JCIA Standards and Related Notifications for Sun Protection Factor (SPF), UVA protection Grade (PA) and Water Resistance for UV Protection (Uploaded on September 1st, 2022)

Japan Cosmetic Industry Association
Technical Committee
Photo-Protection Subcommittee

Preamble

Japan Cosmetic Industry Association (JCIA) Standards are voluntary standards to be compliant among all the cosmetic brands which run business in Japanese market. Although JCIA Standards are not legally binding, they are acknowledged as de facto standards by regulatory authority in Japan and should be respected in terms of consumers' trust.

This document is compiled to introduce JCIA Standards and related notifications in English as reference. Only original Japanese text of JCIA Standards and notifications have effect, and the English translation should be solely used to aid in the understanding of JCIA Standards and notifications. Please take note that for all purposes of interpreting and applying JCIA Standards to any individual issue or dispute, users should consult the original Japanese texts.

We will appreciate your understanding and cooperation to our industrial voluntary activities.

Japan Cosmetic Industry Association Secretariat

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JCIA Notification No. 20220002
June 3, 2022

To: Members of the Japan Cosmetic Industry Association

JCIA standards for the methods to determine the sun protection factor (SPF) (Addendum)

We would like to take this opportunity to extend our best wishes to you all.
We, Japan Cosmetic Industry Association (JCIA), use the ”Revision of the JCIA standards for the methods to determine the sun protection factor (SPF)” (JCIA Notification No. 2020004) dated February 21, 2020 as the voluntary standards. For ISO 24444:2019 incorporated into the voluntary standards, the International Organization for Standardization (ISO) issued partial modifications in a form of ISO 24444:2019/Amd.1:2022 in March 2022.
Please conform to ISO 24444:2019/Amd.1:2022 in determination of SPF in the future. Please note the following main changes from ISO 24444:2019. We appreciate your collaboration.
ISO24444:2019/Amd.1:2022 can be purchased from the Japanese Standards Association.
https://webdesk.jsa.or.jp/books/W11M0090/index/?bunsyo_id=ISO+24444%3A2019%2FAmd+1%3A2022

Masato Kitagaki
Chair of Technical Committee
Japan Cosmetic Industry Association

Main modifications by “ISO24444:2019/Amd.1:2022”

(1) [6.4.5.2] In evaluation of uniformity of beam intensity of source of ultraviolet radiation, a requirement that “uniformity of individual beam should not be less than 85%” has been added to the requirement that the average uniformity of the beam of both large and small beam size solar simulators should be greater than or equal to 90%.
(2) [8.2.2] In the provision of reference standard sunscreens to be used to determine SPF for product labeling, “P2 or P3 reference standard sunscreen should be used” when labeled SPF is 24 or lower has been changed to “all reference standard sunscreens described in Annex C may be used for each test subject.”
(3) [10.3] Concerning the statistic criterion for calculation of SPF using measured results, the change has been made from “the criterion is applicable to test products and reference standard sunscreens” to “the criterion is applicable to test products only.” For reference standard

sunscreens, the mean SPF value of each reference standard sunscreen needs to be in the acceptable range described in Annex C.
(4) [C5.3.3] The viscosity of Reference Standard Sunscreen P6 in Annex C has been changed from "16000 $mPas^{-1}$ to 19000 $mPas^{-1}$" to "17000 $mPas^{-1}$ to 19000 $mPas^{-1}$."

End of Document

JCIA Notification No. 2020004
February 21, 2020

To members of the Japan Cosmetic Industry Association

JCIA standards for the methods to determine the sun protection factor (SPF)

We would like to take this opportunity to extend our best wishes to you all.
We, Japan Cosmetic Industry Association (JCIA), use the "Revision of the JCIA standards for the methods to determine the sun protection factor (SPF)" (JCIA Notification No. 2011012) dated October 5, 2011 as the voluntary standards. For ISO 24444:2010 incorporated into the voluntary standards, the International Organization for Standardization (ISO) issued ISO 24444:2019 as the second edition in December 2019. Please conform to ISO 24444:2019 in determination of SPF in the future. Please note the following main changes from ISO 24444:2010.

