Compliance & Risks | RINA

Welcome

Where’s my PFAS ?

Presented by: Emily Tyrwhitt-Jones & Catherine Phillips
Principal Regulatory Consultants, RINA

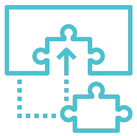
At Compliance & Risks

We help our clients monitor and manage regulations, standards, requirements and evidence to better mitigate risk.

- Peace of mind
- Brand protection
- Increased market access
- Future proofing of the business by aligning with global trends

End-to-End Regulatory Solutions

Market Access



- Customized research
- Consider new products & countries
- Compare obligations in multiple jurisdictions
- Understand regulations at a high level or deep analysis

C2P Platform

- Regulations, standards & requirements
- Proposed & enacted regulations
- Global daily monitoring and alerts
- Efficient workflow tools
- Knowledge Management
- SME support

Managed Services

- Fulfil specific compliance functions
- Full suite of compliance skills
- 23 languages
- On-site and/or off-site delivery

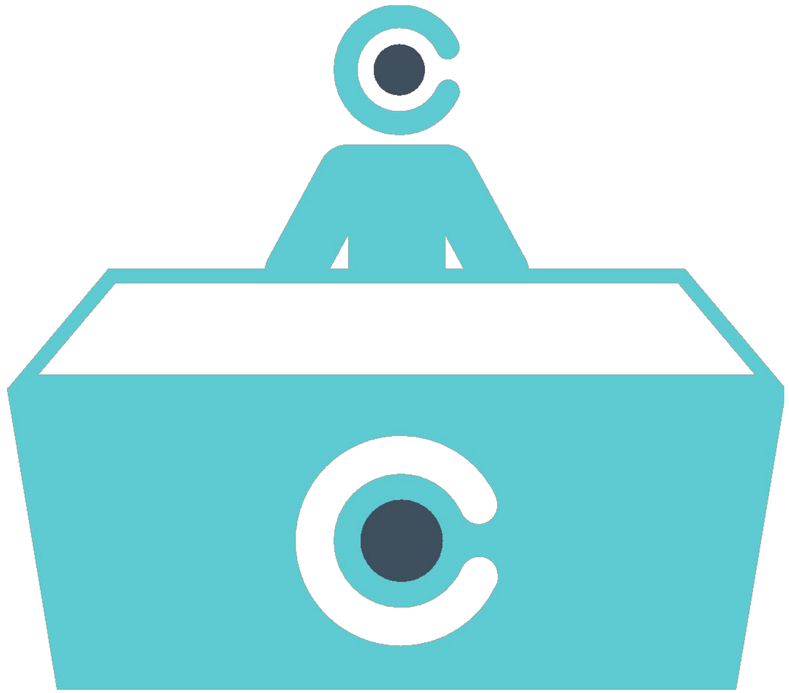
Answering Your Questions

Ask Our Experts

- Premier access to our global regulatory compliance team
- Your questions answered about regulations

Knowledge Partners

- Our global network shared with you
- Legal, business, supply chain and environmental specialists
- Providing ‘on the ground’ expert knowledge on hot topics
- Breaking news and analysis via your alerts



Where’s my PFAS ?

