LIGHTINGEUROPE
THE VOICE OF THE LIGHTING INDUSTRY

Request to renew Exemption 18b

under the RoHS Directive 2011/65/EU

Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP ($BaSi_2O_5$:Pb)

Date: 13 January 2023

LIGHTINGEUROPE
THE VOICE OF THE LIGHTING INDUSTRY

Contents

1 Name and contact details

Association: LightingEurope AISBL – EU Transparency Register ID: 29789243712-03	Tel.: +32 470 977 130
Name: Sophia Ehmke	E-Mail: sophia.ehmke@lightingeurope.org
Function: Policy Officer	Address: Rue Belliard 205, 1040, Brussels, Belgium

With the support of Industry Association:

European Sunlight Association EU transparency register ID: 725088918731-87	• Address: Boulevard Saint-Michel 65, bte. 6, B-1040, Brussels; • Contact: Secretary General - Mr. Frank Harbusch • email address: frank.harbusch@europeansunlight.eu • contact number: +49-2235-6987132

2 Reason for application

LightingEurope submits this application to:	*request for the renewal of existing **Annex III exemption no. 18(b)** for Category 11*
LightingEurope proposes to continue using the existing wording which is:	*18(b) Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5 :Pb)*
LightingEurope requests a duration of	*Maximum validity period required.*

3 Summary of the exemption request

This request concerns the extension of the current Annex III exemption:

- **18(b)** regarding Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5 :Pb).

This exemption covers indoor sun tanning discharge lamps containing lead as an activator in the fluorescent powder. These lamps are produced in T12, T8 and T5 diameters and CFL (compact fluorescent lamp) configurations. The phosphors contained in these lamps are manufactured from the same components but can vary in spectral discharge across the UVA and UVB spectrum by the specified proportional phosphor mix. The lamps, and equipment they are installed in, are governed by EU regulations concerning the allowable output of ultraviolet radiation permitted within a determined exposure time. The EU regulates tanning equipment and the installed lamps which are marked by a specific "X, Y" code system for the erythemally-weighed UV radiation in accordance with EN standard 61228 Ed.2 (2008-01). The lamps are installed in various commercial and residential indoor tanning equipment. This can be in the form of a sun tanning bed or booth or a tabletop appliance for facial tanning. The abovementioned EN standard forms the basis of lamp marking and is mandatory. It clearly limits room for substitution by lead-free phosphors.

This renewal application is for Annex III 18(b) for category 11 which, as below indicated, expires on Jul 21, 2024. Lighting Europe previously requested renewal of 18(b) for categories 5, 8 and 9 in January 2020 per the requirements for expiry date renewals in those categories. In February 2022, that request has been recommended for renewal by the Oeko Institute.[1] We refer you to their report, and their recommendations to the Commission for extension in multiple categories and multiple expiration dates.

Here are some excerpts from that report from pages 65 & 66. It is the recommendation of the consultant to extend to multiple categories and multiple expiration dates. We refer to paragraph 6.6:

"It is recommended to group exemption 18(b)-I Annex III and exemption 34 Annex IV under a new item (18(b)-II) in Annex III. The proposed wording for the new item has no implications on

[1] 'Study to assess requests for renewal of seven (-7-) exemptions 18(b), 18(b)-I, 24, 29, 32 and 34 of Annex III and exemption 34 of Annex IV of Directive 2011/65/EU (Pack 24) – Final Report Under the Framework Contract: Assistance to the Commission on technical, socio-economic and cost-benefit assessments related to the implementation and further development of EU waste legislation'', prepared by Oeko-Institut e.V. Yifaat Baron Carl-Otto Gensch Andreas Koehler Ran Liu Clara Loew Katja Moch 16 February 2022.

the scope of existing exemptions 18(b)-I and Ex. 34. It is further recommended to renew exemption 18(b) on lead as an activator of discharge lamps for tanning equipment. Substitution is scientifically not practical. It is recommended to grant the exemptions for five years with the following formulation.''

''Exemption formulation: Duration Expires on: 18(b) Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) — 21 July 2026 for categories 5, 8 and 9; — 21 July 2023 for category 8 in vitro diagnostic medical devices; — **21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11**."

Please be advised that this application refers to the information and data of our 2020 application for exemption 18(b) categories 5, 8 and 9. In the past months, since the consultants have been in contact with LightingEurope to request clarifications and further input, no new developments have taken place. In addition, during the past 2 years, the suntanning industry was heavily impacted by Covid-19 restrictions, with salons being some of the first establishments to be closed down.

