

Webinar

Updates on Key *EU Environmental Regulations and China RoHS*

12th February, 2025



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Meet the Team



Mike Kirschner
Consultant,
Design Chain
Associates



Orlaith Morris
Content Marketing
Manager,
Compliance & Risks

Mission Statement

Ensure global companies have the tools & information to build safe, sustainable, products in a world full of change

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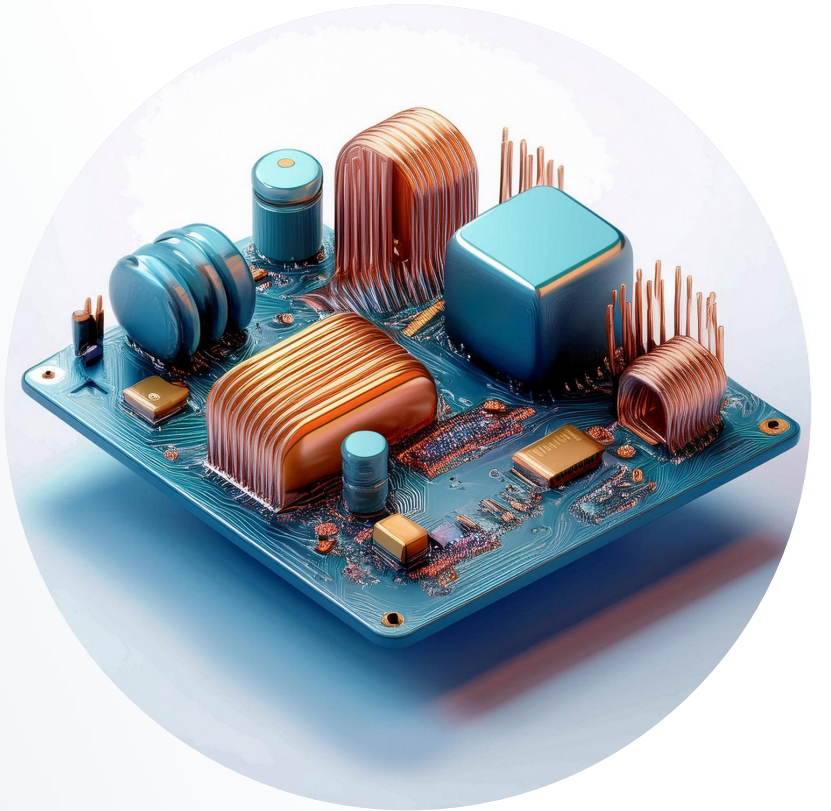
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Agenda

- 00.** DCA Introduction
- 01.** Some aspects of ESPR
- 02.** ECHA's Recent Study of BFRs
- 03.** EU RoHS Update
- 04.** China RoHS Update
- 05.** Challenges, Possible Actions



About Design Chain Associates



- Manufacturing Consulting firm
- Focus on Discrete/Fabricated "Article" Manufacturers
- Based in San Francisco, CA
- Primary Focus: Strategies/Tactics for Compliance with Product-Impacting Environmental Regulations, Customer Requirements and Circular Product Leadership
 - Substance Restriction/Disclosure Compliance, Circular Economy, Recycling, Green Claims, Energy Use, Conflict Minerals, Carbon/GHG, NGOs/Retailers
 - Worldwide scope
 - A&D, Industrial and Commercial, Consumer, Medical, Apparel, Ag equipment, Construction equipment, etc.
- Visit DCA.LLC

Mike's Background



Twenty years in manufacturing companies in product development and quality/ reliability roles



Over twenty years working in consultancies



Co-Moderator: ANSI Chemicals Network:
2006-2016



Member of California EPA DTSC Green
Ribbon Science Panel: 2009-2013



Member of American Chemical Society
Green Chemistry Institute Advisory
Board: 2014-2021

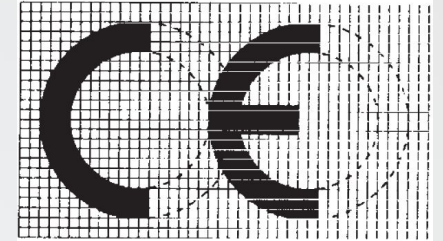
A Framework for the Setting of Ecodesign Requirements for Sustainable Products: ESPR

- Regulation (EU) 2024/1781, published in the Official Journal (OJ) 28 June 2024
- Recasts/repeals the second Ecodesign Directive, 2009/125/EC (which recast/repealed 2005/32/EC)

“Its primary purpose is to reshape the regulatory landscape of the EU, ensuring that products placed in the EU internal market become increasingly sustainable.”

