The International Fragrance Association

To: IFRA Member Associations (FOR ACTION)
Subscribers to the Code and other Stakeholders

Cc: IFRA RMTF, RIFM
Customer Associations
Members of the JAG

August 31, 2026

End of Consultation on the 52nd Amendment to the IFRA Standards

Dear Colleagues,

On 12 June 2026, the public Consultation period for the IFRA 52nd Amendment came to an end. The IFRA Standards and accompanying documentation that were part of this Amendment were detailed in the Consultation Letter distributed to the IFRA membership and stakeholders on 12 December 2025.

The Consultation therefore included:

- The updated Guidance for the use of the IFRA Standards
- The IFRA Standards listed in the respective sections of the Consultation Letter
- The Annex on Contributions from Other Sources to the IFRA Standards, which combines, where applicable, information from natural contributions as well as Schiff bases.

As with previous Amendments, the IFRA Standards are largely based on the conclusions of the Expert Panel for Fragrance Safety (http://fragrancesafetypanel.org) as reflected in the Research Institute for Fragrance Materials (RIFM) Safety Assessments. These assessments are referenced through the Elsevier Fragrance Material Safety Resource Center (https://fragrancematerialsafetyresource.elsevier.com/).

Please note that the Resource Center is currently operating under interim arrangements while updates are being implemented. During this period, links to the full published RIFM Safety Assessments direct users to the corresponding publications on ScienceDirect. Further information on access arrangements will be communicated as it becomes available.

Numerous stakeholders took the opportunity to provide comments, which highlights the importance and relevance of the IFRA Standards, as well as the value of broad stakeholder consultation – an essential element of our Standard-setting process.

IFRA has collected and consolidated all comments and has consulted on them with the respective Task Force or body, including the IFRA Risk Management TF (RMTF), the IFRA Natural Complex Substances TF (NCS TF), as well as RIFM and the Expert Panel for Fragrance Safety. Consequently, in response to the comments received, some changes are being made to the Guidance for the use of IFRA Standards, the proposed Standards, and the Annex on Contributions from Other Sources, as detailed in this End of Consultation Letter. For reasons of data protection, the authors of the comment are not disclosed in this letter.

The Consultation is an important step in the process of setting IFRA Standards and is crucial to ensuring their relevance and successful implementation. IFRA would like to thank all stakeholders who provided feedback during the Consultation and thereby helped to improve the content of the 52nd Amendment.

The formal letter of Notification for all the final Standards and accompanying documentation will be published in the coming months, likely in the second or third week of January 2027. The IFRA website will be updated accordingly.

The IFRA Member Associations are kindly requested to distribute this information without delay to their individual members.

Thank you very much for your assistance and support.

Dr. Matthias Vey
IFRA VP Scientific Affairs

Jennifer Dorts
Senior Scientific and Regulatory Affairs Manager

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1. Proposed editorial clarifications and improvements for the 52nd Amendment

No concern was expressed regarding the proposed clarifications, which are intended to provide greater clarity and consistency in defining the scope of the IFRA Standards.

The text in the Standards addressing their scope will therefore be modified as follows:

"The scope of this Standard includes but is not limited to the CAS number(s) indicated above; any other CAS number(s) used to identify this fragrance ingredient should be considered in scope as well. If the CAS number is generic, but the Standard clearly limits its scope to a specific isomer, only that isomer is considered within the scope of the generic CAS number.

While this clarification may apply to different types of isomers, it is expected to be particularly relevant for structural isomers rather than, for example, stereoisomers.

These changes are introduced into all new and revised Standards that were part of the Consultation and, once the 52nd Amendment is notified, will also be applied, where applicable, to the respective existing Standards as available on the IFRA website. Additional guidance on the interpretation of scope provisions and the treatment of CAS numbers will also be included in the Guidance document to facilitate consistent implementation of the Standards.

Accordingly, for a number of Standards addressing specific isomers, the corresponding generic CAS number has been added to clarify that isomers marketed under that CAS number are also within the scope of the Standard. The changes to existing Standards related to this topic are therefore as follows:

Standard Name	Original CAS Number	Additional Generic CAS Number
cis-3-Nonenyl acetate	13049-88-2	36809-53-7
cis-3-Heptenyl acetate	1576-78-9	34942-91-1
cis-3-Hexenyl isovalerate	35154-45-1	10032-11-8
cis-3-Hexenyl methyl carbonate	67633-96-9	1221262-71-0*
trans-2-Hexenal dimethyl acetal	18318-83-7	25683-06-1
trans-2-Heptenal	18829-55-5	2463-63-0
trans-2-Hexenal diethyl acetal	67746-30-9	54306-00-2

*For **cis-3-Hexenyl methyl carbonate**, CAS 67633-96-9, a generic CAS number was missing but, based on feedback received during the Consultation, was identified as CAS 1221262-71-0.