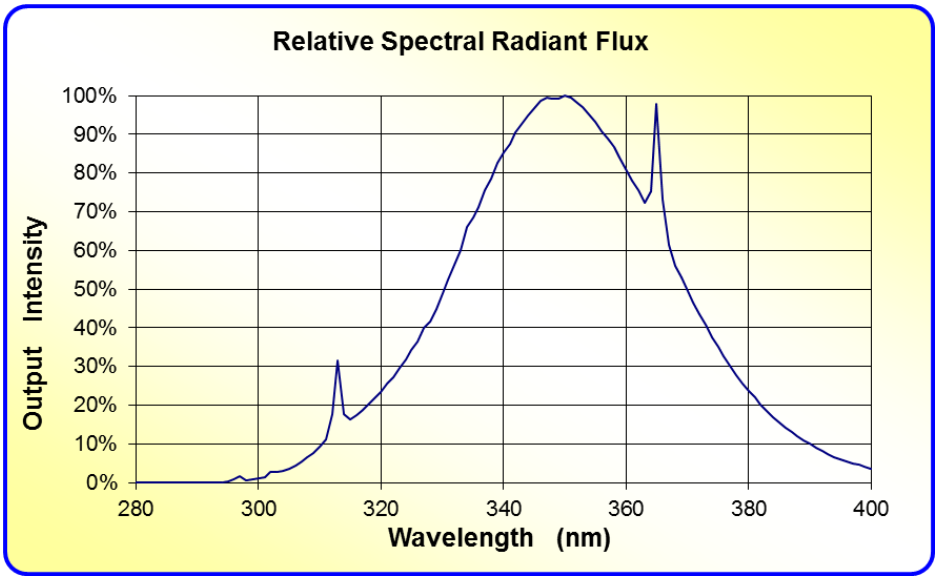
4 Technical description of the exemption request

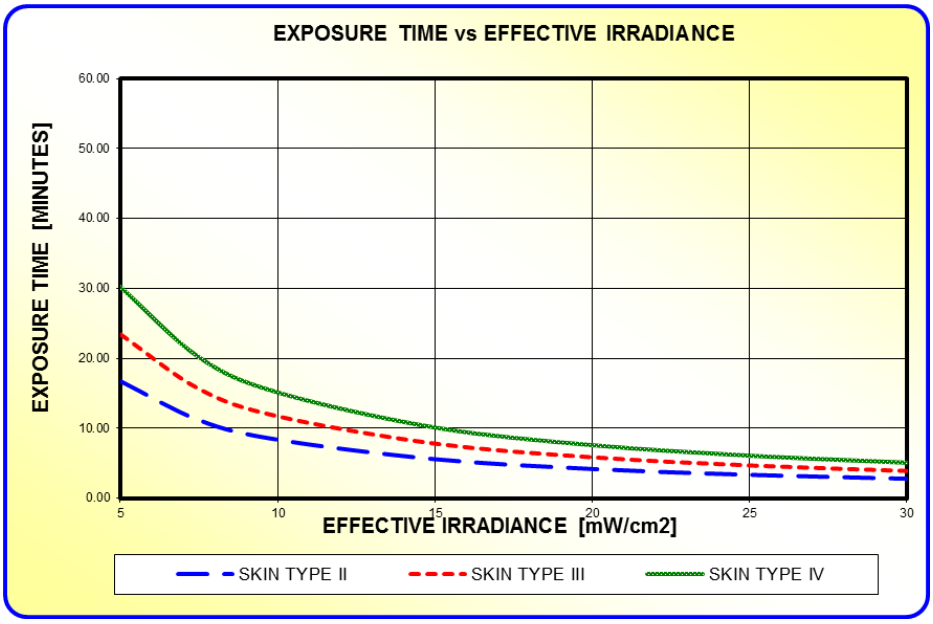
4.1 Description of the lamps and their applications

4.1.1 Lamps covered by this exemption 18b

This exemption covers indoor sun tanning discharge lamps containing lead as activator in the fluorescent powder. The lamps produce UVA and UVB in predetermined dosages and ratios for the purpose of producing artificial sunlight. The lamps are installed in tanning equipment which are calibrated for the use of specific lamp types and they are marked in accordance with EU regulations for tanning lamps and equipment. Brochures and data about these lamps can be seen in several websites, e.g.:

- Lighttech http://www.light-sources.com/tanning/tanning-lamp-products
- Cosmedico: https://www.cosmedico.de/en/products/
- iSOLde: https://www.isoldelicht.de/en/isolde-tanning-lamps/





Graph 1: Example of a typical UVA/UVB spectrum of an indoor tanning lamp

The lamps and equipment are governed by EU regulations concerning the allowable output of ultraviolet radiation permitted within a determined exposure time. The EU regulates tanning equipment and the installed lamps which are marked by a specific “X, Y” code system. For example, see, IEC 606335-2-27 and EN standard 61228 Ed.2 (2008-01). The lamps are installed in various commercial and residential indoor tanning equipment which can be in the form of a tanning bed or booth or a tabletop appliance for facial tanning.