- Framework Regulation
 - “Delegated Acts” (formerly “Implementing Measures” in 2009/125/EC) will define specific requirements for specific product categories

Key Requirements



- Scope is nearly unlimited
- NLF Regulation: CE Mark, etc. required
- Expands well beyond the energy efficiency focus of previous versions
 - Though 2009/125/EC enabled it, only a handful of implementing measures incorporated such requirements (e.g., 2019/2021 on Displays and 2019/424 on Servers/Storage)
- Provides yet another pathway to disclose, restrict, or otherwise control substance use
- Digital Product Passports
 - A set of data specific to a product that includes the information specified in the applicable delegated act adopted pursuant to Article 4 and that is accessible via electronic means through a data carrier (barcode, QR code, etc.) in accordance with Chapter III

Initial Proposed Product Priorities

- With each recast, the scope of the EcoDesign Directive/ Regulation expand has expanded
- The JRC recently published a "Study on new product priorities"
- Table shows the potential priorities for the next steps of preparation of the first ESPR Working Plan

Product Priorities		
Finished Goods (Final Products)		
Absorbent hygiene products	Furniture	
Bed mattresses	Lubricants	
Cosmetics	Paints and varnishes	
Detergents	Textiles and footwear	
Fishing gears	Toys	
	Tyres	

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Product Priorities		
Finished Goods (Final Products)		Intermediate Products
Absorbent hygiene products	Furniture	Aluminium
Bed mattresses	Lubricants	Commodity chemicals
Cosmetics	Paints and varnishes	Glass
Detergents	Textiles and footwear	Iron and steel
Fishing gears	Toys	non-aluminium metal products
	Tyres	Non-ferrous
		Plastic and polymers
		Pulp and paper

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Product Priorities			
Finished Goods (Final Products)		Intermediate Products	Horizontal Requirements
Absorbent hygiene products	Furniture	Aluminium	Durability
Bed mattresses	Lubricants	Commodity chemicals	Recyclability
Cosmetics	Paints and varnishes	Glass	Recycled content
Detergents	Textiles and footwear	Iron and steel	
Fishing gears	Toys	non-aluminium metal products	
	Tyres	Non-ferrous	
		Plastic and polymers	
		Pulp and paper	

ESPR Annex I – Product Parameters:

Potential Areas of Control

<u>Durability</u>	Use or consumption of energy, water and other resources	Carbon Footprint
Reliability	<u>Use or content of recycled materials and recovery of materials</u>	Material Footprint
Ease of Repair and Maintenance	Use or content of sustainable renewable materials	Microplastic and nanoplastic release
Ease of Upgrading, Reuse, Remanufacturing and Refurbishment	Weight and volume of the product and its packaging, and the product-to-packaging ratio	Emissions to air, water or soil
<u>Design for Recycling</u>	Incorporation of used components	Amounts of waste generated
Technical solutions detrimental to the above	Consumables	Functional performance and conditions for use
Use of Substances of Concern	Environmental Footprint	Lightweight design as expressed through reduction of material consumption

The Digital Product Passport Can Include

- (a) information required under Article 7(2), point (b), and Article 7(5) or by other Union law applicable to the relevant product group;
- (b) the unique product identifier at the level indicated in the applicable delegated act adopted pursuant to Article 4;
- (c) the Global Trade Identification Number as provided for in International Organization for Standardisation/International Electrotechnical Commission standard ISO/IEC 15459-6 or equivalent of products or their parts;
- (d) relevant commodity codes, such as a TARIC code as defined in Regulation (EEC) No 2658/87;
- (e) compliance documentation and information required under this Regulation or other Union law applicable to the product, such as the declaration of conformity, technical documentation or conformity certificates;
- (f) user manuals, instructions, warnings or safety information, as required by other Union law applicable to the product;
- (g) information related to the manufacturer, such as its unique operator identifier and the information referred to in Article 27(7);
- (h) unique operator identifiers other than that of the manufacturer;
- (i) unique facility identifiers;
- (j) information related to the importer, including the information referred to in Article 29(3) and its Economic Operators Registration and Identification (EORI) number;
- (k) the name, contact details and unique operator identifier of the economic operator established in the Union responsible for carrying out the tasks set out in Article 4 of Regulation (EU) 2019/1020 or Article 15 of Regulation (EU) 2023/988, or similar tasks pursuant to other Union law applicable to the product;
- (l) the reference of the digital product passport service provider hosting the back-up copy of the digital product passport

Delegated Act Contents Will Include:

- List of commodity codes
- Ecodesign requirements
- Test, measurement or calculation standards or methods to be used
- Relevant harmonized standards
- Conformity Assessment Requirements
 - Internal Production Control (Module A)
 - Test reports are required

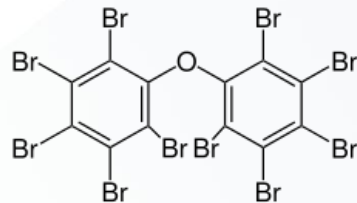


ECHA's Aromatic BFR Report of 18 Dec 2024

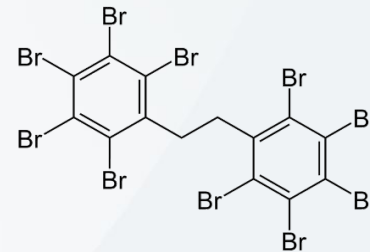


EU Flame Retardant Strategy, March 2023

- The FR strategy came about because “restrictions focused on a limited number of brominated flame retardants and frequently have driven the markets to substitutes that are not necessarily always without risk, for example decabromodiphenyl ethane (EC 284-366-9, DBDPE) being widely marketed as replacement for decabromodiphenyl ether (decaBDE).”
 - EC finally learning that simply restricting substances isn’t always a solution
 - Industry will choose the easiest/cheapest (preferably drop-in replacement) route to continue production
- DBDPE is a “regrettable substitution” for DecaBDE



Decabromodiphenyl ether
(DecaBDE)



Decabromodiphenyl ethane
(DBDPE)

Next Step – We Need More Data!