In addition, feedback received during the Consultation suggested that, for a limited number of Standards, additional CAS numbers corresponding to specific geometrical isomers (e.g. E/Z forms) should be included, particularly where the substance contains a double bond. While the general scope statement already ensures that such CAS numbers fall within the scope of the Standard, these additions were accepted, where appropriate, to improve clarity and facilitate identification of the substances concerned. The Standards affected are listed below.

Standard Name	Original CAS Number	Additional CAS Number(s)	Additional Synonym(s)
3-Methyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)pent-4-en-2-ol	67801-20-1	1067999-31-8	(4E)-3-Methyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)-4-penten-2-ol
		1237530-53-8	(4Z)-3-Methyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)-4-penten-2-ol

13-Methyloxacyclo-pentadec-10-en-2-one	329925-33-9	223103-77-3	(10E)-13-Methyloxacyclopentadec-10-en-2-one
		223103-76-2	(10Z)-13-Methyloxacyclopentadec-10-en-2-one
alpha Sinensal	17909-77-2	4955-32-2	2,6,10-Trimethyl-2,6,9,11-dodecatetraenal
		54316-92-6	2,6,9,11-Dodecatetraenal, 2,6,10-trimethyl-, (Z ,E ,E)-
alpha-Amyl cinnamic aldehyde	122-40-7	78605-96-6	α-Amyl trans -Cinnamaldehyde
		101365-33-7	(2Z)-2-(Phenylmethylene)heptanal
alpha-Butylcinnam-aldehyde	7492-44-6	128649-17-2	(2E)-2-(Phenylmethylene)hexanal
		128649-19-4	Hexanal, 2-(phenylmethylene)-, (Z)-
alpha-Hexyl cinnamic aldehyde	101-86-0	165184-98-5	(2E)-2-(Phenylmethylene)octanal
		364364-06-7	(2Z)-2-(Phenylmethylene)octanal
alpha-Methyl cinnamic aldehyde	101-39-3	15174-47-7	α-Methyl-trans-cinnamaldehyde
		66051-14-7	(2Z)-2-Methyl-3-phenyl-2-propenal

It should be re-emphasized that these are considered editorial/presentation clarifications rather than substantive revisions. Consequently, they do not trigger a new implementation timeline for existing Standards, not officially part of the current Amendment.

2. Feedback received on the Guidance for the use of the IFRA Standards

2.1. Products in and outside the scope of the 1 ppm FC (Furocoumarin) restriction

A number of comments and suggestions have been received regarding the section of the Guidance document that provides advice on how to communicate the compliance of fragrance mixtures containing materials subject to the revised furocoumarin Standard, notably via the IFRA Certificate.

A key element for determining whether the 1 ppm FC limit applies is the presence of an SPF claim. As the concern relates to prolonged exposure of human skin to sunlight, this criterion is generally relevant to cosmetic products designed to provide protection against UV-irradiation.

It has been brought to our attention that certain household and detergent products may also carry an SPF. However, these products are not considered to result in increased consumer exposure to sunlight. In consequence, such detergent products with an SPF are considered outside the scope of the 1 ppm limit.

All detergents and laundry products fall within the Category 10A and remain subject to the 50 ppm limit applicable to rinse-off products, irrespective of whether an SPF claim is made. Respective clarifications willh be introduced in the Guidance to the IFRA Standards that will be part of the Notification.

2.2. Reflecting the revised FC policy in the IFRA Certificate

The communication of MACs in the IFRA Certificate for products falling within the scope of the 1 ppm or 5 ppm skin contact limits, depending on their presentation as outlined in the Standard, has triggered a number of comments and requests for clarification.

As the Certificate included in the Guidance serves as a non-binding template, different MAC values were provided for most categories. This approach was taken despite the understanding that the likelihood of product types falling under the 1 ppm limit restriction is low. However, given the diversity and creativity of the market, it was not considered appropriate to exclude this possibility altogether.

To provide additional context, explanatory text will be included in the Guidance, together with a footnote in the template Certificates. This will clarify that mainly for Categories 6, 7A, 9, 10A, 11A and 12, the likelihood of the 1 ppm limit applying is low; therefore, both columns (or rows) are expected to carry the same value.

In this context, questions were raised as to whether, in cases where no FCs are present due to the intentionally used materials, the Certificate could be issued without the additional column or line. It was also asked whether a statement such as "This product does not contain any furocoumarins" could be recommended.

As stated before, the IFRA Certificate templates are provided as examples and allow flexibility in format across fragrance houses. However, alignment on content remains important, and the communication of information should be as harmonized as possible.