The typical lifetime of these lamps ranges from 600 to 1000 hours with a session or usage time that ranges approximately from 5-30 minutes.

These lamps are not used for the production of visible light so general lighting efficacy standards do not apply. UV output efficacy (UVA radiation out vs electrical power in) is typically between 15% and 25%, but the real measure is with what power the desired effect is reached.

This is governed by the equipment, lamp type, lamp power, UV output measured by standardized means, user skin type and other such factors.

The market demand for tanning lamps remains stable for the coming years.

4.1.2. Applications covered by this exemption 18b

Indoor sun tanning lamps are light sources that produce ultraviolet light in the regions of the UVA and UVB spectrum. Their intent is to produce artificial sunlight to replicate sunlight exposure for the human body (similar to that as produced by the sun) yet applied in calculated doses per European regulations. It is estimated that over 90% of indoor tanning lamps produced and used throughout Europe are manufactured with BSP (BaSi2O5 :Pb) phosphors containing 1% or less lead as an activator. There is no feasible alternative for this phosphor that will yield the same or similar results and has undergone the extensive European and US regulatory testing associated with the application of the tanning lamps using these phosphors. Almost 100% of the tanning lamps using these phosphors are produced in the EU. Below are three examples of typical indoor suntanning equipment.

Left and center photos are tanning beds and right photo is a tanning booth.

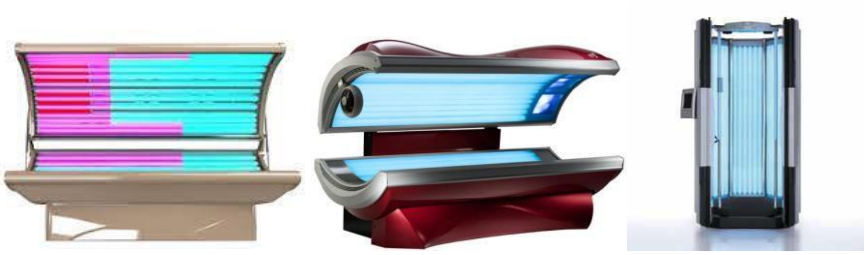


Figure 1: Examples of Indoor tanning equipment

4.1.3. Annex I category covered by this exemption

List of relevant Annex I categories for this exemption

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☒ 11

Application in other categories, which the exemption request does not refer to: N/A

The requested exemption will be applied in

- ☐ monitoring and control instruments in industry
- ☐ in-vitro diagnostics
- ☐ other medical devices or other monitoring and control instruments than those in industry

Category 11 reference is cited for lamps used in suntanning equipment which may be used in home use or in commercial suntanning salons.

LightingEurope is of the opinion that lamps in general are category 5 products, but can also be a component, a consumable as well as a spare part.

There are numerous applications where lamps can also be regarded as component of a product belonging to any of the other categories 1 - 11 e.g. lamps/lighting in ovens, refrigerators [category 1], clocks [2], copy machines, projectors [3], TV sets [4], background lighting of tools [6], video games [7], UV lamps in medical equipment [8], control panels for industrial installations [9], UV in automatic dispensers [10] or fixed lamps installed in furniture [11].

LightingEurope believes that lamps covered by some exemptions might not belong to category 5 equipment only. If they are specifically designed as a part or a component of one specific other equipment category, and if there is no intended possibility to use them in other categories, then they should be covered under that RoHS category. Examples for the latter case are specific lamps for medical equipment, which have a certain special function in such equipment only, e.g. lamps for vitreoretinal surgical systems.

LightingEurope is aware of the difficulty to unambiguously classify certain lamps in the categories set out by RoHS legislation. For lamp producers it is essential to have legal certainty regarding the possibility to put the products on the market irrespective of the planned application as we are not able to control the use of the lamps in products. Specific special

purpose lamps indeed can be considered also as a spare part (or consumable) in certain applications such as sun-tanning cabins and medical equipment.

4.2. Description of the substance

4.2.1. Substance covered by this exemption

Lighting Europe is asking for exempting

☒ Pb ☐ Cd ☐ Hg ☐ Cr-VI ☐ PBB ☐ PBDE

4.2.2. Function of lead

Lead is used in the phosphor for UV radiation in tanning and phototherapy and ECP lamps. The lead activator is required to allow the barium silicate phosphor to fluoresce. It transforms the 254 nm radiation to the designed UV (290nm-400nm) radiation. A fluorescent lamp uses phosphors which, when activated, will produce light in different wavelengths. The primary wavelengths of “light” produced by indoor tanning and phototherapy and ECP lamps are in the UVA and UVB regions or 290-400nm. Lead is the primary activator for the barium silicate phosphors to fluoresce and is used in over 95% of the indoor low-pressure mercury vapour fluorescent lamps used for tanning and certain medical applications which are not covered by this exemption.