Sincerely yours,

Yoichi Shimatani
Chair of Technical Committee
Japan Cosmetic Industry Association

ISO 24444:2019: Main changes from ISO 24444:2010

(1) The definition of the minimal erythema dose (MED) has been changed. Erythema at the time of MED determination has been changed from "the first perceptible unambiguous erythema with defined borders appearing over most of the field of UV exposure" to "the first perceptible unambiguous erythema with defined borders appearing over more than 50 % of UV exposure subsite."
(2) The choice of eligible test subjects is now based solely on individual typology angle (ITA°), abolishing Fitzpatrick skin typing. New requirements have been added, including the specification of the range of mean ITA° of test subjects and the need for allocating test subjects to a specific range of ITA°.
(3) Three new reference standard samples (P5, 30.6; P6, 43.0; P8, 63.1) have been added for products with SPF equal to 25 or higher.
(4) Sample application procedures have been described in greater detail by the product type .
(5) For beam uniformity of light source, the confirmation method has been defined by solar simulator type using either UV sensitive film or UV sensor methods. A requirement for uniformity greater than or equal to 90% has been added.
(6) An annex has been added with photographic examples of erythema responses with guidelines for grading.

(7) The data rejection criteria have been described in greater detail by case, e.g. the rejection because all subsites present an erythema, or the rejection because illogical progression.

End of document

23JCIA No. 12
October 5, 2011

TO: Japan Cosmetic Industry Association members
FROM: Shinzo Maeda, President, Japan Cosmetic Industry Association

The Revisions to Japan Cosmetic Industry Association SPF Measurement Standards

Dear members,

Japan Cosmetic Industry Association (JCIA) on July 10, 2007 published Japan Cosmetic Industry Association SPF Measurement Standards (2007 revised edition), which we have been administering as JCIA voluntary standards for SPF measurement. On November 15, 2010,ISO (International Organization for Standardization) published an *in vivo* SPF test method as an international standard, in response to which we have revised the JCIA standards as per the attached.

When indicating the SPF on products, you are asked to continue as before using data calculated based on measurements performed in accord with JCIA voluntary standards.

Japan Cosmetic Industry Association SPF Measurement Standards (2011 revised edition)

1. SPF measurement method

Measurements shall be carried out based on ISO 24444 Cosmetics — Sun protection test methods — *In vivo* determination of the sun protection factor (SPF).

2. SPF calculation method

SPF shall be expressed as an integer value resulting after discarding the decimal portion of the SPF found as the arithmetic mean of all individual SPFi values obtained in measurements based on ISO 24444.

Note that in case of SPF of 50 or above, it shall be expressed as SPF 50+ if the lower limit of the 95% confidence interval is 51.0 or above, and as SPF 50 if the lower limit is less than 51.0.

3. Effective date of this standard

October 5, 2011

End of document

October 5, 2011

TO: Japan Cosmetic Industry Association members
FROM: Tsunehiko Iwai, Chairman of Technical Committee, Japan Cosmetic Industry Association

Information related the Revisions to Japan Cosmetic Industry Association SPF Measurement Standards

Dear members,

Please be advised that the JCIA has revised our SPF measurement standards as described in 23JCIA No. 12 of October 5, 2011, " The revisions to Japan Cosmetic Industry Association SPF Measurement Standards."

ISO 24444 incorporated in the revised standards is an international standard issued by ISO (International Organization for Standardization) and is therefore expected to become established as an international measurement method.

I would like to call your attention to the following points in particular regarding the revision of the JCIA standards.

1. Because of its status as an international standard, ISO 24444 was issued in English. A Japanese edition of ISO 24444 has been requested of the Japan Standards Association for the convenience of our Japanese members and is due to be distributed later this year.

2. The notification of November 30, 2010, "About the Japan Cosmetic Industry Association SPF Measurement Standards" described the main differences between the Japan Cosmetic Industry Association SPF Measurement Standards (2007 revised edition) and the ISO *in vivo* SPF measurement method issued as ISO 24444 (Cosmetics -- Sun protection test methods -- *In vivo* determination of the sun protection factor (SPF)). Here we note one additional point of difference between the two. Please see the attached.

