pinfa

pinfa input UK Furniture Fire Safety Regulations consultation

Deadline 24 October 2023

https://www.gov.uk/government/consultations/smarter-regulation-fire-safety-of-domestic-upholstered-furniture

Proposed pinfa answers to consultation questions:

Q1-4 – no comment (leave blank)

Q5: "*Do you agree that outdoor upholstered furniture should remain in scope of the regulations, unless an Outdoor upholstered product warning label is affixed?*"

Upholstered furniture (as defined in the proposal), that is including foam or textiles, is de facto not designed for nor adapted to outside use (the foam and textile will take up water, then rot and deteriorate). Items sold for outdoor use are therefore likely to be in fact used or stored by customers indoors. Also, upholstered furniture can represent a significant fire risk if used or stored on apartment balconies, from which fire can spread into the dwelling or in building facades. We therefore suggest that the fire safety regulations should apply to all furniture which is "upholstered".

Q6 – no comment (leave blank)

Q7 "*Do you agree with the proposed essential safety requirements? If not, please provide evidence to support your assertions.*"

We welcome the commitment to a high level of furniture fire safety and the recognition of the effectiveness in saving lives of the 1988 UK Furniture Fire Safety Regulations. We therefore welcome that proposal maintains the principles of the essential safety requirements which have shown their effectiveness in the current Regulations: require the finished upholstered furniture item, and all foam

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Page **1** of 13

A sector group of Cefic
European Chemical Industry Council - Cefic aisbl
EU Transparency Register n° 64879142323-90

used in it, to be both resistant to an open flame and to smouldering ignition and also self-extinguishing or slow burning. Requiring this for foams, and not only for the finished item, is important to ensure that fire safety is maintained after wear or damage or modification of the furniture item, including damage to protective barriers which can occur during a fire incident (falling objects). We note that the published proposal in places suggests that this requirement only covers polyurethane foams: we suggest that, in order to ensure fire safety of all furniture with various foam padding materials used today or in the future, this requirement should apply to all foams and not only to polyurethane foams.

We also support the principle of requiring that flame retardants used should not jeopardise the safety of people and we suggest that this should be widened to include not harming the environment. This should be widened to all chemicals and materials in the furniture. The requirement "not jeopardise" is however undefined. We suggest that this should refer to existing legislation, in particular REACH / UK REACH, see attached document. Also, the current wording should be clarified because it is currently unclear, in particular the word "chemical" should be deleted because it is unnecessary and confusing - see our comments in accompanying document.

Q8 - *The Flame Retardant Technology Hierarchy "Do you agree with approach proposed by the hierarchy?"*

We note the recognition in the consultation documents that flame retardants can be effective in preventing and slowing fires and agree that that they should only be used where appropriate to achieve fire safety.

pinfa underlines that recognised safe PIN (non-halogenated, phosphorus, inorganic or nitrogen based) flame retardants are available for furniture fire safety – see examples in document attached.

We welcome that evidence of implementation of the Hierarchy is required and that the proposal specifies examples of how evidence can justify that the use of flame retardants is appropriate (costings, designs, process map …). We suggest however that guidance will be need concerning the distinction made in the proposed Hierarchy between "flame retardants" and "inherently flame-retardant material": see attached document.

Q9 – "Do you agree testing a composite or representative sample of the final item is the correct approach to assess the safety of upholstered products?"

We suggest that it a composite or sample of the final item is used for testing then the manufacturer must justify that this contains all flammable materials in the final item and is representative of the fire risk of the final item, in order to prove that the essential fire safety requirements are met (not ignite with small flame or smouldering heat source, if ignited self-extinguish or burn slowly). We suggest that the manufacturer should also be able to prove the essential fire safety requirements by separate testing of all materials used in the final item, because this would then allow flexible design of different furniture items without further testing, provided that validated materials are used.

Q10 – "*Do you agree with the labelling proposals, including the requirement to list chemical flame retardants on the label? If not, please explain and provide any evidence.*"

We support the principle of labelling 'Carelessness causes fire' as proposed and reference to the Furniture Fire Safety Regulations.

We question the wording of the proposed labelling on flame retardants, because as written this suggests that flame retardants are required by the Regulation. Also the word "chemical" should be deleted because it is unnecessary and confusing - see our comments on wording in accompanying document. We suggest to modify (and shorten) the wording from "*contains chemical flame retardants to meet the requirements of The Furniture and Furnishings (Fire) (Safety) Regulations 20XX*" to "*contains flame retardants to reduce fire risk*".