4.2.3. Location of lead in lamps

The lead is evenly distributed throughout the phosphor coating of the lamps to radiate in the range of 290-400nm when excited by radiation at 254nm. The lead content of the phosphors is less than 1% of the total weight of the phosphor.

4.2.4. Amount of lead

The phosphor coating represents the homogenous material used in the fluorescent lamps with respect to this exemption. The lead content of the phosphor is less than 1% of the total phosphor weight.

There is no published data available for the quantity of tanning lamps entering the EU.

However, based on market estimations of LightingEurope the lead content of tanning lamps is limited to 180,5 kg[2] of lead total per year entering the EU. This amount is approximately 10% less in the phosphor and taking into account the decrease in available market, compared to the amount in the 2015 exemption renewal request.

[2] This lead quantity estimation now excludes the UK market.

4.2.5. Environmental assessments, LCAs

Additional information is not available as no alternate phosphor types are available that will yield the same result nor have undergone the regulatory testing of the EU or US. There are no statistical data available specific to the Life Cycle Analysis of the tanning and medical lamps represented in this exemption request, however due to the relatively low market quantities for special lighting, the total environmental impact is expected to be limited.

Research conducted about fluorescent lamps for general lighting applications does not specifically equate to these specialty lamps as they are not designed to produce visible light. Efficacies, expressing the amount of visible light in Lumen per Watt, are normally related to e.g. fluorescent lamps for general lighting, and do not apply to tanning lamps. Cradle to grave estimates for the production of the components and the finished lamps in this exemption request are similar to those of general lighting fluorescent lamps.

We refer to the fact however that the use of lead as an activator of the phosphor in these lamps allows the transmission of the specific wavelengths of light to be emitted in such a fashion to be the most effective form for its purpose, which is not achievable with other phosphor types or other technologies. Therefore, efficacies of any alternate product types would not be an adequate comparison.

The potential substitution or replacement to other wavelengths or ultraviolet dosages would require revalidation of all existing installed equipment in the EU market or could result in the elimination of such equipment, causing great hardship to the small business owners of tanning salons throughout the EU. These current lamp types have been tested, studied and regulated in the EU and changes to these products would require a duplication of the clinical testing which has been compiled over years of study and regulation. It is further noted that the overall lead content of such lamps, as in general lighting, has been reduced in the past five years to the less than 0.1% lead content, to allow for recycled glass in the glass envelope of the lamp.

5 Waste management

5.1. Waste streams

☒ Article is collected and sent without dismantling for recycling

☐ Article is collected and completely refurbished for reuse

☐ Article is collected and dismantled:

- ☐ The following parts are refurbished for use as spare parts: _____
- ☐ The following parts are subsequently recycled: _____

☐ Article cannot be recycled and is therefore:

- ☐ Sent for energy return
- ☐ Landfilled

Sun tanning lamps are in the scope of EU Directives 2002/96/EC - WEEE and 2012/19/EU– WEEE Recast. Take back systems are in place in all EU Member States: end users and most commercial customers can bring back the lamps free of charge. Sun tanning lamps are collected separately from general household waste and separately from other WEEE waste. A dedicated recycling process exists for lamps.

European legislation on Waste Electrical and Electronic Equipment makes producers responsible for end of life products within this category as from August 13th 2005. Target setting as a consequence of the present legislation is 4kg per inhabitant per year for all categories.

European lamp manufacturing companies have founded Collection & Recycling Organizations in the EU Member-States, represented by EucoLight, with the objective to organize the collection and recycling of gas discharge lamps. The goal is to comply with present and probable future EU legislation and meet or exceed national targets.

In general, the following channels have been established in the respective member states providing countrywide coverage:

- Direct collection from large end users and professional installers:

Containers have been made available, ad hoc or permanently, and will be collected upon notification by the end user that the container is full.

- Collection through distribution:

Wholesalers and Retailers place collection means at their premises respectively in their shops. Collection is done upon notification.

- Collection through municipalities:

Where the infrastructure allows collection, means are placed at municipality depots.

5.2. Amount of lead in WEEE

☐ In articles which are refurbished
☒ In articles which are recycled
☐ In articles which are sent for energy return
☐ In articles which are landfilled

Phosphor coating represents the homogenous material used in the fluorescent lamps with respect to this exemption. The lead content is less than 1% of the total phosphor weight.

There is no published data available for the quantity of tanning lamps entering the EU.