3. When indicating the SPF on a product, etc., it is permissible to append a statement indicating that the measurements were made based on the new voluntary standard, for example, "value measured based on ISO 24444."
   Such a statement should not, however, use large letters, color, or other emphasis, since that may be in violation of the Standards of Fair Advertising Practices of Drugs, Quasi-drugs, cosmetics and Medical Devices.

   Main differences between the Japan Cosmetic Industry Association SPF Measurement Standards (2007 revised edition) and the ISO *in vivo* SPF measurement method

   1. Additional provisions
   (1) Prohibition of using subjects who are all of the same skin phototype in an SPF test.
   (2) Setting of age restrictions (no subjects older than 70 years).
   (3) Specification of room wall colors for visual assessment of MED.
   (4) Addition of items for inclusion on test report: subject gender and age, %

RCEE compliance, reference sunscreen used, protocol deviations, etc.

2. Changed provisions

(1) Frequency of spectroradiometric checking of UV solar simulator changed from once per year to "at least once every 18 months or after 3000 hours of lamp running time."

(2) Timing of preliminary UV exposures for estimating MED of unprotected site changed from the previous day to "up to one week before the test."

(3) Upper limit of % RCEE in spectral range of <290nm changed from <1% to <0.1%.

(4) For reference sunscreen formulations (P2, P3, P7), change in specified mean SPF and acceptance limits.

(5) Maximum geometric progression of incremental UV doses for expected SPF > 25 changed from 1.12 to 1.15.

(Prepared September 15, 2011 by Japan Cosmetic Industry Association Technical Committee, UV Task Force.)

End of document

2. Protection Grade of UVA

(1) Notification: JCIA standards for the methods to determine the UVA Protection Efficacy for Protection grade of UVA (PA) – Main changes associated with newly published ISO24442 (2022) (September 1,2022)

(2) Notification: The Revisions to Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy (June 20, 2012)

(3) Notification: Information related the Revisions to Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy (June 12, 2012)

JCIA Notification No. 20220006
September 01, 2022

To Members of the Japan Cosmetic Industry Association

JCIA standards for the methods to determine the UVA Protection Efficacy for Protection grade of UVA (PA)- Main changes associated with newly published ISO24442 (2022)

We would like to take this opportunity to extend our best wishes to you all.
We, Japan Cosmetic Industry Association (JCIA), use the "Revision of the Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy" (24JCIA Notification No.3) dated June 20, 2012 as the voluntary standards. For ISO 24442:2012 incorporated into the voluntary standards, the International Organization for Standardization (ISO) issued ISO 24442:2022 as the second edition in June 2022.
Please conform to ISO 24442:2022 in determination of UVA protection factor (UVAPF) in the future. Please note the following main changes from ISO 24442:2012. We appreciate your collaboration.
ISO24442:2022 can be purchased from the Japanese Standards Association.
https://webdesk.jsa.or.jp/books/W11M0090/index/?bunsyo_id=ISO+24442%3A2022

Masato Kitagaki
Chair of Technical Committee
Japan Cosmetic Industry Association

ISO 24442:2022: Main changes from ISO 24442:2012
(1) The definition of the minimal persistent pigment darkening dose (MPPDD) has been changed. Persistent pigment darkening (PPD) at the time of MPPDD determination has been changed from "the first perceptible unambiguous persistent pigment darkening with defined borders appearing over most of the field of UV exposure" to "the first perceptible unambiguous persistent pigment darkening with defined borders appearing over more than 50 % of UV exposure subsite."
(2) The choice of eligible test subjects is now based solely on individual typology angle (ITA°), abolishing Fitzpatrick skin typing. The test subjects with the range of ITA° between 18° and 43° shall be used for measuring UVAPF.
(3) Three new reference standard samples (P2, 2.7; P3, 13.4; and P8, 27.5) have been added as reference standard samples in addition to the current reference standard samples (S1, 4.4; S2, 12.7).
(4) Sample application procedures have been described in greater detail by the product type.