2023-12-22: DG ENV asks ECHA to provide additional information to “support decisions on the most appropriate regulatory approaches for some (groups of) flame retardants”, particularly aromatic brominated FRs

- Updates on hazard information
- Close information gaps on aromatic BFRs, incl. materials, articles, and products that use them as well as alternative FRs for the same uses
- Provide information on “emissions of flame retardants from different materials and articles”
 - Migration out of plastics is a known issue for many additives
- Identify ways to “differentiate waste streams... containing different FRs”

ABFR Conclusion

2024-12-18: ECHA published “**INVESTIGATION REPORT ON AROMATIC BROMINATED FLAME RETARDANTS**”

- **Near-term focus on “aromatic brominated” flame retardants, which are typically used in electronics (and automotive, construction, and textiles)**
- **Aliphatic brominated and organophosphorus** flame retardants – reassess in 2025
- In conclusion, among the ABFRs, the non-polymeric additives pose a higher burden to the environment, with five of them being of particular concern because PBT/vPvB properties for these substances (or constituents above the regulatory limit of 0.1 %) are either formally confirmed or have been assessed in a substance evaluation with a PBT outcome.
- There’s a much longer list of “Substances likely to fulfil the PBT/vPvB criteria”

Group	EC/List No.	Type of ABFR	Justification
Brominated diphenyl ethyls (DBDPE)	284-366-9	Non-polymeric additive	vPvB outcome (substance evaluation)
Brominated diphenyl ethyls	700-158-7	Non-polymeric additive	UVCB containing EC 284-366-9 as a constituent. QSAR screening predicts (v)P,vB and T
Brominated phthalates	247-426-5 (TBPH)	Non-polymeric additive	vPvB confirmed (SVHC)
Brominated phthalates	428-050-2	Non-polymeric additive	Contains EC 247-426-5 as a constituent QSAR screening predicts (v)P, B and T
Other	253-692-3 (BTBPE)	Non-polymeric additive	vPvB confirmed (SVHC)

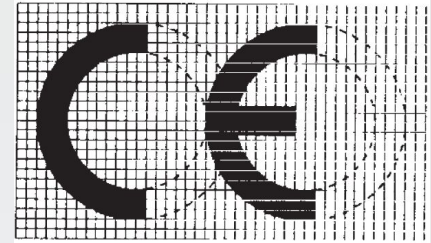
EU RoHS Update

Mandatory Testing Proposed

6- and 7- Series Exemptions



Mandatory Testing?



- Article 7(b) of 2011/65/EU requires testing per Module A, point 2 of Annex II to Decision No. 768/2008/EC.
- CENELEC developed EN 50581:2012 in order to address this requirement and align it with industry “best practices”
 - DG ENV understood this and approved EN50581:2012 as the RoHS Harmonised Standard per C 363/6 Official Journal of the European Union 23.11.2012
 - IEC TC 111 recognized the importance of internationalizing EN50581:2012 and developed IEC 63000:2016 which was later adopted by the EU to replace EN50581:2012 with EN IEC 63000:2018.
- DG ENV Notified CENELEC on 21 Nov 2024 of a draft Implementing Decision to amend EN IEC 63000:2018 to require testing

But WHY is DG ENV Doing This?