Compliance & Risks | RINA

Compliance & Risks | RINA

Where's My PFAS – An Overview

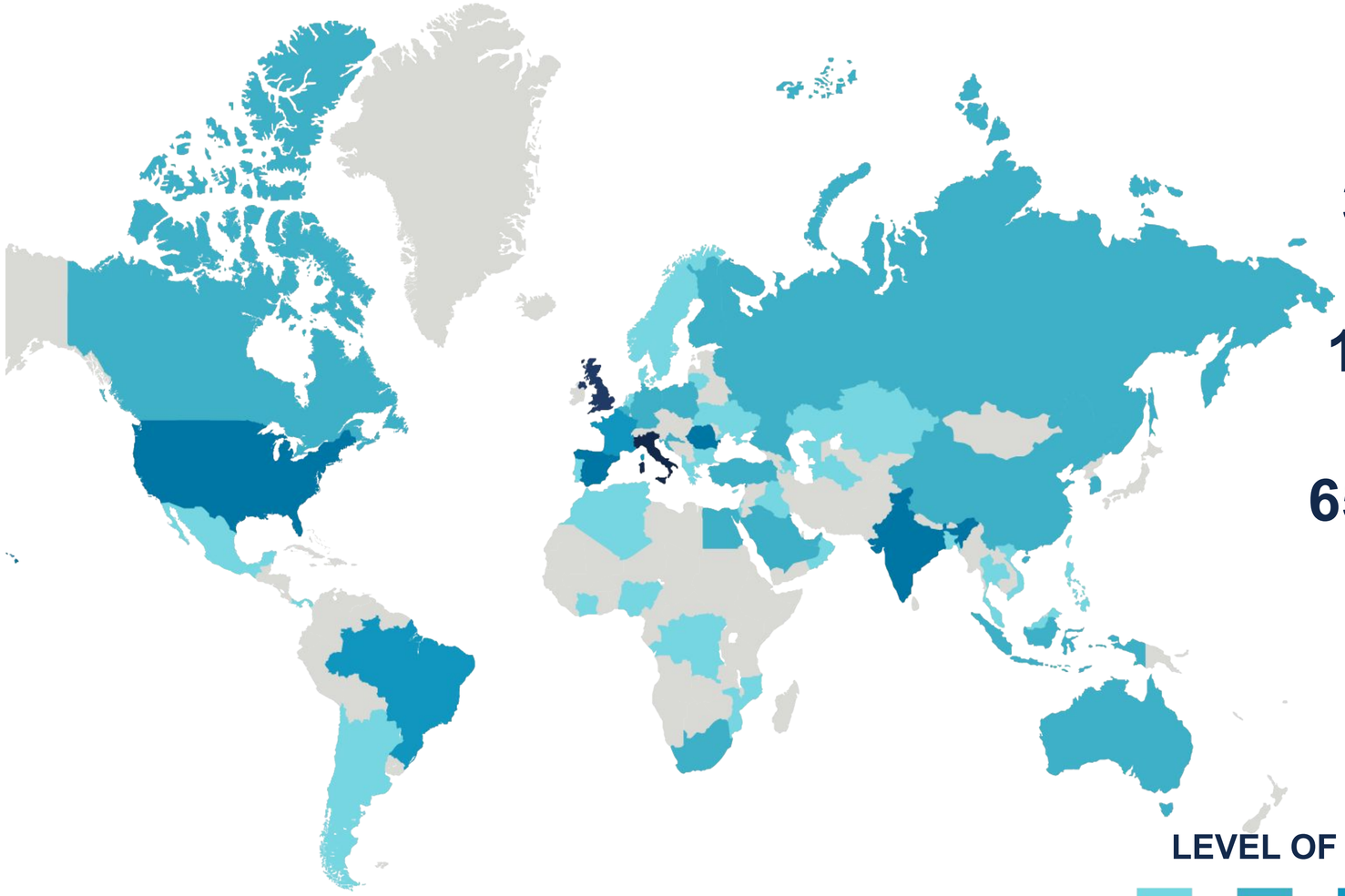
Introduction

Compliance & Risks

- What are PFAS? & Forever Chemicals
- Regrettable Substitutions
- What's the Plan?
- Why use PFAS?
- Where's my PFAS?
- The Challenges of Substitution
- What could Restrictions of PFAS look like?
- Prioritisation of Efforts
- What are 'Essential Uses'?
- Key points of engagement
- Above and Beyond the EU
- Conclusion

RINA worldwide

Compliance & Risks | RINA



3700+ Staff

170+ Offices

65+ Countries

LEVEL OF RINA PRESENCE:

low → high

Product Regulatory Compliance Team

- We support the European Commission, manufacturers, importers and distributors of electrical and engineering products to identify, understand and meet technical and environmental legislation

- Compliance & Risks Knowledge Partner since 2008

What are PFAS?

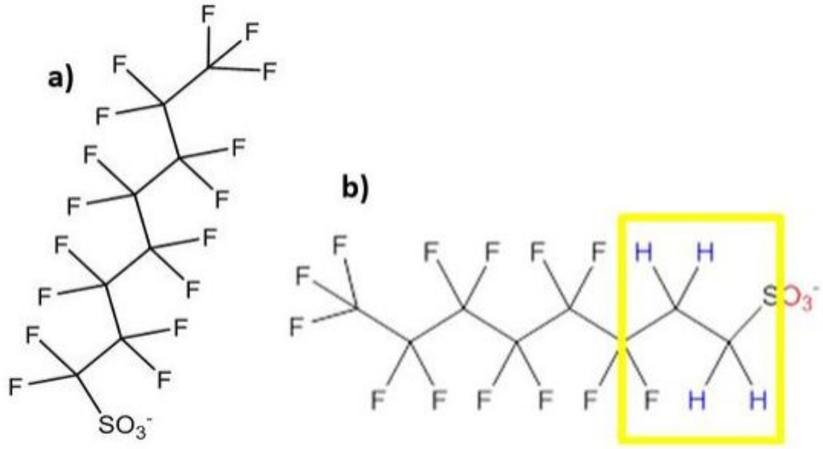
Perfluorinated Alkyl Substances (PFAS)