We recognise the interest of providing information on which flame retardants are used in furniture, both for information for end-of-life recycling and for consumer transparency. This should be widened to cover all chemicals and materials used in the furniture, in order to support end-of-life recycling and for consumer transparency.

Evidence to support this list should be required of all manufacturers and importers.

However, we suggest that the physical product label is neither appropriate nor feasible for doing this. A list of chemical names or EINECS numbers will lead to complex and illegible labels, so confusing the key label message ("Carelessness causes fire"). We suggest that the list of flame retardants and relevant information be provided by digital means – see attached document.

We underline that the requirement to list flame retardants contained in the product should be limited to flame retardants added deliberately, otherwise unintended traces of flame retardants in recycled materials would become an obstacle to the use of recycled materials in furniture production.

It should also be specified that this list concerns only flame retardants used which remain present in the product, not chemicals intended to improve fire performance and other properties which react into polymers or materials and so are no longer present as such in the final product.

Q.11 "*Do you agree with the suggested contents of the technical file? Please include evidence to support the inclusion of further elements or removal or removal of elements included in proposals.*"

We support the proposed documentation proposals, subject to the comments regarding specification of the list of flame retardants made under Q10. This evidence and its availability are essential for enforcement and to ensure that imported furniture fully respects both fire safety and also health and safety specifications (including UK REACH chemicals regulations). Enforcement for imported furniture is a known problem for the existing UK Furniture Fire Safety Regulations as was underlined by BBC "Fake Britain" in 2014 (furniture and mattresses sold by leading UK retailers failed UK furniture fire safety regulations https://www.bbc.co.uk/programmes/b03qfnsf).

Q12. "*Do you agree with the proposals for a re-upholstery permanent label? Please provide evidence to support any suggested changes.*"

We support the principle of this label, with the same comments as under Q10.

Q13 – Q14 – no comment (leave blank).

Q15 "*Do you agree the proposal to extend the period for instituting legal proceedings should be extended from six to 12 months?*"

We support extending the period for instituting legal proceedings to 12 months or to 2-5 years. Enforcement is important and is a known problem for the existing UK Furniture Fire Safety Regulations (see answer to Q11). Furniture has a lifetime of decades, is often guaranteed for considerably longer than one year. Also, it takes time between import, retail, sale, delivery, as well as time for authorities to investigate possible complaints.

Q16-19 – no comment (leave blank).

pinfa accompanying document

pinfa input to UK Furniture Fire Safety Regulations public consultation

24 October 2023

pinfa fully supports the overall approach of the proposed new Regulations, but clarifications will be needed to ensure feasible applicability by manufacturers and retailers

pinfa:

➢ Welcomes the strong **commitment to a high level of furniture fire safety** and the recognition of the **effectiveness in saving lives of the 1988 UK Furniture Fire Safety Regulations**.

➢ We therefore welcome that **the principles of the essential safety requirements are maintained: fire performance of both the furniture item and of the foam used in it, resistance to open flame and to smouldering ignition and self-extinguishing or slow burning**.

➢ Notes that clarification is needed: requirements should **apply to all foams**, not only "polyurethane".

➢ Notes the **recognition that flame retardants can be effective** in preventing and slowing fires. pinfa underlines that **recognised safe flame retardants are available for furniture fire safety**.

➢ Supports that **FRs should only be used where appropriate** and therefore supports the proposed Flame Retardant Technology Hierarchy, noting that guidance will be needed on implementation.

➢ Supports that only **FRs should be authorised only if safe as used, both for people and for the environment**. This should be **based on existing chemical regulation** (REACH / UK REACH). Safety should be analysed in use (based on exposure and risk assessment) not only on the properties of the chemical or material (hazard).

➢ **Supports the requirement for information on flame retardants present in furniture**, however this should be **widened to all chemicals** and should be **provided digitally**. This information is not appropriate on the physical label (not understandable to consumers, will render label not legible) whereas, **digitally, information necessary for end-of-life management and recycling** can be provided.

➢ Suggests to **delete the word "chemical"** (in ""chemical flame retardant"): modify the label wording from "*contains chemical flame retardants*" to "*contains flame retardants to reduce fire risk*".

pinfa underlines that need for **better enforcement** and full and verifiable documentary evidence to ensure that imported furniture fully respects fire safety specifications and chemical and material safety requirements.