A generic declaration of absence is considered to carry certain risks, including potential misinterpretation as a "free from" claim. Where companies prefer not to use tabular formats, a statement indicating that no impact from FCs is expected is preferable to a declaration of absence. Where no impact from FCs is expected and no additional MAC information is provided (either through a second column or an additional line), communication can instead be made through the section of the Certificate addressing the presence and concentration of fragrance ingredients subject to IFRA Standards.

2.3. Category 5B – Face moisturizer products – neck area

The draft Guidance circulated for Consultation included a reference to the neck area as a potential application site for products in category 5B within the Category description. As the neck area is not consistently referenced elsewhere in the Guidance, this created some confusion.

To address this, the category descriptor will remain unchanged. Instead, a Q&A entry will be included in the Guidance to provide the requested clarification regarding the use of products in the neck area.

2.4. Clarification on 'face masks'

There have been ongoing discussions regarding the appropriate categorization of face masks, including rinse-off types. Currently, face masks are only included in Category 3 under the description "Facial masks for face and around the eyes". The draft Guidance circulated as part of the Consultation proposed a (re)categorization of face masks under Category 5.

Based on the consultation feedback, it became clear that further clarification is needed regarding the various product types available on the market and their most appropriate categorization, particularly with respect to whether a distinction should be made between leave-on and rinse-off facial masks.

To support this assessment, RIFM was consulted regarding the positioning of face masks within the Creme/RIFM model, based on habits and practices data. This analysis indicated that face masks are currently linked to moisturizers within the model. There is an ongoing intention to establish a separate category for rinse-off cleansing masks, supported by new habits and practices data from Kantar; however, this work is not yet completed.

Given that the outcome of this work is expected to be highly relevant for the appropriate categorization within the IFRA Standards, it was agreed not to introduce any changes at this stage and perform a comprehensive review as part of the next regular Amendment. Consequently, no distinction between 'Face masks' and 'Facial masks for face and around the eyes' will be introduced at this stage.

As a result, the Guidance will remain unchanged compared to the 51st Amendment, and all face mask types will continue to be included in Category 3. The proposal to introduce a new entry under Category 5 without addressing rinse-off products will therefore be withdrawn.

2.5. Categorization of Reed Diffusers

While there was support for moving reed diffusers and related products from Category 10A to 10B, consultation feedback highlighted concerns regarding the application of the current phototoxicity restrictions to these products. In particular, it was noted that the current consideration of Category 10B products as leave-on products results in a maximum furocoumarin limit of 5 ppm, which may have a significant impact on certain reed diffusers and related products containing natural complex substances.

To further assess this issue, a dedicated IFRA working group was established and the topic was discussed with RIFM, including members of the RIFM QRA Expert Group. Based on the review of the available scientific information, it was concluded that there is sufficient evidence to support the consideration of incidental skin exposure for reed diffusers and related products included in Category 10B.

Accordingly, a rationale has been developed to support changing the phototoxicity consideration applicable to Category 10B products from 'applicable leave-on' to 'applicable incidental'. As a consequence, the phototoxicity limit applicable to these products will be aligned with the limit currently applicable to rinse-off products (50 ppm).

As this revision concerns the broader phototoxicity framework applicable to Category 10B products, the resulting changes are not limited to the furocoumarins Standard alone. The corresponding rationale and revised approach will be reflected in the Guidance document and, where necessary, in the affected phototoxicity Standards, namely for Tagetes oil and absolute as well as Methyl N-Methyl anthranilate. Both Standards will be updated with regards to the limits applicable for Category 10B products, and these revisions will form part of the 52nd Amendment. As the revised limits are higher, implementation is expected to be straightforward.

2.6. Attars and attar like fragrances

Section 6.5.16 of the Guidance provides insight into, and explanation of, attar products. Feedback from the Consultation indicated that this description could be improved. This has resulted in a revised version, now titled 'Specific product types described as Attar or Bakhour', which better reflects products predominantly marketed in the Arabian region.

2.7. Traces of prohibited substances

One comment received during the Consultation concerned the description of traces of prohibited substances in Section 1.4 of the Guidance and, in particular, the respective roles and responsibilities of raw material suppliers, fragrance manufacturers and finished product manufacturers in the assessment and management of technically unavoidable traces.

In addition, several comments were received on individual Standards not within the scope of the 52nd Amendment, questioning the practical interpretation of trace levels, the use of the ALARA principle, the absence of quantitative thresholds for certain prohibited substances, and the treatment of impurities and technically unavoidable traces in specific Standards.

The RMTF acknowledged these comments and agreed that the topic would benefit from a broader review. As these issues are not specific to the changes introduced in the 52nd Amendment, they will be addressed as part of a more comprehensive assessment on the management of traces of prohibited substances and technically unavoidable traces in the context of a future Amendment (currently anticipated to be the next regular Amendment).