Perfluoroalkyl Substances

Perfluoroalkyl acids (PFAAs)
Perfluoroalkyl carboxylic acids (PFCAs)
Perfluroalkane Sulfonic acids / Sulfonates (PFSAs and sulfoamides (FASAs)

Polyfluoroalkyl Substances

Perfluoroalkane sulfonamido substances
Polyfluoroalkyl ether Carboxylic acids



Fluoropolymers

Polytetrafluorethane and similar (PTFE, FEP, ETFE, ECTFE)
Perfluoropolyethers (PFPE)
Per / Polyfluoroelastomers (FKM Viton, FPM / FFKM, Kalrez / FEPM)
Fluorosilicones (FVMQ / FLS / FSR)
Polyvinylidene fluoride (PVDF, Kynar)

F-Gases

Why use PFAS?

Compliance & Risks | RINA

Non-stick / Low surface energy
Lubricating

Smudge resistant

Greaseproof
Oil repellent

Durable
Flexible

Water repellent
Dirt repellent

Weatherproof

Resistant to UV
Electrically insulating

Stable at low temperatures
Stable at high temperatures

Biologically resistant / Easy to Sterilize
Chemically resistant / Inert

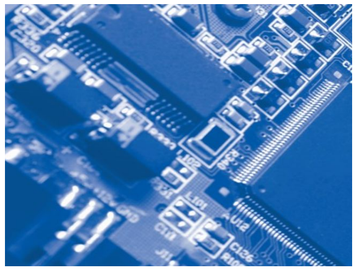
Where’s My PFAS?

Compliance & Risks | RINA

Flexible plastic
Cable and wire insulation
Conduit and conduit connectors



Smudge resistant touch screens



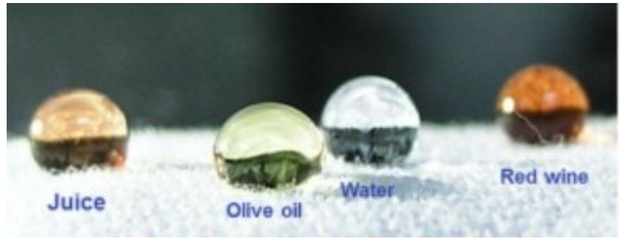
Circuit board films
Conformal coatings
Cleaning fluids for microelectronics
Semiconductor manufacturing aids

Hydraulic fluids
Gaskets
Seals
Hoses
Valves
Tubes
Sealant
Flexible joints
Pipe & tank linings



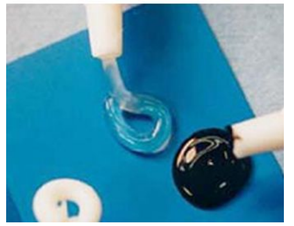

Fire fighting foam
Chemical / Biological resistant PPE
Bacteria / virus resistant fabrics
Dirt resistant fabrics
Waterproof fabrics

Stain resistant
fabric treatments



Paints
Non-stick coatings
Stain-resistant sprays and treatments
Self-cleaning coatings for weather resistance