(5) For beam uniformity of light source, the confirmation method has been defined by solar simulator type using either UV sensitive film or UV sensor

methods. A requirement for uniformity greater than or equal to 90% has been added.
(6) An annex has been added with photographic examples of PPD responses with guidelines for grading.
(7) The data rejection criteria have been described in greater detail by case, e.g. the rejection because all subsites present PPD, or the rejection because illogical progression.

End of document

24JCIA No. 3
June 20, 2012

TO: Japan Cosmetic Industry Association members
FROM: Shinzo Maeda, President, Japan Cosmetic Industry Association

The Revisions to Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy

Dear members,

Japan Cosmetic Industry Association (JCIA) on November 5, 1995 published Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy, which we have been administering as JCIA voluntary standards for UVA measurement. On December 15, 2011, ISO (International Organization for Standardization) issued an *in vivo* UVA test method as an international standard, in response to which we have revised the JCIA standards as per the attached.

In addition we have revised the method for expressing UVA protection efficacy as per the attached.

When indicating the degree of UVA protection efficacy of a product, you are requested to continue as before conducting measurements in accord with the test method stipulated in JCIA voluntary standards and to label products using the protection grades in accordance with the numerical values calculated from the results.

Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy (2012 revised edition)

1. UVA measurement method

Measurements shall be carried out based on ISO 24442 Cosmetics — Sun protection test methods — *In vivo* determination of sunscreen UVA protection.

2. Expression of UVA protection efficacy

Protection grades shall be expressed as follows, using the integer value resulting after discarding the decimal portion of the UVAPF found as the arithmetic mean of all individual UVAPFi values obtained in measurements based on ISO 24442.

UVAPF	Protection grade
2 or more but less than 4	PA+
4 or more but less than 8	PA++
8 or more but less than 16	PA+++
16 or more	PA++++

3. Indication along with SPF

Inasmuch as there could not be a sunscreen product that protects against UVA alone, when indicating the above UVA protection efficacy on a product it shall be necessary also to indicate the SPF value (determined in accord with the SPF calculation method given in 23JCIA No. 12 of October 5, 2011, "About revisions

to the Japan Cosmetic Industry Association SPF Measurement Standards").

4. Effective date of this standard

This voluntary standard shall take effect on January 1, 2013.

If UVA protection efficacy is measured during the period until December 31, 2012, it shall be permissible to perform measurements based on the ISO *in vivo* test method (ISO 24442). Note, however, that when labeling a product's UVA protection efficacy up to December 31, 2012 based on the measurement results, the labeling must be done in accord with "12. Method for Expressing UVA Protection" of the November 15, 1995 Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy.

End of document

June 20, 2012

TO: Japan Cosmetic Industry Association members
FROM: Tsunehiko Iwai, Chairman of Technical Committee, Japan Cosmetic Industry Association

Information related the Revisions to Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy

Dear members,

Please be advised that the JCIA has revised our voluntary UVA measurement standards as described in 24 JCIA No. 3 of June 20, 2012, "The revisions to Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy. "

ISO 24442 incorporated in the revised standards is an international standard issued by International Organization for Standardization (ISO) and is therefore expected to become established as an international measurement method.

I would like to call your attention to the following points in particular regarding the revision of the JCIA standards.

1. The method given in the Japan Cosmetic Industry Association Measurement Standards for UVA Protection Efficacy of November 5, 1995 (hereinafter "previous standards") measures the degree of skin darkening after exposure to UVA, and calculates the UVA protection efficacy index as the ratio of the minimum darkening dose of UV rays on protected skin to that on unprotected skin.

   This UVA protection efficacy index was expressed as PFA (Protection Factor of UVA). In ISO 24442, however, UVAPF (UVA protection factor of a product) is used instead of PFA. Accordingly, the revised JCIA standards also use UVAPF rather than PFA as the UVA protection efficacy index.

   Note also that PFA in previous standards is an indicator of skin darkening occurring 2 to 4 hours after UVA exposure, whereas by agreement at ISO, UVAPF indicates skin darkening occurring 2 to 24 hours after UVA exposure.