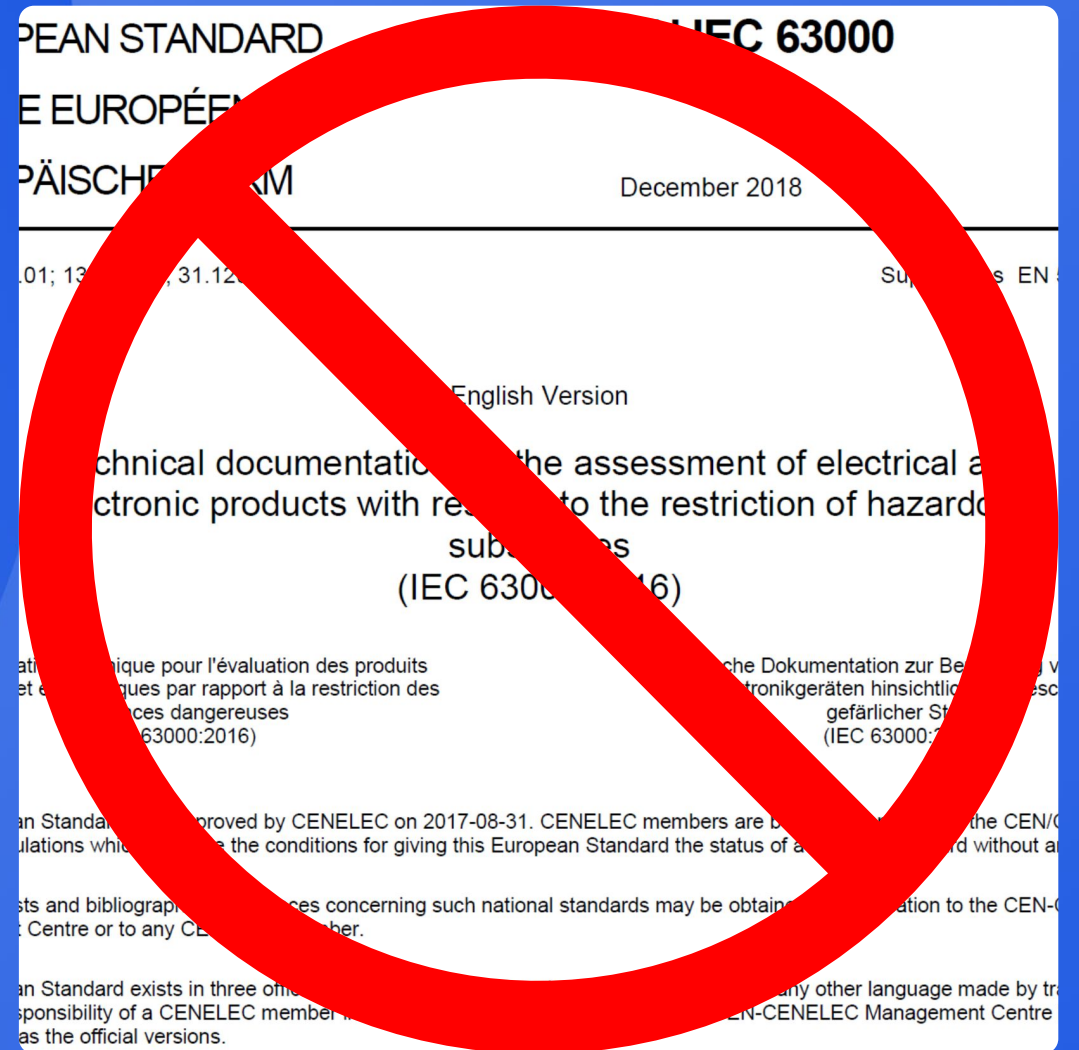
- "...the current standard makes test reports or also full material declaration only optional in the technical documentation"
- Decision 768/2008/EC Module A requires testing
- "the combination of more technical evidence in [the] form of test reports with a quality system, contractual arrangements etc. can make the technical documentation ... a more meaningful source for all those involved"
- EEE placed on the EU market often has "unsatisfactory non-compliance rates"

Table ZZ.1 – Correspondence between this European standard and the requirements of Directive 2011/65/EU of 8 June 2011 (OJEU of 1 July 2011)

Requirements of Directive 2011/65/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Article 7 (b) and (e)	Clause 4	Compliance with clause 4 of this Harmonised Standard ensures that the technical documentation is drawn up in accordance with the requirements of the Directive



What's the Point of Having a Harmonised Standard for RoHS, then?



Pack 22 Exemption Renewal - Draft Delegated Directives

Pack 22 - Study to assess requests for a renewal of nine (-9-) exemptions 6(a), 6(a)-I, 6(b), 6(b)-I, 6(b)-II, 6(c), 7(a), 7(c)-I and 7 (c)-II of Annex III of Directive 2011/65/EU

- Issued February 15, 2022

Three Draft Delegated Directives issued 3 years later on 10 Jan 2025

- [Hazardous substances – exemption for lead in high melting temperature type solders](#)
- [Hazardous substances – exemption for lead in glass or in ceramic of electrical and electronic components](#)
- [Hazardous substances – exemption for lead as an alloying element in steel, aluminium and copper](#)