However, based on market estimations of LightingEurope the lead content of tanning lamps is limited to 180,5 kg of lead total per year entering the EU.[3] This amount is approximately 10% less in the phosphor and taking into account the decrease in available market, compared to the amount in the 2015 exemption renewal request.

[3] This estimated lead quantity now excludes the UK market.

6 Substitution

Can the substance of this exemption be substituted?

☐ Yes, by
- ☐ Design changes:
- ☐ Other materials:
- ☐ Other substance:

☒ No
Justification: see in chapters below

6.1. Substituting lead in the fluorescent powder of discharge lamps when used as sun tanning lamps

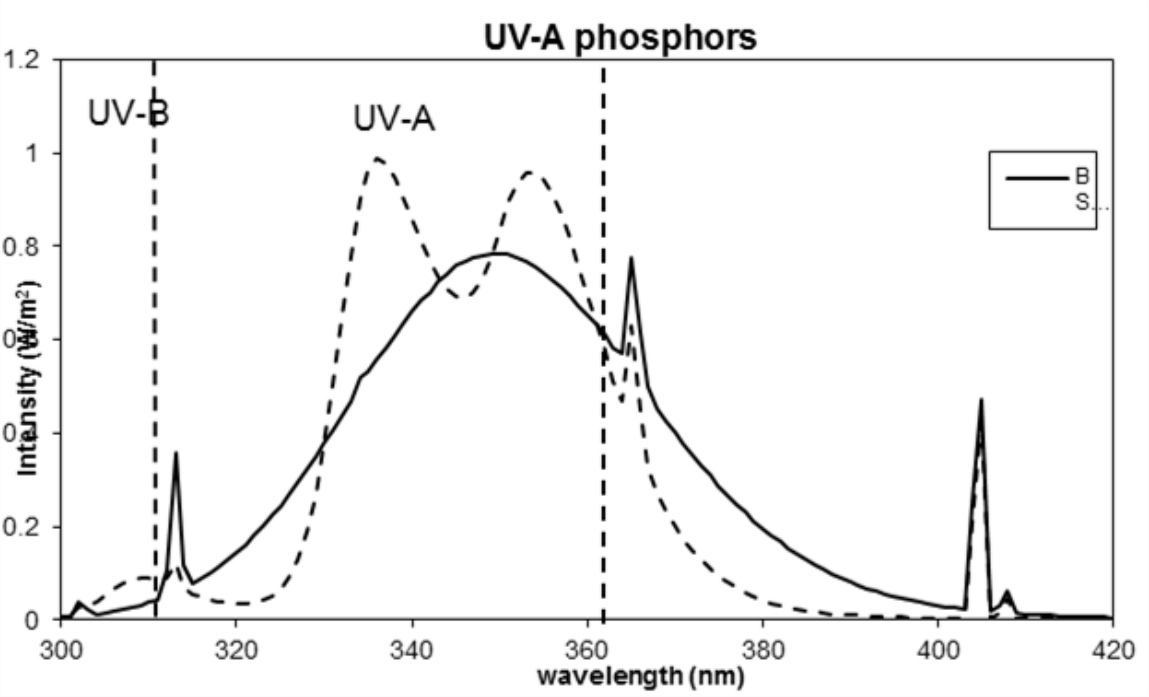
6.1.1. Spectrum incompatibility

The application for tanning equipment is strictly regulated in the EU. Any possible alternative to lead in BSP type of phosphor would need to fulfil the following criteria:

- Lamp specification must be the same with regard to:
  - UVA and UVB output, and with that Erythema
  - Spectral power distribution
  - Compatibility (electrical/mechanical spec)
  - Reliability
  - Safety
  - Lamp operation in the different equipment in the market
  - Lamp start-up and time to peak intensity
  - Lamp intensity
  - Lamp maintenance/depreciation
- Tanning result must be equal
- Compliance with CE regulations (X/Y coding system for tanning lamps according to EN 60335-2-27)
- No (negative) side effects
- (Psoriasis) Clearance rate on phototherapy patients
- Economic feasibility. Equipment in use today is calibrated and requires lamps to meet output limits using X/Y coding system. Different lamps would need revalidation.

Only one alternative material comes close: Ce doped YPO phosphor. Please see below spectrum of Ce doped YPO phosphor in comparison to BSP.

Phosphor coating represents the homogenous material used in the fluorescent lamps with respect to this exemption. The lead content is less than 1% of the total phosphor weight.



Graph 2: Emission spectrum of a Cerium-doped phosphor – UV lamp

Based on the above measurement results, it can be concluded that:

1. The spectral power distribution shows differences in the UVA and UVB range.
2. The ratio for UVA and UVB output is different which is an important factor for tanning applications and is governed by EU regulations.