2. When indicating grades such as PA+ or PA++ , etc. , "SPF" must also be indicated, as in the labeling examples below.

   Labeling examples: SPF10/PA+ SPF10 PA+

3. Since the recently issued ISO *in vivo* UVA measurement method is one based on the above-noted previous standards, both methods can be expected to produce results that are practically identical for lower UVAPF products.

   The standard product set for the previous standards, however, has a UVAPF of around 3.75, which may result in some variation in measurement results for products with high UVAPF. For this reason, do not label a product as PA++++ based on data resulting from measurements by the previous standards even if

the UVAPF exceeds 16.

4. When indicating grades such as PA+ or PA++, etc., it is permissible to append a statement indicating that the measurements were made based on ISO 24442, for example, "values measured based on ISO 24442."
Such a statement should not, however, use large letters, color, or other emphasis, since that may be in violation of the Standards for Fair Advertising Practices of Drugs , Quasi-drugs , Cosmetics and Medical Devices.

End of document

3. Water Resistance for UV Protection

(1) Notification: Establishment of the standards for measurement of water resistance for UV protection effect (October 15, 2022)

(2) Notification: Points of attention for the standards for measurement of water resistance for UV protection effect (October 15, 2022)

JCIA notification No. 2021003
October 15, 2021

To members of the Japan Cosmetic Industry Association

Establishment of the Japan Cosmetic Industry Association Standards for measurement of water resistance for UV protection effect

We would like to take this opportunity to extend our best wishes to you all.
We, Japan Cosmetic Industry Association, have prepared the "Japan Cosmetic Industry Association Standards for measurement of water resistance for UV protection effect (2021 version)" as voluntary standards of the Japan Cosmetic Industry Association to be effective on December 1, 2022.
To indicate the water resistant effect on the label of UV protection cosmetics, please conform to the measurement, judgment, and labeling of these voluntary standards.

Sincerely yours,

Masahiko Uotani,
President,
Japan Cosmetic Industry Association

Japan Cosmetic Industry Association
Standards for measurement of water resistance for UV protection effect (2021 version)

1. Water resistance measurement methods

Perform measurement based on the ISO 18861 Cosmetics - Sun protection test methods - Percentage of water resistance.

2. Method of determining water resistance

Perform measurement based on the ISO 18861, and determine that the product is water resistant if the lower limit of 90% confidence interval on the mean percentage of water resistance (SPF retention percentage) (%Water Resistance) is 50% or more.

3. Content of water resistance labeling

Depending on the water immersion condition, label the product as water resistant in line with the labeling method below.

3-1) In the case of the water immersion condition of 40 minutes in total (20 minutes×2 times)

If the product is determined to be water resistant, label as "UV 耐水性★" or "UV 耐水性☆".

3-2) In the case of the water immersion condition of 80 minutes in total (20 minutes×4 times)

If the product is determined to be water resistant, label as "UV 耐水性★★" or "UV 耐水性☆☆".

4. Water resistance labeling method

When labeling products as water resistant, also indicate SPF values before performing the water resistance test. These SPF values should be calculated according to the SPF calculation method specified in the "Revision of SPF measurement of Japan Cosmetic Industry Association" (23JCIA No. 12 dated October 5, 2011).

5. Effective date of these standards and the transitional period

These standards will be effective on December 1, 2022. Previous labeling will be allowed for two years up to November 30, 2024 as the transitional period.

End of document

JCIA notification No. 2021004
October 15, 2021

To members of the Japan Cosmetic Industry Association

Points of attention for the standards for measurement of water resistance for UV protection effect

We would like to take this opportunity to extend our best wishes to you all.

These voluntary standards for water resistance measurement have been established with the issue of the notification the “Japan Cosmetic Industry Association standards for measurement of water resistance for UV protection effect” (JCIA notification No. 2021003 dated October 15, 2021).

ISO 18861 adopted this time as a voluntary standard has been published as an International Standard of the International Organization for Standardization (ISO). We expect these voluntary standards established this time will lead to the unification and establishment of water resistance labeling in Japan.

Upon the establishment of these voluntary standards, we would like to inform you of the points of attention, which we summarized, for water resistance labeling according to these voluntary standards.

