass transition temperature (T_g) of a resin or a resin composition increases, the higher molding temperature is required. Therefore, when an UVA is added to an acrylic resin having a ring structure in its main chain, foaming or bleed-out of the UVA occurs easily in the resulting resin molded article. In addition, as the UVA increasingly evaporates during the molding, the ultraviolet absorbing ability decreases and the molding machine is contaminated more easily. ([0005])

(2) D. In view of these problems, triazine-based compounds, benzotriazole-based compounds, and benzophenone-based compounds, which are considered to be highly effective in absorbing ultraviolet light even if only a small amount thereof is added, have been used as UVAs in combination with acrylic resins. JP2006-328334 mentioned above also discloses these compounds. ([0006])

(3) [Problem to be solved by the invention]

- (3) A. These compounds, however, still have a problem of compatibility with an acrylic resin having a ring structure in its main chain. The use of these compounds does not necessarily suppress the occurrence of foaming and bleed-out sufficiently during the molding thereof at a high temperature. When an optical member is formed from a resin composition containing an acrylic resin and a UVA, the resin composition is sometimes filtered through a polymer filter to reduce the defects in the outer appearance of the resulting optical member. In this case, a higher molding temperature is needed to mold the resin composition. As the molding temperature increases, not only do foaming and bleed-out occur more easily, but also various problems arising from the evaporation of the UVA (such as a decrease in the ultraviolet absorbing ability in the resulting resin molded article, and contamination of the molding machine due to the evaporated UVA) occur more easily. ([0007])
- (3) B. It is an object of the present invention to provide a resin composition containing an acrylic resin and a UVA. While this resin composition has excellent heat resistance because of its high glass transition temperature, foaming and bleed-out can be suppressed and the problems arising from the evaporation of the UVA can be reduced even during the molding of the resin composition at a high temperature. ([0008])
- (4) [Means for solving problem]
- (4) A. The resin composition of the present invention contains a thermoplastic acrylic resin (resin (A)) and an ultraviolet absorber (UVA (B)) having a molecular weight of 700 or more, and has a glass transition temperature (T_g) of 110° C or higher. The resin (A) contains in its main chain at least one ring structure selected from a lactone ring structure, a glutaric anhydride structure, a glutarimide structure, an N-substituted maleimide structure, and a maleic anhydride structure. The UVA (B) has a hydroxyphenyltriazine skeleton. Here, the hydroxyphenyltriazine skeleton is a skeleton ((2-hydroxyphenyl)-1,3,5-triazine skeleton) composed of triazine and three hydroxyphenyl groups bonded to the triazine. ([0009])
- (4) B. According to the method of producing a thermoplastic resin composition of the present invention, a thermoplastic acrylic resin

having in its main chain at least one ring structure selected from a lactone ring structure, a glutaric anhydride structure, a glutarimide structure, an N-substituted maleimide structure, and a maleic anhydride structure is polymerized, and then an ultraviolet absorber having a molecular weight of 700 or more having a hydroxyphenyltriazine skeleton and the thermoplastic acrylic resin are melted and mixed, thereby obtaining a thermoplastic resin composition having a glass transition temperature of 110° C or higher. ([0010])

(5) [Effect of the invention]

The resin composition of the present invention has excellent heat resistance because of its high glass transition temperature (T_g) of 110° C or higher, and also foaming and bleed-out can be suppressed and the problems arising from the evaporation of the UVA can be reduced even during the molding of the resin composition at a high temperature. ([0015])

No. 3-4 The Appellee's Product and Appellee's Method

The molecular weight of the Appellee's UVA (C₄₂H₅₇N₃O₆) used in the Appellee's Product and Appellee's Method is 699.91848 (as is found in No. 4, 1., (2) of the "Facts and reasons" section of the judgment in prior instance; in the present instance, both parties have developed their arguments based on this molecular weight).

There are disputes as described below regarding whether the Appellee's Product and Appellee's Method fulfill Constituent Features 1B and 6B in terms of the numerical range of the molecular weight, while they fulfill all Constituent Features of the Inventions 1 and 6, except for those mentioned above.