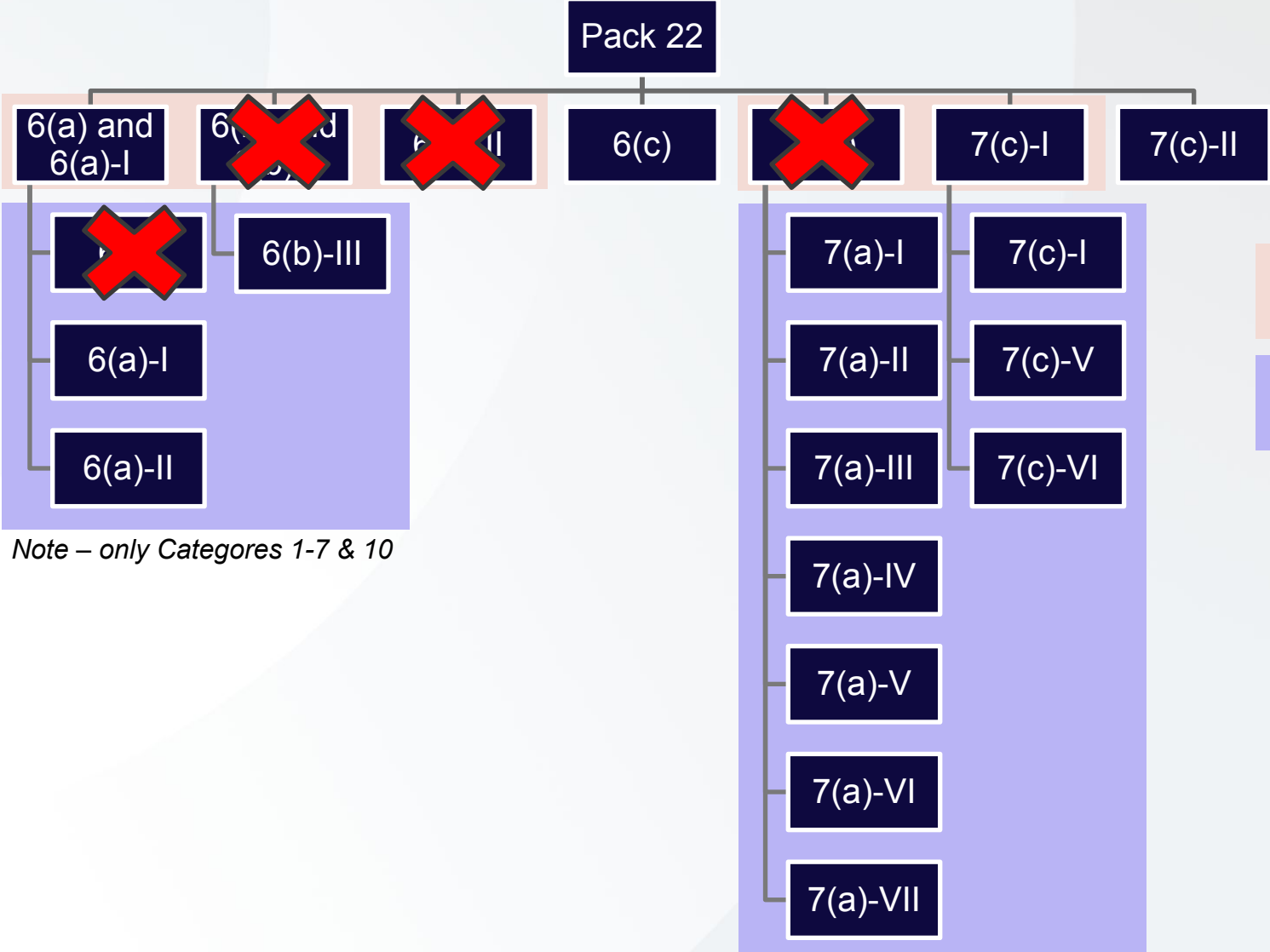
Comment period ended 10 Feb 2025

- Except for the WTO TBT Committee period, which ends 7 March 2025

Per WTO TBT documents

- proposed date of adoption: March 2025
- Proposed date of entry into force: 20 days from publication in the Official Journal of the EU (about three months after adoption approximately)

Draft Delegated Directive Exemption Changes



The Problems with RoHS

Wrong Goal for Today: written to drive exemptions out of existence

- Fails to account for diminishing and poor ROI
- Opposite of “Pareto Principle”

No formal guidance; out-of-date and incomplete FAQ

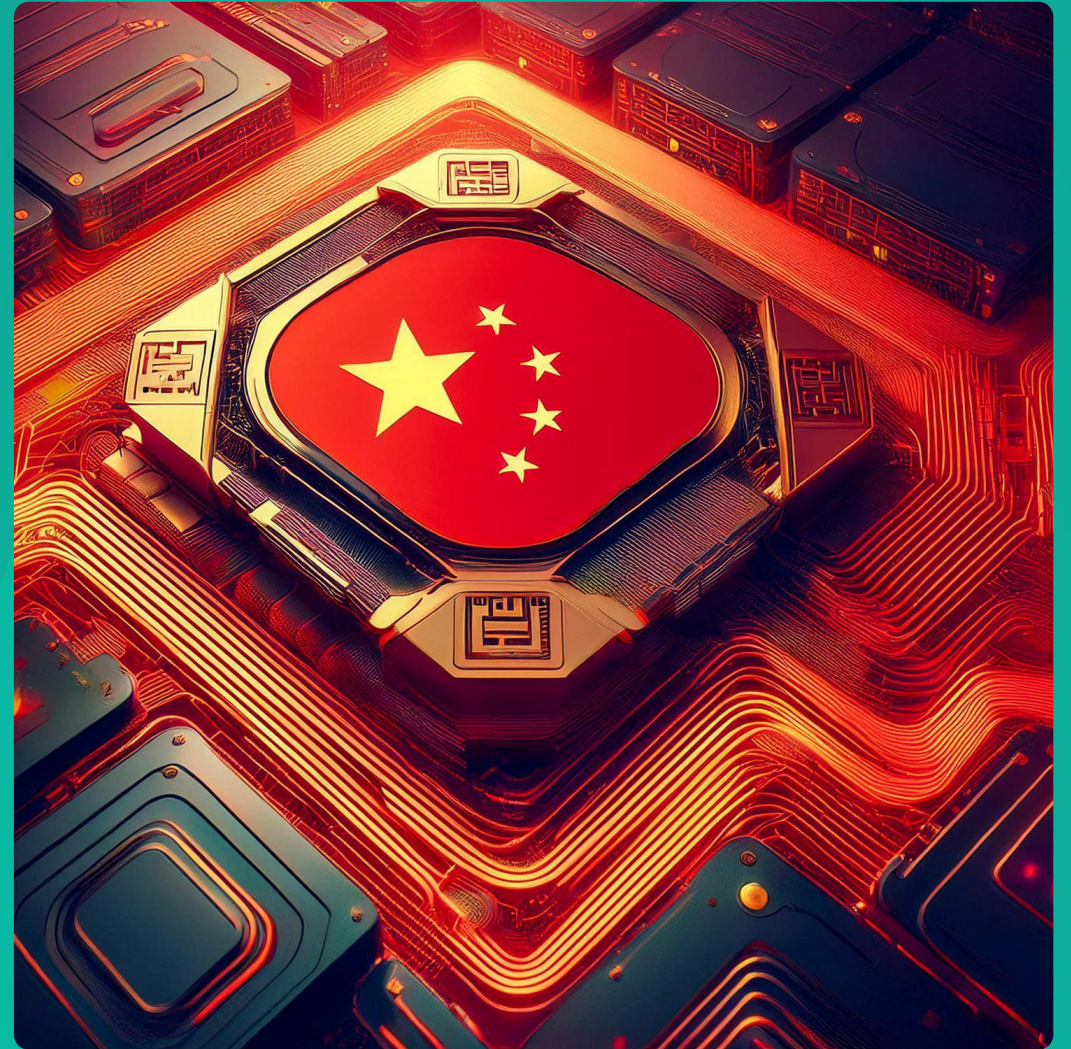
Does RoHS still have a purpose?