3. Feedback on the Standards

3.1. Furocoumarins in Natural Complex Substances

3.1.1. Differentiation between the 1 ppm and 5 ppm limits

The comment submitter disagreed with the proposal to differentiate between a 1 ppm and a 5 ppm skin contact limit, arguing that *'both concentration and UVA exposure are critical determinants of phototoxic risk'* and that *'phototoxicity is determined by exposure conditions, not by the declared purpose of the product.'*

IFRA agrees that both concentration and UVA exposure are key determinants of phototoxic risk. However, IFRA disagrees with the conclusion that product purpose is irrelevant. In fact, the intended use of the product directly defines the expected UVA exposure scenario.

The justification is as follows:

Product category dictates UVA exposure

While the comment submitter states that phototoxicity depends solely on UVA exposure, it is precisely the product's intended use (i.e., its marketing category) that determines the consumer's UVA exposure conditions. Products intended for sun bronzing or those bearing SPF claims are used during deliberate, prolonged sun exposure, which justifies the stricter 1 ppm limit. In contrast, standard daily leave-on cosmetics are only subject to incidental and intermittent sunlight exposure.

Products with SPF can alter the UVB/UVA ratio reaching the skin

Under natural sunlight, humans are exposed to the full UV spectrum. Before significant long-wavelength UVA exposure occurs, shorter wavelengths (UVB/UVAII), which have a much stronger erythemogenic impact, drive the initial photobiological response. Sun protection products, however, can modify the relative proportions of UVB and UVA that reach the skin. The 1 ppm limit for sun protection products is therefore a risk-management measure designed to prevent unintended shifts in the UV balance that could result in disproportionately higher UVA exposure than would occur under natural sunlight.

For this reason, a 1 ppm limit for products intentionally used during sun exposure, and a 5 ppm limit for all other categories, is both scientifically justified and aligned with exposure-based risk management principles.

Margin of Safety at 5 ppm

Dose-metric data are detailed in Section 8 of *Irizar et al., Phototoxicity and skin damage: A review of adverse effects of some furocoumarins found in natural extracts. Food Chem Toxicol. 2025; 200:115332*. Animal studies show that at a concentration of 5 ppm, an accumulated UVA dose of nearly 500 J/cm² was required to induce tumor formation. This experimental UVA fluence far exceeds estimated annual environmental exposure for an average consumer (approximately 1.5–15 J/cm² of full spectrum sunlight). Thus, an exposure-based risk assessment demonstrates that a 5 ppm limit for non-sun-exposed products provides a robust margin of safety.

Finally, IFRA does not align with the submitter's statement that '*applying a 5 ppm limit to certain categories such as deodorant or toothpaste (Categories 2 and 6 for example) without sun exposition is not justifiable.'*

In fact, this argument reinforces our position: if a product has virtually zero UVA exposure, the phototoxic risk is effectively negligible. Imposing a universal 1 ppm limit on such products would be unnecessarily restrictive and scientifically unsupported.

In conclusion, the proposed dual-limit approach (1 ppm for products intended for deliberate sun exposure and 5 ppm for products with only incidental exposure) is not arbitrary. It is a coherent, exposure-based risk-management strategy grounded in sound scientific evidence.

3.1.2. Rationale for the rinse-off limit

The comment submitter questioned the rationale for the rinse-off limit, noting that rinse-off products may result in substantially lower exposure than leave-on products.

IFRA notes that the applicable furocoumarin limits are based on the overall safety assessment approach and safety factors reviewed and endorsed by the Expert Panel for Fragrance Safety, and not solely on relative exposure estimates. The limits therefore reflect both exposure considerations and the broader risk-management principles underpinning the IFRA Policy on Furocoumarins.

3.2. Nopol (CAS 128-50-7)

Based on feedback from the Consultation, 'one (-)-Nopol' has been deleted from the list of synonyms.

3.3. 2,6,10-Trimethylundeca-5,9-dien-1-ol (CAS 24048-14-4)

The comment received during the Consultation indicating that two listed CAS numbers referred to the aldehyde rather than the alcohol is considered correct. The entries will be updated to reflect the correct CAS

numbers for the (2R,5E) and (2S,5E) alcohol isomers, replacing CAS 1373932-23-0 and 1018832-07-9 with 127516-27-2 and 198545-88-9, respectively in the Standard that will be notified.

3.4. alpha,2,2,3-Tetramethylcyclopent-3-ene-1-butyraldehyde (CAS 65114-03-6)

The comment received during the Consultation regarding incorrect synonym attribution has been addressed. The listed synonyms were identified as relating to a different substance (p-Methyltetrahydroquinoline) due to a manual handling error. The Standard will be corrected accordingly in the final documentation for Notification.