Tanning lamp output is measured on a weighted distribution of UVA and UVB output measured by the output by nanometer. The lamps are coded using the X/Y system by lamp type which is then applied for use in each specific piece of equipment. Tests have been done using these phosphors for tanning lamps showing that the spread in UVA and UVB output is too high to be viable as a practically feasible alternative. It would not be able to comply with CE regulations for tanning lamps (due to spectral incompatibility)

6.1.2. UV output variations of Cerium phosphors in UV lamps

A second problem for the Ce doped phosphors is the variations of the UV output over the lamp length due to coating thickness. When fluorescent lamps are coated with a phosphor the thickness of the coating varies over the length of the lamp. For current UV-fluorescent coatings used, like BSP, the thickness variations do not lead to a severe inhomogeneous output. However, for Cerium doped phosphor this thickness difference leads to unacceptable UV output variations which will affect the skin treatment effectiveness (see table below).

	thin coated side		thick coated side	
	UVB		UVB	
1 P	594		325	
2 P	567		313	
3 P	614		322	
4 P	614		322	
5 P	604		350	
6 P	600		325	
7 P	595		301	
8 P	615		265	
9 P	599		283	
10 P	622		409	
AVG	602,4		321,5	
STDV	14,87	2%	36,96	11%
MAX	622,00		409,00	
MIN	567,00		265,00	
Range	55,00	9%	144,00	45%

Table 1: Thickness variations of Ce-doped coatings and the impact on UV output

6.2. Substituting fluorescent technology by lead free technology

In principle, other technologies can be evaluated for replacing fluorescent technology for tanning. One could think of e.g. LED, OLED, HID, and incandescent or halogen technology.

However, for any new technology one needs to address the replacement market (replacing lamps in existing fixtures) and the market for new equipment using the new technology.

The criteria to determine whether a new technology can replace existing fluorescent technology using BSP (and Hg) in existing equipment are:

- Lamp specification must be the same with regard to
    - UVA and UVB output
    - Spectral power distribution
- Safety
- Compatibility (Electrical and mechanical specification)
- Reliability
- Tanning result
- Compliance with CE regulations (X/Y coding system for tanning lamps according to EN 60335-2-27)
- No (negative) side effects
- Effective treatment results for phototherapy patients (e.g. clearance rates for psoriasis, effective chemotherapy, etc.)
- Economic feasibility (cost of replacement technology)

For new equipment similar criteria apply as above.

6.2.1. Feasibility of the alternatives

In this paragraph we only discuss LED as an alternative radiation technology as incandescent, halogen and OLED simply do not emit radiation in the UVA/UVB range.

LEDs, in principle, could be chosen as radiation technology for special purposes, provided the following criteria are fulfilled.

- Wall Plug Efficiency is comparable to fluorescent lamps
- Effectiveness is comparable to fluorescent lamps (i.e. same tanning effect)
- Regulation/approval is passed

In the following paragraphs each of these 3 criteria is discussed.