RoHS must be recast or incorporated into REACH or ESPR to fix this



China RoHS 2 Updates

- **Adding the 4 Phthalates**
- **Mandatory Testing**
- **And More**



China RoHS 2, Phase 2?

11 Nov 2024: MIIT publishes draft GB 26572 update

- Was “Requirements of Concentration Limits for Certain Restricted Substances in Electrical and Electronic Products”
- Now “Requirements for the restriction of the use of hazardous substances in electrical and electronic products”
- “GB” instead “GB/T” – Mandatory
- Adds the four phthalates already restricted by EU RoHS (DBP, DIBP, BBP and DEHP)
- Adds QR codes, screen displays and other digital indicators to labeling information methods and requirements
- Require test reports for “high-risk components” for products listed in the “catalog”(!)
- Explicitly allows placement of the EFUP table on the manufacturer’s website

Comment period closed 18 Jan 2025

Test Reports? Really?

References GB/T 39560, China's implementation of the IEC 62321 series of standard test methods for RoHS substances (and others)

Every “high-risk component” must be tested annually

- High-risk components that may contain hazardous substances are listed for each product in the Catalog, e.g.

Table B.1 High-risk components containing hazardous substances in products in the catalogue for compliance management (first batch)

No.	Product name	High-risk components containing hazardous substances
1	Refrigerator	Compressor components, various PCBA components, thermal insulation materials, sealant tapes, various cable jackets, and display components (if any)
2	Air conditioner	Compressor components, various PCBA components, thermal insulation materials, sealant tapes, various cable jackets, and display components (if any)

Challenges & Possible Actions

- Research how new design/product constraints may impact your company business model & supply chain
- Work with or join active Industry Associations to help push back on Bad Regulatory Ideas and support Good ones
- Hire chemists and/or toxicologists
 - and/or 3rd party service firms



Holistic Market Access Solutions

A Smarter Way to Manage Product Compliance

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Supporting Your Product Compliance Journey