Batteries
Shock absorbers
Bushes and Bearing surfaces



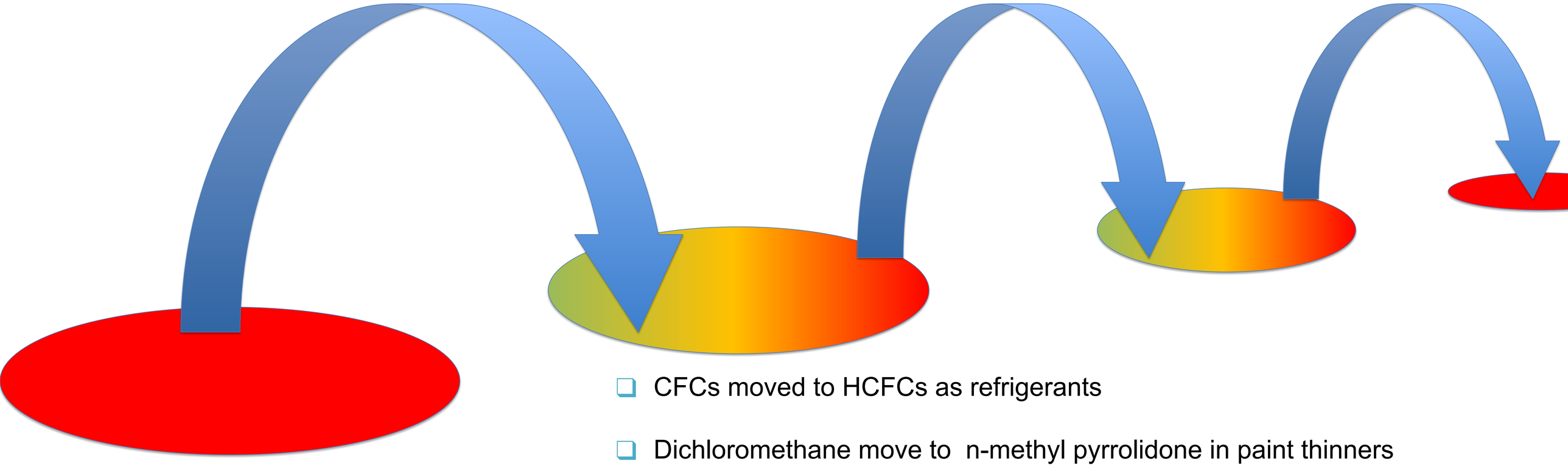
Lubricants
Potting Gels
Adhesives
Greases
Surfactants

Refrigerants/
F-Gases

What's the Plan?

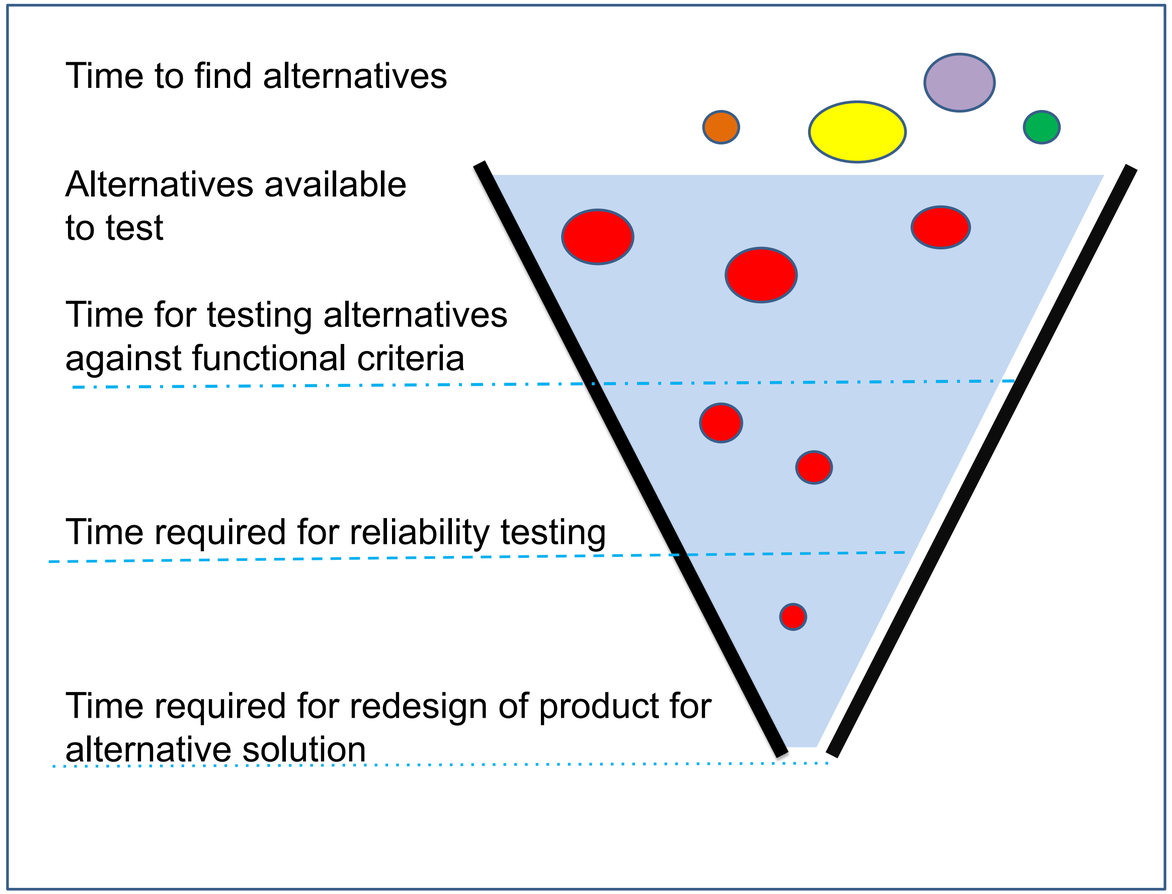
What	When	Where	How
Perfluorooctane sulfonic acid and its derivatives (PFOS)	2009	Stain resistant coatings in textiles, oil-resistant coatings for paper products for food contact, and fire fighting foams, photographic emulsifier and in aviation hydraulic fluids.	Stockholm Convention of POPS
Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	2020	Stain resistant coatings in textiles, oil-resistant coatings for paper products for food contact, and fire fighting foams, photographic emulsifier and in aviation hydraulic fluids.	Stockholm Convention of POPS
Perfluorinated carboxylic acids (C9-14 PFCAs), their salts and precursors	February 2023 prohibited for manufacture or placing on the market	Stain resistant coatings in textiles, oil-resistant coatings for paper products for food contact, and fire fighting foams. Used as a raw materials and processing aid to make fluoropolymers.	EU REACH
Perfluorohexane-1-sulphonic acid (PFHxS), its salts and related substances	2024 – 2026 (estimate)	Stain resistant coatings in textiles, oil-resistant coatings for paper products for food contact, and fire fighting foams.	EU REACH
Undecafluorohexanoic acid (PFHxA), its salts and related substances	2024 – 2026 (estimate)	Stain resistant coatings in textiles, oil-resistant coatings for paper products for food contact, and fire fighting foams.	EU REACH
Any other PFAS in firefighting foams (AFFF)	2024 – 2026 (estimate)	Fire Fighting Foam (specific use)	EU REACH
Other PFAS for other uses	2028 – 2030 (estimate)	Anywhere 'PFAS' material properties are useful….	EU REACH