No. 4 Issues

No. 4-1 Issue regarding whether the Appellee's Product and Appellee's Method fall within the technical scope of the Inventions

The Appellant argues to the effect that as "700" of the "molecular weight of 700 or more" described in Constituent Features 1B and 6B should be understood as a value rounded at the first decimal place to the nearest integer, the aforementioned Constituent Features should be interpreted as meaning "699.5 or more" and that even if this is not interpreted in that manner, "around 700 or more" is sufficient to be regarded as an essential part of the Inventions. The parties are at

dispute regarding whether the Appellee's Product and Appellee's Method fall within the technical scope of the Inventions in terms of [i] the fulfillment of Constituent Features 1B and 6B (Issue 1-1) and [ii] the validity of the infringement under the doctrine of equivalents (Issue 1-2).

No. 4-2 Issues regarding patent validity

The Appellee has been arguing [i] the grounds for invalidation of the Inventions due to the lack of an inventive step since the prior instance (Issue 2-1), and, in the present instance, the Appellee has added the further arguments of [ii] the grounds for invalidation of the Inventions due to the violation of the support requirement (Issue 2-2) and [iii] the grounds for invalidation of the Inventions due to the violation of the clarity requirement (Issue 2-3). Meanwhile, the Appellant has added to its arguments a re-defense for correction against the aforementioned [i] (Issue 2-4).

No. 4-3 Issue regarding the damage doctrine

The parties are at dispute over the damage incurred by the Appellant (Issue 3).

No. 6 Outline of the judgment of this court

This court finds that concerning the literal infringement, the Appellee's Product and Appellee's Method do not fulfill Constituent Features 1B and 6B and that concerning the infringement under the doctrine of equivalents, the fifth requirement for the doctrine is not satisfied and that thus the Appellee's Product and Appellee's Method do not fall within the technical scope of the Inventions. (The judgment of this court differs from that of the prior instance in its reasoning for denying the application of the doctrine of equivalents, but the conclusion is the same.) Consequently, this court determines that all of the Appellant's claims should be dismissed. The reasons are as follows.

No. 7 Regarding the technological significance of the numerical limitation, i.e., "molecular weight of 700 or more"

No. 7-1 As a premise for examining Issue 1-1 (the fulfillment of Constituent Features 1B and 6B) and Issue 1-2 (the validity of the infringement under the doctrine of equivalents), this court will clarify the technological significance of the numerical limitation relating to Constituent Features 1B and 6B, i.e., "a molecular weight of 700 or

more (of an ultraviolet absorber)."

No. 7-2

The Description describes the molecular weight of an ultraviolet absorber (UVA) as below.

(1)

[0061] "The UVA (B) has a molecular weight of 700 or more. Preferably, the molecular weight is 800 or more, and more preferably 900 or more. On the other hand, when the molecular weight exceeds 10000, the compatibility with the resin (A) decreases, and thereby, the optical properties, such as a hue and a haze, of the resin molded article as an end product are degraded."

[0066] "The structure of the UVA (B) is not particularly limited as long as it has a molecular weight of 700 or more, and it is preferable that the UVA (B) has a hydroxyphenyltriazine skeleton. A hydroxyphenyltriazine skeleton is a skeleton ((2-hydroxyphenyl)-1,3,5-triazine skeleton) composed of triazine and three hydroxyphenyl groups bonded to the triazine. A hydrogen atom of a hydroxyl group in a hydroxyphenyl group forms a hydrogen bond with a nitrogen atom of triazine. The hydrogen bond thus formed enhances the effect of phenyltriazine as a chromophore. Since three hydrogen bonds are formed in the UVA (B), the effect of phenyltriazine as a chromophore further can be increased, and thereby, high ultraviolet absorbing ability can be obtained with a small amount of UVA (B) added."