Who is pinfa?

pinfa is the Phosphorus, Inorganic and Nitrogen (PIN) Flame Retardants Association (a Sector Group within Cefic, the European Chemical Industry Council). www.pinfa.org

We bring together (with pinfa North America and pinfa China) nearly 40 companies who manufacture or use non-halogenated flame retardants. pinfa members include large companies and SMEs in different areas of PIN fire safety chemistry or application.

PIN flame retardants include all non-halogenated flame retardants, smoke suppressants and synergists, and are based on chemistries of one or more of phosphorus, nitrogen and inorganics (metals, sulphur, clays …). PIN flame retardants include both organic and inorganic chemistries and hybrids; additive, reactive and polymeric molecules.

PIN flame retardants can act by different mechanisms, including gas phase flame inhibition, solid phase (protective carbon or ceramified char layer), cooling and water or inert gas release, catalytic smoke suppression, and intumescent barrier systems.

They are potential alternatives to halogenated flame retardants (organobromine and organochlorine chemicals) and antimony in plastics and foams, rubbers, natural and synthetic fibres and textiles and composites used in furniture.

pinfa's Mission Statement: "*Members of pinfa share the common vision of continuously improving the environmental and health profile of their flame retardant products. This vision is coupled with a commitment to maintain high fire safety standards across the world, standards which minimize the risk of fire to the general public.*" https://www.pinfa.eu/about-pinfa/mission

Effectiveness of the existing UK Furniture Fire Safety Regulations

The UK Furniture and Furnishing Regulations (FFRs) remain among the most effective fire safety regulations in the world when it comes to furniture.

Home fire death rates for the EU (minus UK and Ireland) and the USA are significantly higher than in the UK and Ireland, ranging from 75 % - 85 % more than that of the UK and around 50 % more than that of Ireland. We acknowledge that fire death rates are but one measure in an overall fire safety case and the Furniture Fire Safety Regulations are only one aspect of fire policy in the UK, but these numbers are nonetheless significant..

Country/ Region	Deaths due to fire in the home	Population (millions)	Fire deaths per million head of population
USA	3,343 (NFPA)	327	10.2
EU 28, minus UK and Ireland	4,600 (estimate)	442	10.4
UK	363 (DCLG)	66	5.5
Ireland	34 (DHP&LG)	5	6.8

The UK Government's own research cited in the consultation documents (page 7) estimates that since the inception of the FFRs, they have saved around 54 lives annually, along with preventing 1050 injuries and £140 m of property damage. As such, any modification updating the FFRs should not jeopardise fire safety by not lowering fire safety requirements.

The first essential safety requirement of the UK Regulations is the resistance of the furniture item to ignition by flaming or smouldering heat sources, with the requirement for either self-extinguishing or slow burning. The "open flame" and the "smouldering" tests should be retained to ensure furniture is safe for use: resists ignition and does not readily ignite across any part of the surface area if directly exposed to a flaming or smouldering ignition source (flame such as a candle or small fire starting next to the furniture, spark, overheating of electrical components, cables or batteries, cigarette, other potential source of fire).

Flaming ignition sources including candles and matches and other naked flames still represent the ignition source for 30% of domestic fires where furniture is the first item ignited and 9% of all domestic fires (consultation documents page 7).

The "crib 5" open flame test has proven to be an excellent tool to only allow the use of products with a high level of fire protection, thus making a decisive contribution to the fire safety of upholstered furniture. This is demonstrated in several studies:

- Blais et al. (Blais, M.S., Carpenter, K. & Fernandez, K. Comparative Room Burn Study of Furnished Rooms from the United Kingdom, France and the United States Fire Technol (2019). https://doi.org/10.1007/s10694-019-00888-8), shows that compared to US/French furnishings, UK furnishings meeting the crib 5 test show a significantly delayed time to flashover and a significantly delayed smoke production of shorter duration.

- Guillaume et al. 2020 (https://doi.org/10.1002/fam.2826, funded by BSEF), Blais et al. 2019 (https://doi.org/10.1007/s10694-019-00888-8 funded by NAFPRA & ACC): UK furniture afforded significantly more protection to people in terms of escape time, in comparison to EU and US furniture .