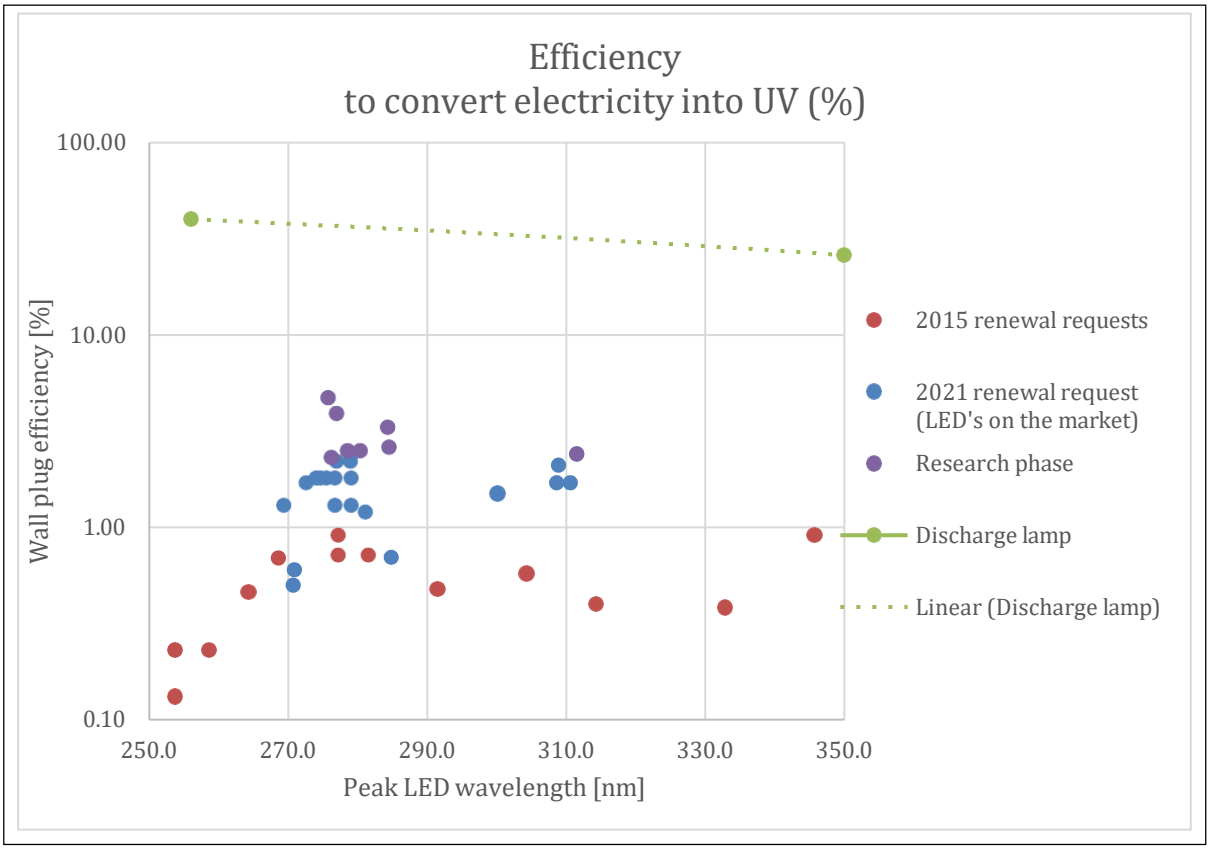
6.2.1.1. Wall Plug Efficiency

6.2.1.1.1. In contrast to general lighting lamps, (compact) fluorescent lamps for special purposes emit radiation in UV or blue wavelength bands. LEDs for general lighting purposes are made of InGaN, a material that emits blue light which with the help of phosphors is converted into the desired visible wavelengths. Theory says you can only convert from shorter wavelengths to longer. It is therefore impossible to create UV light with LED material as used for visible light LEDs.

6.2.1.1.2. There are other materials available from which LEDs can be made that generate UV light (like AlGaN), however the efficiency (radiated power out / electrical power in) of LEDs with those materials is still very low. In the UVC (100-280nm) and UVB (280-315nm) range, the WPE (wall plug efficiency) of LEDs is now close to 1%, where the wall plug efficiency of fluorescent lamps is close to 20% or even higher. See below pictures in which public data from several manufacturers are put together into a single graph.

6.2.1.1.3. Most of the sources in the figure below are single wavelength devices. It is unsure how these should be combined in equipment that radiates over a wider wavelength range.

Graph: LEDs (UVB, UVA and Blue): WPE vs. wavelength (data of several manufacturers)



Graph 3: Efficiency to convert electricity into UV (%)

Conclusion:

There is no comparable WPE for LEDs below 380 nm. Therefore, LED lamps are not suitable as a practical alternative for tanning applications in the near future.

6.2.1.2. Effectiveness data

For tanning, no tests results are available yet regarding effectiveness in reaching the desired effect in a comparison study between equipment using fluorescent lamps and equipment using LEDs. For most of these applications that is not done yet as no LEDs were available. Hence effectiveness data are not available.

6.2.1.3. Regulation/approval

CE conformity and other European directives for special purpose applications (like CE regulations on tanning lamps (CE 60335-2-27)) are based on fluorescent discharge lamps (with respect to safety and system responsibility). No CE conformity is available for other lamp technologies.

6.2.2. Availability of substitutes

UVA LEDs are available from several suppliers. However, as is clear from the above their efficiency is very low. No public roadmaps exist that predict when UVA LEDs with acceptable output and efficiency will be available. Only after that can the design and development of LED based tanning equipment start and then be followed by customer/patient tests.

6.2.3. Impacts of substitution

Apart from feasibility and availability also the potential impacts of substitution must be considered.

Amongst the impacts are:

- Environmental impact
- Health & Safety impact
- Socio-economic impacts
- Impact on innovation

6.2.3.1. Environmental impact of substitutes

Though LED technology is developing at a rapid pace for general lighting, there is today no viable LED alternative available for tanning applications. Therefore, this section is not applicable.

6.2.3.2. Health and safety impact of substitutes

The fluorescent tanning lamps in use today have undergone extensive testing and calibration in the equipment. The effect of Ce doped phosphor may have considerable impact on health and safety of customers as the manufacturing tolerance in output and spectrum cannot be controlled to the extent required by EU regulations. For LED as an alternative technology, the effects on health and safety will have to be investigated once equivalent technology becomes available.