(2)

Moreover, looking at the working examples and comparative examples of the resin composition, experimental results measuring foaming property, transmittance, and absorbance (sublimation property and scattering property) are shown in Table 1. The molecular weight of an added ultraviolet absorber (UVA) is "958" in Working Examples 1 to 5, "676" in Comparative Example 4, "659" in Comparative Examples 1 and 2, and "315" in Comparative Example 3. A comprehensive evaluation of these working and comparative examples shows that as the molecular weight of UVA increases, its foaming property is suppressed and its absorbance decreases (while no clear correlation is seen as for the transmittance). However, no results have been shown to indicate that the molecular weight has a significant impact on the effects of the Inventions (suppression of a foaming property and prevention of UVA evaporation) at a molecular weight of 700 or the values thereabouts as a threshold.

- No. 7-3 Based on the above, the numerical limitation of "a molecular weight of 700 or more (of an ultraviolet absorber)" in Constituent Features 1B and 6B of the Inventions does not have so-called critical significance (as acknowledged also by the Appellant). In other words, it is considered that the molecular weight that has technological significance in relation to the effects of the Inventions is not precisely 700 but rather a value that spans a fairly wide range (the range between "958" used in the Working Examples and "676" used in the Comparative Example wherein the molecular weight was the largest), and it is understood that the Appellant adopted the numerical limitation of "700 or more" as a so-called "round number." (The same understanding is also applied in Exhibit Ko 21.)
- No.8 Regarding Issue 1-1 (the fulfillment of Constituent Features 1B and 6B)
- No. 8-1 The Appellant argues to the effect that as "700" of the "molecular weight of 700 or more" in Constituent Features 1B and 6B should be understood as a value rounded at the first decimal place to the nearest integer, the aforementioned Constituent Features should be interpreted as meaning "699.5 or more." There is a question as to whether this argument is appropriate.
- As acknowledged by the Appellant, there is no description that uncovers the method of calculating a molecular weight or the processing of values after the decimal point in either the scope of claims in question per se (the "Scope of Claims") or the Description. Concerning this point, arguing that this should be based on the common general technical knowledge of persons ordinarily skilled in the art, the Appellant, specifically, cited [i] the standards shown in the "Method of rounding values" (Z8401) section of "JIS Handbook 49/Chemical Analysis 2007" (Exhibit Ko 8) (referred to below as the "JIS Standards") and submitted [ii] written expert opinions (Exhibits Ko 21 to 25). We will examine them step by step below.
- No. 8-2 Regarding the JIS Standards
- No. 8-1 (1) The aforementioned JIS Handbook provides the following descriptions.

Notes

1. Target scope: These standards stipulate the methods of rounding

decimal values that are used in the mining industry.

2. Method of rounding values

a) The term "rounding" refers to the replacement of a given value with a value selected from a sequence of values consisting of integer multiples according to a certain rounding interval. This replaced value is called a rounded value.

Example 1. Rounding interval: 0.1

Integer multiples: 12.1, 12.2, 12.3, 12.4, ...

Example 2. Rounding interval: 10

Integer multiples: 1210, 1220, 1230, 1240, ...

b) If there is only one integer multiple closest to the given value, choose the value obtained by rounding the multiple.

Example 1. Rounding interval: 0.1

Given value	Rounded value
12.223	12.2
12.251	12.3
12.275	12.3

Example 2. Rounding interval: 10

Given value	Rounded value
1222.3	1220
1225.1	1230
1227.5	1230

c) If there are two adjacent integer multiples that are equally close to the given value, Rule A below should be adopted.

Rule A Choose the even multiple as a rounded value.

Example 1. Rounding interval: 0.1

Given value	Rounded value
12.25	12.2
12.35	12.4

Example 2. Rounding interval: 10

Given value	Rounded value
1225.0	1220
1235.0	1240

Remarks: Rule A has a special advantage in that, for example, errors resulting from rounding become minimal when a series of measurement values are processed in this way.

Reference 1. In the case of c), Rule B below may also be applied.

Rule B Choose the larger integer multiple as a rounded value.