3.5. Isoamyl Salicylate (CAS 87-20-7)

Feedback has been received during the Consultation regarding the underlying safety assessment for, in particular the selection of the point of departure. A revision has been proposed, increasing the value from 4.7 mg/kg/day to 46 mg/kg/day, based on a broader evaluation of the available data.

In preparing for calculating new and likely higher MAC values, RIFM identified the need to re-survey the exposure information for the ingredient. This activity has just started and is not expected to be completed by the time of the scheduled Notification of the 52nd Amendment. Further an updated safety assessment will have to be prepared and published. The RMTF therefore agreed to postpone the Standard on the ingredient to the next regular Amendment, thereby providing RIFM and the Expert Panel with adequate time to complete their work and publish the Safety Assessment. In consequence there will not be a Standard on Isoamyl salicylate as part of the 52nd Amendment.

3.6. Linalyl Acetate (CAS 115-95-7)

Feedback during the Consultation highlighted potential impacts of the proposed Linalyl acetate MACs on products containing essential oils such as lavender or lavandin, where adaptation of formulas may be challenging due to their complex composition and functional role. In particular, concerns were raised for deodorant products, where Linalyl acetate is a predominant component and the proposed Category 2 limit may be significantly exceeded. Concerns were raised regarding potential effects on product marketability and diversity, and alternative limits were suggested for Categories 2 and 5A.

IFRA carefully considered the comments received and discussed the proposed alternative limits with RIFM. It was confirmed that the MAC values for Categories 2 and 5A are driven by the QRA and that there is no scientific basis to further increase the underlying NESIL. It was further clarified that the exposure assessment already takes into account both the naturally occurring contribution of linalyl acetate from complex natural substances and the amount intentionally added as such.

As the proposed limits are driven by skin sensitization considerations, the impact is expected to be most pronounced in Category 2 products, which are subject to the highest Sensitization Assessment Factor (SAF) within the QRA framework. Consequently, no changes will be made to the proposed MAC values.

3.7. Nerolidol (CAS 7212-44-4, 142-50-7, 40716-66-3, 3790-78-1)

Feedback from one respondent during the Consultation highlighted that the proposed Category 2 limit for deodorants (0.027%) may be difficult to achieve in practice for formulations containing cabreuva oil, where Nerolidol is a predominant component. One example indicated that current products may exceed the proposed limit by several-fold.

IFRA carefully considered the comment received. Similar to the situation for linalyl acetate, it was confirmed that the MAC value for Category 2 is driven by the QRA and that there is no scientific basis to further increase the underlying NESIL. It was further clarified that the exposure assessment already considers both the naturally occurring contribution of Nerolidol from complex natural substances and the amount intentionally added as such.

As the proposed limit is driven by skin sensitization considerations, the impact is expected to be most pronounced in Category 2 products, which are subject to the highest Sensitization Assessment Factor (SAF) within the QRA framework. Consequently, no changes will be made to the proposed MAC value.

3.8. Oxacyclohexadecen-2-one (CAS 34902-57-3)

Feedback from one respondent during the Consultation highlighted the availability of additional skin sensitization data generated after the 2022 RIFM Safety Assessment for Oxacyclohexadecen-2-one. The comment noted that the more recent dataset, including animal, in vitro and human data, no longer supports the conclusion that the substance should be considered a skin sensitizer and suggested that the proposed Standard and associated MAC values should be reconsidered.

The additional data were subsequently reviewed by RIFM. Based on the updated evaluation, it was concluded that the available evidence indeed no longer supports the need for a skin sensitization-based IFRA Standard for Oxacyclohexadecen-2-one. Consequently, the Standard proposed as part of the Consultation is withdrawn and will not be part of the Notification of the 52nd Amendment.

An updated RIFM Safety Assessment reflecting this conclusion will be produced by RIFM and published in due course.

3.9 Dihydrofarnesal (6,10-Dodecadienal, 3,7,11-trimethyl-, (3S,6E)-; CAS 194934-66-2)

New data available to RIFM, similar to those reported for Oxacyclohexadecen-2-one above, no longer support considering this ingredient as a skin sensitizer. The Expert Panel confirmed the validity of these data and concluded that no risk management intervention in form of an IFRA Standard is needed at this time. The Standard proposed in the Consultation is therefore withdrawn and will not be part of the Notification of the 52nd Amendment.

An updated RIFM Safety Assessment reflecting this conclusion will be produced by RIFM and published in due course.

4. Feedback on the Annex on Contributions from Other Sources

Feedback from one respondent during the Consultation highlighted potential interpretation of the Annex, in particular in relation to furocoumarins and the listing of natural complex substances (NCS). It was noted that, where certain NCS are only listed for specific extract types, this may be interpreted by parts of the supply chain as indicating that these constituents are not present in other extracts.