Identify Relevant Regulations



Upcoming & Proposed Regulatory Changes



Communicate Compliance Requirements

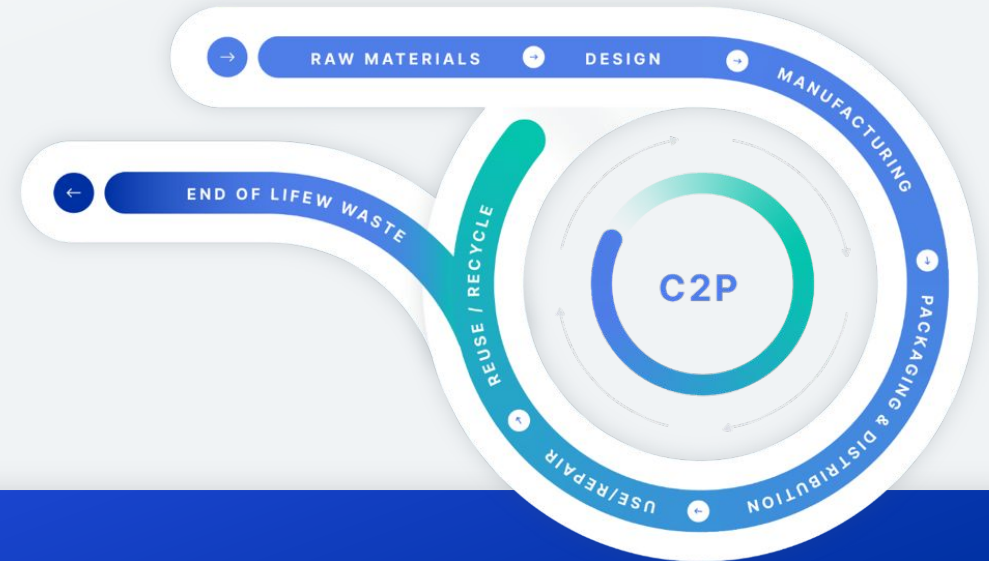


Manage Evidence Documentation



Extensive Regulatory Content Coverage

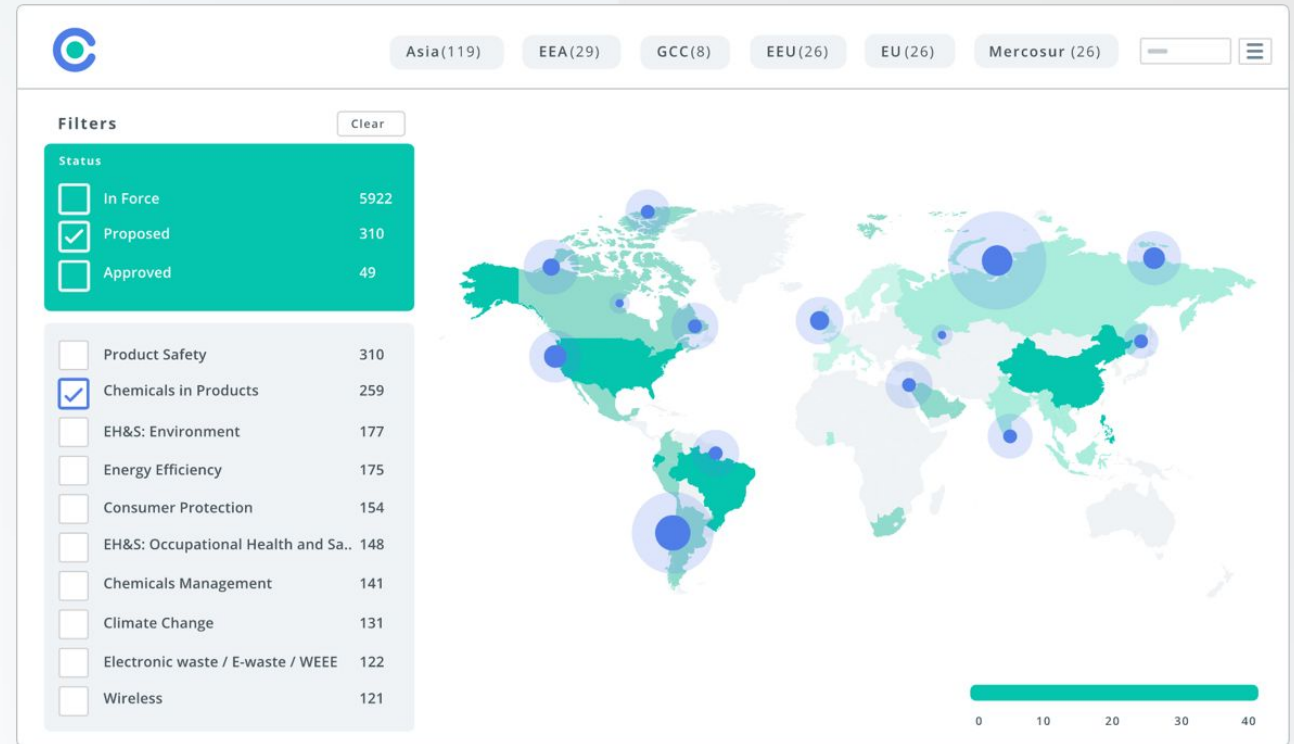
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- Chemicals Management
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- Climate Change
- Conflict Minerals
- Consumer Protection
- COVID-19
- Cybersecurity
- Data Protection
- Drinking Water
- Ecodesign
- Ecolabeling
- Electromagnetic Compatibility (EMC)
- Electronic Waste / E-Waste / WEEE
- Energy Efficiency
- Explosive Atmospheres / ATEX
- EU Reach
- Food Contact Materials and Articles
- Globally Harmonized System (GHS)
- Illegal Logging
- Nanotechnology
- Packaging
- Product Safety
- Single-use Plastics
- Transboundary Movement of Hazardous Waste
- Transport of Dangerous Goods
- Water Efficiency
- Wireless

Manage all your Product Compliance in One Place...