Example 1. Rounding interval: 0.1

Given value	Rounded value
12.25	12.3
12.35	12.4

Example 2. Rounding interval: 10

Given value	Rounded value
1225.0	1230
1235.0	1240

e) Rules A and B should be applied only when you have no standards to take into account for choosing a rounded value. When you need to take into account any safety requirements or certain restrictions, it may be preferable to always keep a certain rounding method, e.g., biased

rounding.

No. 8-2 (2)

As described above, the JIS Standards show the methods of rounding a "given value" according to a certain "rounding interval." In this context, it is construed that these "given values" are assumed to be predetermined values with a fraction to be processed (rounding up, rounding down, etc.). In contrast, the numerical limitation of "700 or more" in Constituent Features 1B and 6B, which is at issue in the present case, is a value arbitrarily determined by the right holder (the applicant) in order to define the scope of the right, and thus this should be called a "value that was created" so to speak. This nature that the aforementioned numerical limitation has is even more apparent in the Inventions in which the relevant value does not have critical significance.

As mentioned above, since this value was arbitrarily determined by the Appellant, no need or validity is found for the Appellant to take a roundabout and misleading approach such as first determining a "value with a fraction" as a number defining the technical scope of the Inventions in its inherent sense and then "rounding" that number and deliberately including the "rounded value" in the Scope of Claims. Seen from the standpoint of a third party who reads the Scope of Claims, it is difficult to consider that the third party understands that, apart from the indication of the numerical range, "700 or more," another "value before rounding" exists behind the value, 700, and that the underlying value is the one that exactly defines the technical scope of the Inventions.

No. 8-2(3)

In addition, if the application of the JIS Standards is upheld here, the following issue may arise.

Namely, the JIS Standards do not stipulate any rules regarding at which place (digit) before or after the decimal point a value should be rounded (choice of a "rounding interval"). The Appellant's argument is based on a premise that the rounding interval is set at "1," but there is no clear ground for such an interpretation. Rather, based on the statements in the Description (No. 7-2 above), it is not surprising that the rounding interval for the molecular weight of UVA, "700", would be set at "10." (It would be possible to make a logical explanation on the differentiation between the Working Examples and the

Comparative Examples.)

- Rounding interval: 10

- Integer multiples: 680, 690, 700, 710, 720 ...

As the rounding interval increases, the scope of the right expands. However, the JIS Standards, which allow users to arbitrarily choose a rounding interval as mentioned above, cannot be said to be appropriate standards for claim interpretation.

Moreover, as the JIS Standards provide some options, including room for users to choose Rule A or Rule B, acceptable exception rules (see Item "e")), the interpretation argued by the Appellant is not always the result unambiguously derived from the Standards.

Based on the above, it cannot be said that the JIS Standards become a ground for the common general technical knowledge argued by the Appellant.

No. 8-3 Regarding the written expert opinions

Next, we will examine the written expert opinions, which the Appellant submitted to show the common general technical knowledge of persons ordinarily skilled in the art.

No. 8-3 (1) The written expert opinions (Exhibits Ko 21 to 25) describe the following facts in particular: [i] The molecular weight (mass) of a molecule (compound) is usually expressed by an integer in textbooks and dictionaries; When precise accuracy is needed for a specific molecule, a value to the first or second decimal place or so is used, and when a precise mass is needed for compound identification, a value to the fourth or fifth decimal place is used; [ii] When a molecular weight is expressed by an integer, a value after the decimal point is usually considered out of the range of significant figures, and the value is usually expressed as the one that has been rounded at the first decimal place to the nearest integer; [iii] It is difficult to consider that a substantial difference exists between a molecular weight of 699.91848 and that of 700.00000 in the property of an ultraviolet absorber; and [iv] Scientifically speaking, 700 is different from 700.0 or 700.0000, and the comparison of the values with different numbers of digits per se is not appropriate.

The written expert opinions (Exhibits Otsu 6 to 9) submitted by the Appellee cannot be said to be those that overturn the aforementioned

contents, and thus it is found that the common general technical knowledge as stated in the aforementioned [i] to [iv] exists. However, it is important to note that the common general technical knowledge in [ii] above is applicable only in terms of how a person ordinarily skilled in the art who reads the statement, "a molecular weight of 700 (or more) of an ultraviolet absorber," in a technical document, etc. generally understands the meaning of the molecular weight expressed by an integer.