Sincerely yours,

Masato Kitagaki,
Chair,
Technical Committee,
Japan Cosmetic Industry Association

Japan Cosmetic Industry Association
Points of attention regarding the standards for measurement of water resistance for UV protection effect

1. Water resistance test

See the attachment for the summary of these standards that include ISO 18861 (water resistance test). Don't set any time duration other than 40 minutes and 80 minutes for the water immersion condition in the test.

2. Water resistance labeling

When labeling the products as water resistant based on these standards, be sure to include SPF values so as to prevent confusion with the water resistance for the durability of makeup products. In case of including PA labeling, these 3 items – i.e., SPF, PA, and water resistance – shall be indicated together. (See Table 1 below.)

Table 1: Sample labeling of UV water resistance

(The phrase "water resistance" shall be written in Japanese on the product label.)

Sample labeling*	Explanation
SPF25 UV耐水性★	UV water resistance labeling shall be accompanied by SPF labeling, but PA labeling is not required.
SPF50+ PA+++ UV耐水性★★	UV water resistance labeling does not have to be next to SPF labeling as long as it is accompanied by SPF and PA labeling.
SPF22・UV耐水性★・PA+	The items may be laid side by side.
SPF10　UV耐水性★★ PA+	The items may be displayed in 2 lines.
UV耐水性★★ SPF50+ PA++++	UV water resistance labeling may come ahead of SPF labeling.

* UV water resistance labeling may be shown as follows:

UV耐水性☆ instead of UV耐水性★, or

UV耐水性☆☆ instead of UV耐水性★★.

Please also note the following.

(1) Do not indicate water resistance values (SPF retention percentage) (%Water Resistance) or the lower limit value of 90% confidence interval on the mean value of water resistance (SPF retention percentage) (%Water Resistance) used to determine if the product is water resistant, on the product label etc.

(2) Do not adopt any labeling different from these standards, e.g. UV耐水性★★★, or waterproof claims instead of water resistance labeling based on these standards and accompanied by SPF labeling.

(3) It is permitted to add different descriptions of water resistance regarding UV protection effect at other parts of a product than SPF and UV water resistance labeling. However, do not indicate the result of water resistance evaluated by the method other than ISO 18861, or do not use any expression that may cause misunderstanding that there are standards for the water resistance level other than these standards.

(4) These standards evaluate the durability against water from outside the skin. Do not, therefore, use the result obtained using this test method to indicate durability against sweat.

(5) UV protection products do not necessarily require water resistance labeling in general. However, for labeling or advertisement expression that intends to appeal for the products' water resistance such as waterproof, use water resistance labeling based on these standards along with SPF labeling.

(6) The level of UV protection effect after water immersion depends not only on the water resistance but also the level of original SPF. The information can be delivered properly by displaying the water resistance labeling based on these standards along with SPF labeling. Therefore, do not put stress only on the UV water resistance labeling.

3. SPF labeling

When indicating the water resistance and SPF together on the product label, select the SPF value before water immersion according to ISO 18861. Do not indicate the SPF value after water immersion which is obtained at the same test.

4. Schedule concerning these standards

These voluntary standards will be effective on December 1, 2022. Be careful not to release products with labels in line with these standards before the above date.

As the transitional period for these voluntary standards, companies may release products with water resistance labeling based on their own conventional criteria for two years after December 1, 2022, the effective date of these standards. However, please refrain from releasing the products with labels in line with the companies' own criteria after December 1, 2024. See Table 2 below for the schedule concerning these standards.