Feedback indicated that, in practice, some suppliers may rely solely on the Annex as a reference and may not investigate the presence of restricted constituents where the relevant NCSs are not explicitly listed. This creates a risk of misinterpretation, particularly given the variability of NCS composition depending on extraction method and source material.

To address this, IFRA will reinforce the **non-exhaustive and indicative nature of the Annex on Contributions from Other sources**, with a view to clarifying its appropriate use. This will be done by strengthening the relevant wording in the Guidance document and in the Annex disclaimer, along the following lines:

"The Annex provides indicative information based on available data and should not be used as an exhaustive reference. The absence of a natural complex substance (NCS) from this Annex should not be taken as evidence of absence, nor as an indication that no further assessment of restricted constituents is required."

IFRA would further like to use this opportunity to re-emphasize a statement related to the dynamic nature of the Annex of Contributions from Other sources with regard to the NCS information, which was already made as part of the Consultation. Please note that, upon Notification, the content of the Annex of Contributions from Other Sources related to natural contributions will reflect the data available and confirmed by the IFRA Natural Complex Substances Task Force at that time. This means the content of the Annex shared for Consultation and the version published with the Notification, will not be fully identical.

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5. Compliance timelines

The Consultation included timelines for the implementation of the 52nd Amendment inspired by timelines and rationale that guided earlier implementation schedules.

In the light of the anticipated impact of the revised Furocoumarin Standard, particularly the need to update IT systems and collect information across the supply chain, it was agreed to extend the preparatory phase by two additional months compared to the 51st Amendment.

	Date for Standards entering into force for new creations	Date for Standards entering into force for existing creations
IFRA Standards restricting the use of ingredients or setting specifications	**11 months** after the date of the Notification	**30 months** after the date of the Notification

No comments have been received regarding the proposed timelines, which will therefore be the ones used in the Notification.

However, for Standards involving only editorial or presentation clarifications, including clarifications of scope (e.g. via wording, format or addition of relevant CAS numbers), and where there is no substantive change to the scope or maximum concentration levels, no new implementation timeline applies. This was indicated in the Consultation Letter and will again be clarified in the Notification communication.

6. List of the NEW Standards that will be notified with the 52nd Amendment

Based on the comments addressed above, below is the list of the Standards expected to be part of the Notification of the 52nd Amendment.

With the 52nd Amendment, IFRA introduces a total of 48 new restriction Standards.

a) 37 new restriction Standards to address potential dermal sensitization effects, with additional evaluation of systemic toxicity endpoints

Standard Name	CAS number(s)
Acetyl cedrene[1]	32388-55-9 68039-35-0
p-Anisyl acetate	104-21-2 1331-83-5
Butyl 2-methylbutyrate	15706-73-7
Butyl trimethyl dioxane	54546-26-8
Cuminylacetaldehyde	7775-00-0
Dihydromyrcenyl acetate	53767-93-4
1-Ethoxy-4-(tert-pentyl)cyclohexane	181258-87-7 181258-89-9 1372159-68-6

[1] In the Consultation it was pointed out that the updated RIFM SA, which is the basis for the Standard, was pending publication on the RIFM Resource Center. The SA has meanwhile been published and is accessible here: Update to RIFM fragrance ingredient safety assessment, acetyl cedrene, CAS Registry Number 32388-55-9 | Fragrance Material Safety Assessment Center

Ethyl cinnamate	103-36-6 4192-77-2 4610-69-9
Ethyl linalyl acetate	61931-80-4 1082679-69-3 2768000-97-9
Geranyl and Neryl acetate	105-87-3 141-12-8 16409-44-2
Geranyl and Neryl isovalerate	109-20-6 3915-83-1 61759-71-5
Hexahydrohexamethyl cyclopentabenzopyran (HHCB)	1222-05-5
3-Hexenyl acetate	1708-82-3 3681-71-8 3681-82-1
cis-3-Hexenyl propionate	33467-74-2 63620-57-5
cis-3-Hexenyl salicylate	65405-77-8 172141-15-0
2-Hexylcyclopentanone	13074-65-2
2-Isopropoxyethyl salicylate	79915-74-5
Linalyl acetate	115-95-7
Methoxycitronellal	3613-30-7
1-Methyl-4(& 3)-(4-methyl-3-pentenyl)cyclohex-3-ene-1-carbaldehyde (isomer mixture) (Myrmac aldehyde)	52475-86-2 52474-60-9
Methyl salicylate	119-36-8
Methyl benzodioxepinone	28940-11-6
3-Methyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)pent-4-en-2-ol	67801-20-1
5-Methyl-5-phenyl-3-hexanone	4927-36-0
p-Methyl-alpha-amyl cinnamic aldehyde	84697-09-6 154581-97-2 1087715-16-9
7-(1-Methylethyl)-2H-1,5-benzodioxepin-3(4H)-one	950919-28-5
13-Methyloxacyclopentadec-10-en-2-one	329925-33-9
13-Methyloxacyclopentadecan-2-one	868846-58-6
2-Methylphenethyl alcohol	19819-98-8
Nerolidol	7212-44-4 142-50-7 40716-66-3 3790-78-1