No. 8-3 (2) In view of the facts above, even if the common general technical knowledge in the aforementioned [ii] exists, that common general technical knowledge is not always directly applicable in interpreting the significance of a numerical limitation stated in the scope of claims as a matter to define the invention (claim interpretation).

In other words, the scope of claims is to define the technical scope of a patented invention (Article 70, paragraph (1) of the Patent Act) and is required to play a role as a "written publication of the right" that ensures predictability for third parties. Accordingly, the claim cannot be interpreted without considering the perspectives unique to the Patent Act.

Seen from this viewpoint, the numerical range of "700 or more" (a molecular weight of an ultraviolet absorber) that is at issue in the present case was determined by the right holder (the applicant) themselves to define the scope of the right, and this is nothing but a line drawn to separate matters that belong to the technical scope of the patented inventions (scope of monopoly) from those that do not. Given this, it is reasonable to interpret that the lower limit, "700," of the numerical range is an integer in the inherent sense, meaning that it does not include any fractions after the decimal point that are rounded down or those after the decimal point that are rounded up.

If the right holder intended to introduce a different object or role to the numerical range, it would be necessary to explain the method of calculating a molecular weight, the processing of values after the decimal point, etc. in the scope of claims or in the description. Actually, as stated above, there are no such statements in the Description, etc. Based on the above, it should be construed that the Constituent Features, "a molecular weight of 700 or more," are not fulfilled if a

molecular weight decreases below 700 even just by 0.00001. (Namely, the relevant invention does not fall within the technical scope of the Inventions.)

Incidentally, when a molecular weight is expressed by an integer in a technical document, etc., the common general technical knowledge regarding the general meaning thereof is as stated in No. 8-3 (1) ([ii]) above. Even so, however, this is an issue in a different area from a legal issue, i.e., interpretation of the technical scope of an invention (claim interpretation). Moreover, as stated in No. 8-3 (1) ([iv]) above, it is generally considered that the comparison of the values with different numbers of digits is not appropriate, but still, the significance of a numerical limitation in the scope of claims is different from that in a situation where two values are simply compared. Accordingly, this point, too, does not affect the aforementioned finding and determinations.

No. 8-4 Summary

As described above, the claim interpretation argued by the Appellant (i.e., the argument to the effect that as "700" of the "molecular weight of 700 or more" should be understood as a value rounded at the first decimal place to the nearest integer, the aforementioned Constituent Features should be interpreted as meaning "699.5 or more.") cannot be adopted. The molecular weight of the Appellee's UVA is 699.91848, which is less than 700. Therefore, the Appellee's Product does not fulfill Constituent Feature 1B, and the Appellee's Method does not fulfill Constituent Feature 6B.

No. 9 Issue 1-2 (the validity of the infringement under the doctrine of equivalents)

No. 9-1 Regarding the first requirement for the doctrine of equivalents (non-essential part)

The molecular weight of the Appellee's UVA is 699.91848, and this is not included in the numerical range, "a molecular weight of 700 or more," in Constituent Features 1B and 6B. However, the aforementioned numerical range does not have critical significance, and it is considered that the molecular weight, which inherently has technological significance in relation to the effects of the Inventions, is not precisely 700 but rather a value that spans a fairly wide range. In

this context, it is understood that the Appellant adopted the numerical limitation of "700 or more" as a so-called "round number" (No. 7-3 above). Moreover, it is found that it is difficult to consider that a substantial difference exists between a molecular weight of 699.91848 and that of 700 in the property of an ultraviolet absorber (No. 8-3 (1), [iii] above).

Consequently, it is construed that the aforementioned difference in the molecular weights cannot be said to be related to the essential part of the Inventions. In the present case, the first requirement for the doctrine of equivalents is satisfied.

No. 9-2 Regarding the fifth requirement for the doctrine of equivalents (special circumstances to find intentional exclusion from the scope of claims, etc.)