- Kacew et al. 2020 (https://doi.org/10.1016/j.cotox.2020.05.003 funded by NAFPRA & ACC) Since the requirement for open flame fire resistance was removed from the California furniture fire standards (CAL TB 117), there is an upward trend in fire fatalities. The main change was the removal of the open flame test. Can be updated with NFPA data to 2021 https://www.nfpa.org/News-and-Research/Data-research-and-tools/US-Fire-Problem/Fire-loss-in-the-United-States

- A New Zealand government review concluded that foam filled furniture poses a serious danger in homes ("Product Safety Policy Statement Foam-filled furniture -
Reducing the risk of fire-related harm from household" July 2019
https://www.productsafety.govt.nz/assets/uploads/ps-documents/product-safety-policy-statement-foam-filled-furniture.pdf)

The second essential safety requirement of the UK Regulations is that foams used in the furniture should also (when tested directly, not enclosed in the furniture) be fire resistant. The fire risk posed by polyurethane and other foams presents a specific challenge. Most modern furniture includes foams which are highly flammable and ignite very quickly. Furniture products can meet the first essential safety requirement due to the fire-retardant properties of the cover materials and webbing and barrier materials or interliners used. However, should these fire barriers be breached by wear, furniture modifications or repairs, damage during use, or by fire or by falling items during fires, then foam not meeting fire performance requirements would represent a potential lethal fuel source generating high levels of heat, smoke emission and likelihood of fire spread to other items in the room and flashover. We therefore support that foams should have specific flammability requirements, in addition to the obligations to ensure the full item is fire safe.

Inappropriate use of the word "chemical" / wording of labelling

The word "chemical" (in "chemical flame retardant") should be deleted, throughout (in definitions, labelling, Hierarchy …) because it is unnecessary and confusing:

- Unnecessary: all flame retardants are inevitably chemicals, as indeed are other materials used in furniture (polymers, foams, textiles, …)

- Confusing: the word "chemical" suggests that "non-chemical" flame retardants exist, which is false (even water, which is an effective if impractical flame retardant, is a chemical).

Also we question the wording of the proposed labelling on flame retardants, because as written this suggests that flame retardants are required by the Regulation.

We suggest to modify (and shorten) the label wording from "*contains chemical flame retardants to meet the requirements of The Furniture and Furnishings (Fire) (Safety) Regulations 20XX*" to "*contains flame retardants to reduce fire risk*".

Need for Guidance in implementation of Flame Retardant Technology Hierarchy

We suggest that guidance will be needed for industry concerning the distinction made in the proposed Hierarchy between "flame retardants" and "inherently flame-retardant material".

The definitions proposed in the published "Draft legislation for illustrative purposes only" are:

- *chemical flame retardant: a substance added, or a treatment applied, to a material in order to suppress or delay ignition or reduce the rate of burning*
- *inherently flame-retardant material: a material which offers a level of flame resistance without the use of additional chemical additives or treatments*

Are the following considered to be "flame retardants" or "inherently flame-retardant material" (or both) ?:

- synthetic polymers into which chemicals containing phosphorus or other elements are reacted to both improve fire resistance and other properties
- Natural polymers into which chemicals containing phosphorus or other elements are reacted to both improve fire resistance and other properties (e.g. natural textile fibres treated using chemicals which react into the fibre molecules and improve both fire performance and mechanical properties)
- phosphorus-containing synthetic polymers, such as polyphosphonates, which can be blended with other synthetic polymers or with natural fibres, and so are thus used both as flame retardant and as inherently flame-retardant material
- synergists which do not act directly as flame retardants, but are used with flame retardants to improve their effectiveness (eg. Antimony trioxide with halogenated flame retardants)
- smoke suppressants which do not act on flaming or ignition, but are used to reduce smoke emission in case of fire

Demonstrating "safety" of chemicals

We support the principle of requiring that flame retardants used should not jeopardise the safety of people and we suggest that this should be widened to include not harming the environment. This should be widened to all chemicals and materials in the furniture.

We welcome that the proposed wording, by referring to the impacts of the furniture item on safety, effectively refers to the risks posed (in use) of chemicals and not to the chemical's hazard properties (as a pure chemical) "*An upholstered product must not, in respect of any chemical flame retardants it contains, jeopardise the safety of any consumer or other person, taking into account the foreseeable behaviour of that consumer or other person.*".

We underline that **safety must be analysed as regards exposure and risk (during consumer use, during dismantling / end-of-life, etc),** based on exposure and risk assessments, and not only as regards the hazards of the component chemicals and materials. Risk assessment compares the hazard of a substance with the exposure. Negligible exposure concentrations of hazardous substances can be safe, as is the case with many products which are widely used (e.g. consumer exposure to petrol and diesel). When chemicals have been assessed for use in furniture for, and are compliant with, UK REACH then they should be considered safe for such use. The hazard properties of a substance alone do not define the risk.

The requirement as worded ("not jeopardise") is however undefined and legally ambiguous. We suggest that this should refer to and be based on existing legislation, in particular REACH / UK REACH. These legal instruments that are considered amongst the most stringent in the world.