2-Nonenal	18829-56-6 60784-31-8 2463-53-8
Nopol	128-50-7 35836-73-8
Phenethyl alcohol	60-12-8
1-Spiro[4.5]dec-7 (& 6)-en-7-yl-4-penten-1-one (isomer mixture)	224031-70-3 224031-71-4
Tetrahydrolinalool	78-69-3
Tetrahydromyrcenol	18479-57-7
Trimethyl cyclohexenyl butanone	67801-38-1

The above IFRA Standards are based on both skin sensitization and systemic toxicity endpoints. The maximum concentration levels reported correspond to the lower concentration levels derived from dermal sensitization and systemic toxicity assessments. The actual driver may vary from category to category.

b) 11 new restriction Standards to address potential dermal sensitization effects, based solely on QRA2

Standard Name	CAS number(s)
Carvyl propionate	97-45-0 145032-50-4 145032-51-5 112419-68-8 1299485-67-8 74431-24-6
Cedrol	77-53-2
Dihydrojasmone	1128-08-1
2,3-Dihydro-1,1-dimethyl-1H-indene-ar-propanal	300371-33-9
3-Methoxy-5-methylphenol	3209-13-0
4-Methyl-3-decen-5-ol	81782-77-6 177772-08-6 339994-61-5
2-Methyl-4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2-butenal	3155-71-3 68555-62-4 14398-40-4 1891096-79-9
2-Methyl-4-(2,6,6-trimethyl-1(&2)-cyclohexen-1-yl)butanal (isomer mixture)	65405-84-7 73398-85-3 84518-22-9
Myrcenyl acetate	1118-39-4
10-Undecenyl acetate	112-19-6
alpha-Sinensal	17909-77-2

The above IFRA Standards are driven by the dermal sensitization endpoint. Although the systemic toxicity endpoints have also been evaluated and cleared using by TTC approach, they were not taken into account in setting the maximum concentration levels. Consequently, the maximum concentration levels are based solely on the application of QRA2.

7. List of REVISED Standards for the 52nd Amendment

c) 15 restriction Standards revised to reflect the outcome of updated RIFM Safety Assessments

Standard Name	CAS Number(s)
Allyl phenoxyacetate*	7493-74-5 863306-60-9
alpha-Amyl cinnamic aldehyde	122-40-7
Benzyl salicylate	118-58-1
alpha-Butylcinnamaldehyde	7492-44-6
p-tert-Butyldihydrocinnamaldehyde	18127-01-0
Carvone	99-49-0 2244-16-8 6485-40-1
Citronellol	106-22-9 1117-61-9 26489-01-0 6812-78-8 141-25-3 7540-51-4
3,3-Dimethyl-5-(2,2,3-trimethyl-3-cyclopenten-1-yl)-4-penten-2-ol	107898-54-4
Farnesol*	4602-84-0 106-28-5 3790-71-4 16106-95-9 3879-60-5
alpha-Hexyl cinnamic aldehyde	101-86-0
Hexyl salicylate	6259-76-3
alpha-Methyl cinnamic aldehyde	101-39-3
alpha,2,2,3-Tetramethylcyclopent-3-ene-1-butyraldehyde	65114-03-6
5-(2,2,3-Trimethyl-3-cyclopentenyl)-3-methylpentan-2-ol	65113-99-7
2,6,10-Trimethylundeca-5,9-dien-1-ol	24048-14-4 185019-19-6 58001-88-0 58001-87-9 1373932-23-0 1018832-07-9

*This Standard does have a Specification element as well, but there has been no modification.

d) Revision of a specification Standard to include restrictions

Standard Name	CAS number	Status
Musk ketone	81-14-1	The former Standard only contained an element of specification regarding traces of musk xylene. The revised Standard reflects MACs as contained in the RIFM Safety Assessment.

e) Revision of a restriction Standard to include specifications

The fragrance industry has been working on defending the continued use of Acetylated Vetiver Oil (AVO) in Europe over several years. During this activity several submissions have been made and the review by the safety advisors did lead to the conclusions that the protection of the material with an antioxidant would be substantial to ensure safe use. This is going to be reflected in the resulting regulatory entry in the EU Cosmetic Regulation, which is imminent to be published.

The RMTF agreed with the conclusion of the relevance of the presence of the antioxidant and as a consequence proposes to update the Standard by adding a respective specification requirement.