No. 9-2 (1) The fifth requirement for the doctrine of equivalents stipulates that "there are no special circumstances, such as a case where a product in question, etc. is equivalent to a product that is intentionally excluded from the scope of claims during the procedure for filing an application for the patented invention" (the judgment of the Third Petty Bench of the Supreme Court on February 24, 1998; Minshu Vol. 52, No. 1, at 113), and the alleged infringer's side bears the burden of proof.

No. 9-2 (2) The statements in the scope of claims have a function to define the technical scope of a patented invention (Article 70, paragraph (1) of the Patent Act) and are required to play a role as a "written publication of the right" for third parties. The statement of "a molecular weight of 700 or more" in Constituent Features 1B and 6B constitutes, as a basic premise in the present case, the statement of the scope of claims that plays such role above, rather than the statement in a general technical document.

In addition, according to the evidence (Exhibits Ko 8 and 9), the molecular weight of a compound is equal to the sum of the atomic weights of the atoms consisting of the molecule, and while there are historical changes in the selection of atomic weights, the selection is made based on the values listed in the atomic weight table, in which atomic weights are expressed by values in the fourth or fifth decimal place. Therefore, it is found that calculating a molecular weight as a value with such values after the decimal point was common general

technical knowledge as of the filing date of the application for the Patent. Nevertheless, the Appellant intentionally uses an integer of "700 or more" as a numerical range for the structure described as "an ultraviolet absorber having a molecular weight of 700 or more" stated in Claims 1 and 6 of the scope of claims for the Patent.

In the present case, as the value, "a molecular weight of 700," is not found to have a critical significance, it can be said that the value is the one that the Appellant has, so to speak, arbitrarily selected and determined. Moreover, it can be construed that the Appellant could have easily set the numerical range at "699.5 or more" and determined an approach for processing values after the decimal point for the molecular weight, but actually the Appellant did not take such actions. This should be construed that the Appellant understands that values after the decimal point have no technical meaning and assumes that these values have no particular legal implication (giving no special meaning to the values).

Thus, as the Appellant has set the numerical range of the molecular weight at "700 or more" in the scope of claims, it is reasonable to find that the Appellant defined the technical scope of the patented inventions by drawing a line between the values "700 or more" and the values "less than 700" and objectively and visibly acknowledged that if a molecular weight decreases below the lower limit of "700" by even just a little, a product with that molecular weight is excluded from the technical scope.

No. 9-2 (3) The Appellant argues to the effect that the Supreme Court judgment in 2017 restricted cases that can be evaluated as intentionally excluding a certain product to those where a technology that can substitute for the structure stated in the scope of claims is described in the description objectively and visibly, and that the judgment does not consider the applicant's subjective recognition as the only issue. However, the judgment indicates the determination on so-called "functionally equivalent alternatives available at the time of filing the application" and this is not appropriate to the present case. Moreover, it cannot be said that the determination in No. 9-2 (2) above contradicts the intention of the Supreme Court judgment, which emphasizes the function of publishing the statements in the scope of claims.

No. 9-2 (4) As described above, the Appellee's Product and Appellee's Method, which use the Appellee's UVA with an ultraviolet absorber having a molecular weight of 699.91848 (the value that is inherently less than 700 and that is included in "700 or more" only after rounding the first decimal place to the nearest integer) should be said to have been intentionally excluded from the scope of claims during the procedure for filing an application for the patented inventions. Accordingly, in the present case, the fifth requirement for the doctrine of equivalents is not satisfied, and thus the infringement under the doctrine of equivalents argued by the Appellant is not established.

No. 10 Based on the above, without considering the rest of the points, the claims made by the Appellant are groundless and the judgment in prior instance, which dismissed all of the Appellant's claims, is appropriate in its conclusion at least. Thus, the appeal is groundless and therefore dismissed. Accordingly, the judgment is rendered as indicated in the main text.

Intellectual Property High Court, Fourth Division

Presiding judge: MIYASAKA Masatoshi

Judge: MOTOYOSHI Hiroyuki

Judge: IWAI Naoyuki