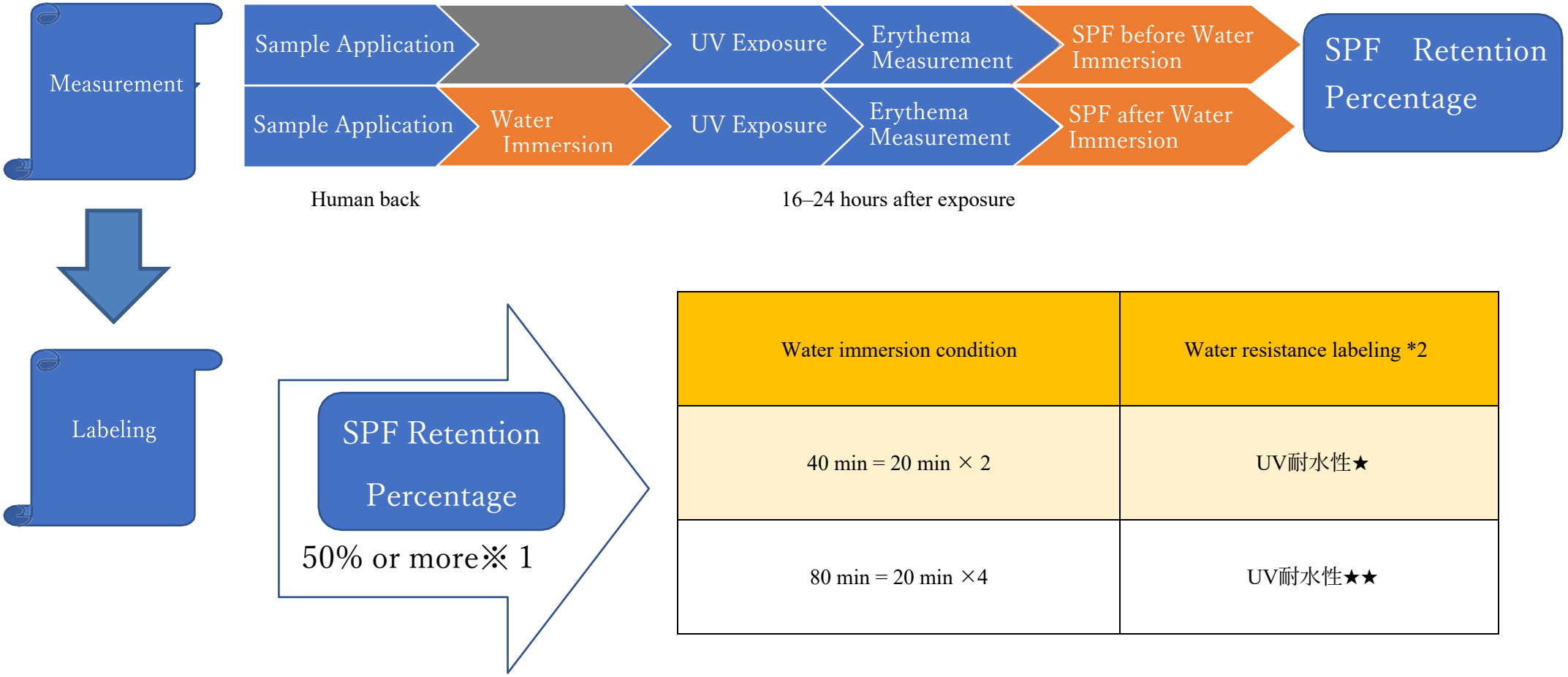
Table 2: Schedule concerning these standards

Time	Event
October 15, 2021	To issue these voluntary standards
January, 2022	To hold the meeting to explain these standards
December 1, 2022	To start application of these standards (To start shipping products with UV water resistance labeling based on these standards)
November 30, 2024	End of the transitional period for these standards (End of shipment of products with water resistance labeling based on the companies' own criteria)

End of document

Summary of standards for measurement of water resistance for UV protection effect (2021 version)

These standards are established for water resistance labeling based on the result of measurement according to ISO 18861 (the method to measure SPF retention percentage after water immersion, which has been published as an International Standard in September 2020.).



Water immersion condition	Water resistance labeling *2
40 min = 20 min × 2	UV耐水性★
80 min = 20 min ×4	UV耐水性★★

*1 More specifically, the lower limit of 90% confidence interval on the mean percentage of water resistance (SPF retention percentage) (%Water Resistance) obtained from the SPF before and after water immersion is 50% or more.

*2 Regarding the UV water resistance labeling, UV耐水性★ may be replaced with UV耐水性☆, and UV耐水性★★ with UV耐水性☆☆.