The regulation of chemicals falls within the jurisdiction of authorities such as ECHA in the EU and DEFRA, HSE and EA in the UK. It should be specified that the demonstration of health and environmental safety of chemicals used in furniture is the competence of these authorities and that the implementation of this aspect of the Furniture Fire Safety Regulations will be legally based the powers of these authorities to regulate chemicals, including their powers to restrict substances where necessary.

We suggest to also specifically refer to the ECHA "Regulatory strategy for flame retardants", March 2023, ISBN 978-92-9468-261-1,
https://echa.europa.eu/documents/10162/2082415/flame_retardants_strategy_en.pdf

Recognised safe PIN flame retardants are available for furniture

pinfa underlines that **recognised safe flame retardants are available for furniture fire safety**.

The following PIN (non-halogenated, phosphorus, inorganic or nitrogen based) flame retardants are used to improve fire safety of furniture, are not Classified for heath/environment (or lose the Classification on application) and are accepted for use under the TCO (the health, environment and worker protection label for office and home electronics) and/or ÖkoTex (the textile ecolabel).

Flame retardants used in furniture and accepted as safe			
	Health or environment Classifications	TCO* accepted	ÖkoTex** accepted
Bisphenol A diphosphate	NO	YES	
Triphenyl Phosphate	YES	YES	
Tetrakis (2,6-dimethylphenyl)-m-phenylene biphosphate	NO	YES	
Siloxanes and silicones, di-Me, di-Ph, polymers with Ph silsesquioxanes	NO	YES	
Phenoxyphosphazene / hexaphenoxycyclotriphosphazene (HPCP)	NO	YES	
Polyphosphonates	NO		YES
Phosphonic acid, (3([hydroxymethlyl]amino)-3-oxopropyl-dimethyl ester	NO	YES	
Proprietary organosphorus-based flame retardants[$]	NO		YES
Melamine polyphosphate	NO		YES
N-alkoxy hindered amine	NO	YES	
* TCO the health, environment and worker protection label https://tcocertified.com/ ** ÖkoTex https://www.oeko-tex.com/en/our-standards/standard-100-by-oeko-tex *** ZDHC = Zero Discharge of Hazardous Chemicals coalition http://www.roadmaptozero.com/ $: further information available from the different pinfa member companies on request			

Information on chemicals present in furniture

It is proposed to require listing on the furniture label of all flame retardants contained in the item.

pinfa supports this requirement but suggests this should:

- cover all chemicals and materials contained in the furniture, in order to provide necessary information for end-of-life recycling and for repairability, and for consumer transparency

- be limited to only flame retardants intentionally contained, in order to avoid obstacles to use of recycled materials which may unintentionally contain traces of legacy flame retardants or other chemicals

- be provided digitally, e.g. available online via QR code and on manufacturers' website. The physical product label is neither appropriate nor feasible for doing this. A list of chemical names or EINECS numbers will lead to complex and illegible labels, so confusing the key label message ("Carelessness causes fire"). The digital information should also be made available (obligation to transmit) on a central website, in order to ensure that this information is not lost if manufacturers go out of business or upgrade their website. Digitalising this information would facilitate inclusion of additional information necessary for end-of-life management, in particular which flame retardants (and other chemicals) are in which parts of the furniture (foam, textile, backing, structure …).

- concern only flame retardants which remain present in the product as used, not chemicals intended to improve fire performance and other properties which react into polymers or materials and so are no longer present as such in the final product.

We underline that evidence to support this list should be required of all manufacturers and importers.

Enforcement

Enforcement for imported furniture is a known problem for the existing UK Furniture Fire Safety Regulations as was underlined by BBC "Fake Britain" in 2014 (furniture and mattresses sold by leading UK retailers failed UK furniture fire safety regulations https://www.bbc.co.uk/programmes/b03qfnsf).

Enforcement and documentary evidence are therefore essential points, for the fire safety requirements, and for the safety of flame retardants and other chemicals used in the furniture, and for information on chemicals.

![pinfa logo]

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About pinfa :

pinfa is the Phosphorus, Inorganic and Nitrogen (PIN) Flame Retardants Association (a Sector Group within Cefic, the European Chemical Industry Council). www.pinfa.org We bring together (with pinfa North America and pinfa China) nearly 40 companies who manufacture or use non-halogenated flame retardants, smoke suppressants and synergists, based on chemistries of one or more of phosphorus, nitrogen, and inorganics