Standard Name	CAS numbers	Status
Acetylated Vetiver Oil	84082-84-8 68917-34-0 73246-97-6 62563-80-8	The following requirement will be included in the Standard: Fragrance Ingredient Specification: The material should be stabilized by adding 1% α-Tocopherol at the time of production.

A safety assessment in support of the Standard, including the need for a stabilizer is under preparation at RIFM and expected to be published by the time of the notification. In case not, the Notification letter will have a respective statement included.

f) Revision of 3 restriction Standards addressing phototoxicity considerations

i. Furocoumarins in Natural Complex Substances

IFRA has been actively updating its policy on furocoumarins (FCs) in Natural Complex Substances (NCS) for many years, and this updated policy is now being incorporated into this Amendment through a revised Standard.

The Standard, previously entitled *"Citrus oils and other furocoumarin containing essential oils"*, has been renamed *"Furocoumarins in Natural Complex Substances".*

The Standard lists the CAS numbers of the eight FCs identified as adequate markers for determining the total FC content. These are:

- **Byakangelicol** (CAS 61046-59-1, 26091-79-2, 2470152-81-7)
- **Epoxy-Bergamottin** (CAS 192372-76-2, 206978-14-5, 264234-04-0, 2671042-13-8)
- **Isopimpinellin** (CAS 482-27-9)
- **5-Methoxypsoralen [5-MOP, Bergapten]** (CAS 484-20-8)
- **8-Methoxypsoralen [8-MOP, Methoxsalen, Xanthotoxin]** (CAS 298-81-7)
- **Oxypeucedanin** (CAS 737-52-0, 3173-02-2, 26091-73-6)
- **Oxypeucedanin hydrate** (CAS 24724-52-5, 2643-85-8, 133164-11-1)
- **Psoralen** (CAS 66-97-7)

Standard Name	CAS Number(s)*	Status
Furocoumarins in Natural Complex Substances	**61046-59-1**, 26091-79-2, 2470152-81-7 **192372-76-2**, 206978-14-5, 264234-04-0, 2671042-13-8 **482-27-9** **484-20-8** **298-81-7** **737-52-0**, 3173-02-2, 26091-73-6 **24724-52-5**, 2643-85-8, 133164-11-1 **66-97-7**	Revised restriction Standard based on photoxicity

* The scope of this Standard includes, but is not limited to, the CAS numbers listed below, with the first (in bold) representing the generic CAS number. Any other CAS number(s) used to identify these markers should also be considered within scope.

As a consequence of the publication of the revised restriction Standard addressing the presence of FCs in NCS (previously entitled "Citrus oils and other furocoumarins containing essential oils"), several individual Standards on NCS with known potential FC presence, and for which restrictions were applied in the absence of detailed knowledge of the FC presence, will be withdrawn. These Standards are:

Standard Name	CAS Number(s)	Status
Angelica root oil	8015-64-3	These individual Standards will be withdrawn and will no longer be valid
Bergamot oil expressed	908007-75-8	
Bitter orange peel oil expressed	68916-04-1 72968-50-4	
Cumin oil	8014-13-9	
Grapefruit oil expressed	8016-20-4	
Lemon oil cold expressed	8008-56-8	
Lime oil expressed	8008-26-2	
Rue oil	8014-29-7	

ii. **2 Standards** revised to address phototoxicity considerations for Category 10B product

Following the revision of the phototoxicity considerations applicable to Category 10B products (see item 2.5), the Standards for Tagetes oil and absolute and Methyl N-Methyl anthranilate have been updated to reflect the consideration of incidental skin exposure for these products. Consequently, the limits applicable to Category 10B products have been aligned with those currently applicable to rinse-off products.

Standard Name	CAS Number(s)
Tagetes oil and absolute*	91722-29-1 8016-84-0 91770-75-1
Methyl N-methylanthranilate	85-91-6

* Only the restriction element of the Standards is revised as part of the 52nd Amendment. The prohibition on *Tagetes erecta* (CAS 90131-43-4 and 8016-84-0) remains unchanged and is therefore not included here.

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8. Minor updates to existing Standards

As already noted under Item 1, for a number of Standards addressing specific isomers, the generic CAS number has been added to ensure that isomers traded under this CAS are clearly identified as being within the scope of the Standard.

In addition, and following feedback received during the Consultation, for a limited number of Standards, additional CAS numbers — notably those corresponding to specific geometrical isomers (e.g. E/Z forms) — have been included, in particular where the substance contains a double bond, in order to improve clarity and facilitate identification of the substances concerned.

Since Standards generally specify that the scope includes, but is not limited to, the CAS numbers indicated, and that any other CAS number used to identify the ingredient should also be considered in scope, these changes are not regarded as altering the content of the Standard listed under Item 1. Accordingly, the implementation timelines associated with the 52nd Amendment do not apply to the Standard referred to in this section.