6.2.3.3. Socio-economic impact of substitution

Economic effects related to substitution:

☒ Increase in direct production costs
☒ Increase in fixed costs
☒ Increase in overhead
☒ Possible social impacts within the EU
☒ Possible social impacts external to the EU
☒ Other:

It is expected that even if UVA LEDs become available with feasible specifications, tanning equipment may become much more expensive. It will therefore become an economically unattractive solution and this can have a significant impact on the application.

The possibility for lead free technology for these lamps is not feasible for replacements lamps in existing equipment due to the scientific and clinical evaluations that would need to be done on every type of tanning equipment that is in the field. This would impose economic burden on small business owners such as tanning salons and dermatologists, in the worst case leading to closure of many businesses.

It could be imagined that new equipment could be changed to non-lead phosphors. However, over 90% - and it is estimated that it may be as much as 99% - of the tanning phosphors are lead activated. There are no alternative non-lead activates phosphors available today that provide the same or equivalent spectral radiation.

Social impacts

As there are no reliable substitutes if the renewal of the exemption is not allowed it would shut down the indoor tanning industry in Europe.

LightingEurope members estimate that almost 100% of these lamps used in Europe are manufactured in Europe by fluorescent lamp companies.

It is estimated that almost 100% of the indoor tanning equipment sold in Europe is manufactured in Europe.

It is estimated that almost 100% of the tanning lamps sold as aftermarket lamps are sold by manufacturers or distributors located in Europe.

It is estimated that over 90% of the tanning lamps used in the US are manufactured in Europe.

It is estimated that over 75% of the tanning equipment sold in the United States is made in Europe.

6.2.4. Future trends of substitution

Given the market size and in combination with strict regulations, efforts to substitute BSP containing lamps are extremely limited (to non-existent).

No plans are made to replace Pb with Ce as earlier tests were unsuccessful and no new insights have been created.

As regards LEDs: other UVA applications are available in LEDs but tanning development has been limited. At this moment it is impossible to predict if and when UVA LED based equipment will become feasible. It is at this moment impossible to predict if and when UVA LED based equipment will become feasible, however the tests and approval process would take a very long period. Therefore, we request a renewal for the maximum validity period.

6.3. Links to REACH, according to RoHS Directive Article 5(1)(a)

Do any of the following provisions apply to the application described?

no

☐ Authorisation
- ☐ SVHC
- ☐ Candidate list
- ☐ Proposal inclusion Annex XIV

☐ Restriction
- ☐ Annex XIV
- ☐ Annex XVII
- ☐ Registry of intentions

☐ Registration

Provide REACH-relevant information received through the supply chain.

Not Applicable

7 Removal of lead from lamps

Can lead be eliminated?

☐ Yes.
☒ No.

It is not practical to remove the lead from these lamp types. The lead is required as an activator for the phosphors that produce the specific wavelengths of light necessary to provide the

necessary spectrum and meet the requirements imposed by the EU regulatory agencies.

8 Reduction of lead content of lamps

The less than 1% lead content of these lamps as a percentage of the weight of the homogenous phosphor material is needed to activate the phosphor.[5] A reduction in the lead content would cause either a loss of output or not be sufficient to activate the phosphor. As a result, the lamp would no longer satisfy EU regulations.

9 Other relevant information

The tanning industry is closely monitored and regulated by European authorities and is subject to standards such as EN 60335-2-27 and EN 61228.

EN 60335-2-27 : This International Standard deals with the safety of electrical equipment on exposing the skin to ultraviolet or infrared radiation, for household and similar use in tanning salons, beauty parlours and similar buildings.

Tanning equipment in Europe is subject to unscheduled auditing and measurement of the lamps and equipment which has been certified for use with lamps that are equivalent or the same as the lamps originally installed by the original equipment manufacturer (OEM). This equipment has undergone extensive testing to assure compliance with ultraviolet exposure schedules and the use of any lamps other than those substantially equivalent is restricted.

It would be a significant financial burden if not impossible to the independent salon owners to try to retrofit their equipment and have each unit certified by the regulating bodies.

10 Information that should be regarded as proprietary

All information regarding total available market and the calculations to estimate substance weights such as lead content is confidential and provided by LightingEurope as a total summation of estimates provided by the members.

[5] For more details on the lead content in glass, please refer to the LightingEurope exemption renewal request for Exemption 5(b), Annex III, of 16 January 2020, document: LE RoHS Exemption 5b - 20200116 – FI

Attachments:

1. European Sunlight Association: Letter of Support for RoHS renewal application ex.18b Cat.11

ESA Letter_RoHS Exemption 18(b) cat 1

2. NARVA Lichtquellen GmbH & Co: Letter of Support for RoHS renewal application ex.18b Cat.11

NARVA_Supportlette r RoHS exemption 18l