- Design, build & collaborate on new products with confidence
- Keep all [compliance evidence](#) up to date & [live linked](#) back to their Regulations, Standards & Requirements
- Continually [monitor regulatory changes](#) & [keep ahead of proposed changes](#) before they happen



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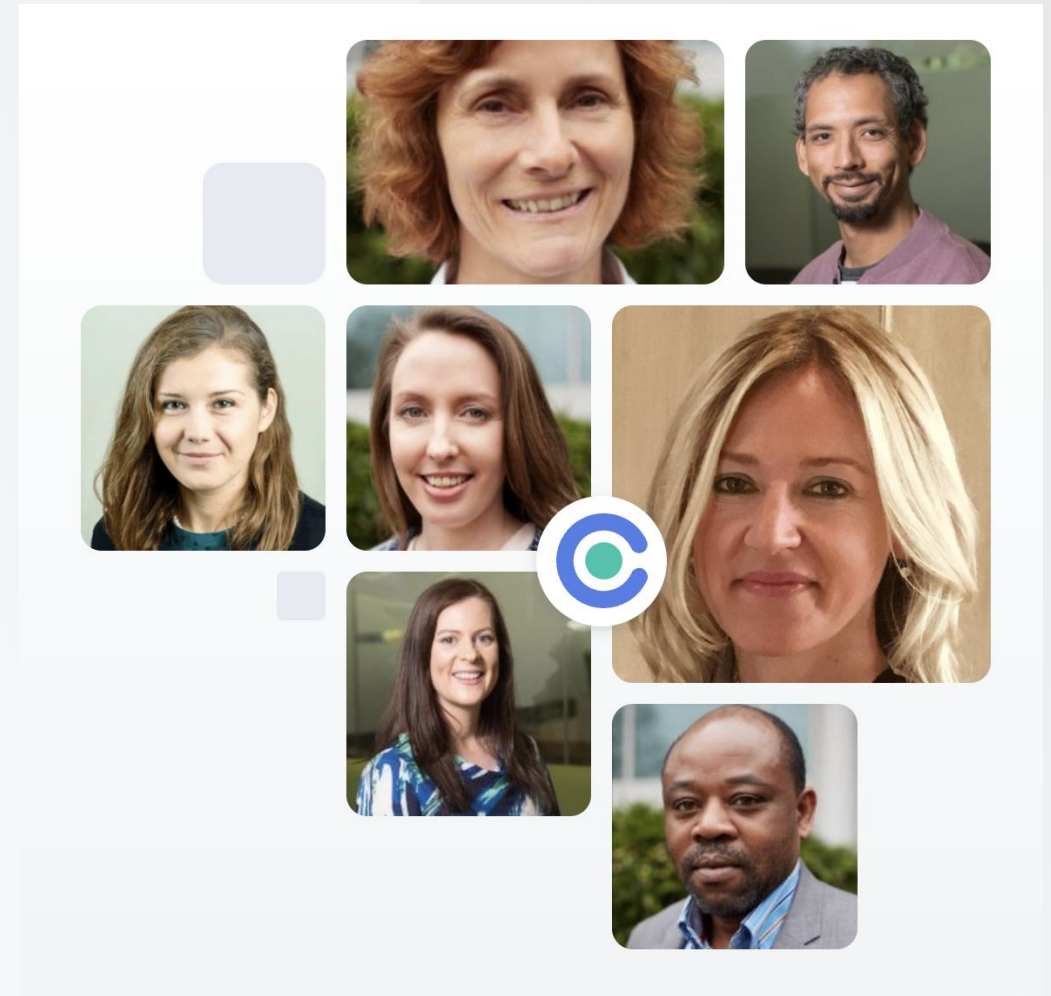
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Appendix



Resources

ESPR Regulation:

[ESPR Regulation](#)

[ESPR FAQ](#)

JRC [ESPR Study on new product priorities](#)

JRC [Reparability Scoring System - Product relevance scoping study](#)

ECHA BFR Study:

March 2023 [Regulatory strategy for flame retardants](#)

Dec 2023 [Request ... to gather further information on flame retardants](#)

Dec 2024 [Investigation report on aromatic brominated flame retardants](#)

Mandatory Testing for EU RoHS:

[Draft standardisation request ...](#)

WTO TBT Committee Links to RoHS

Delegated Directive Drafts:

[6 Drafts](#)

[7\(a\) Drafts](#)

[7\(c\) Drafts](#)

China RoHS 2:

[Update of GB/T 26572-2011](#)

RoHS Testing: Is it just a Matter of Opinion?

DG ENV Opinon	My/DCA Opinion
Testing is required	Testing is NOT required
Testing is meaningful	Testing is only meaningful for the material lot being tested, and then only if it is done correctly
Industry is not meeting the requirement in Module A	EN IEC 63000 is a legal alternative to Module A
DG ENV has not lost institutional memory	Has DG ENV lost its institutional memory??
Manufacturers don't have to test! The Supply Chain does!	Manufacturers are on the hook for test and it increases product development costs and time without providing meaningful return or guarantee of compliance
If industry does this it will reduce the amount of noncompliant product placed on the EU market	Manufacturers that place noncompliant product on the EU market will continue to do so
This does not punish the whole industry for the actions of the few; it's required by Module A	It punishes manufacturer who have implemented systems to comply with RoHS; it is not required by the Harmonised Standard DG ENV approved as an alternative to Module A
This will solve the problem	Education and guidance will solve the problem

Thank you!



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