Regrettable Substitutions



- CFCs moved to HCFCs as refrigerants
- Dichloromethane move to n-methyl pyrrolidone in paint thinners
- Trichloroethylene move to n-propyl bromide as a degreasing aid

The Challenge of Finding Alternatives



The quest for long lasting materials (that are not persistent)

Which are unreactive (but can be used as a feedstock to make other chemicals)

That are non-stick (but can be stuck together and formed into something else)

That can withstand high and low temperatures (but will break down in the environment)

That last in the body (but are not bioaccumulative)

Restriction

Currently the restriction dossier is being prepared, with an expected submission date of July ‘22.

- Stakeholder consultations undertaken
  - Max concentration in mixtures/articles
  - Labelling requirements
  - Reporting requirements
  - Waste processing
  - Processing aids

Timeline:

- Dossier submission July’22 and opinion development
- Draft proposal ~late 2023/2024
- Entry into force ~2025

Dossier also develops and assess different restriction options considering:

- How effectively the restriction option reduces the identified risks, both in terms of:
  - Speed, and
  - Proportionality
- How practical the restriction options are, including enforcement considerations, and
- How easy they are to monitor

Prioritisation of Efforts

The potential of impact on manufacturers is wide ranging and could cover multiple phases of manufacturing processes, including: own manufacturing processes, facilities uses, bought in items and end product.

Higher risk: critical functionality

Technical requirements to consider:

- Chemical, heat and UV resistance
- Highly durable and dimensionally stable
- High cleanliness
- Low surface energy/ low friction

Lower risk: generic technical requirements

What are “Essential Uses”?

The EU’s Chemical Strategy for Sustainability stated actions includes plans to ban the most harmful chemicals- only allowing essential uses:

‘*harmful chemicals are only allowed if their use is necessary for health, safety or is critical for the functioning of society and if there are no alternatives that are acceptable from the standpoint of environment and health*’.

- EC study on essential use concept, criteria still under development by Wood E&IS GmbH
  - Stakeholder workshop to be held on 3 March 2022

Definition and scope

- No alternatives available, including alternative technologies and
  - Essential to society
  - Essential to technology, without the technology, the EU would be uncompetitive
  - Health and safety reasons, no other material can provide the same degree of safety/health benefit
- Temporary, with a periodic review

Key points of engagement

Engagement Points:

- Annex 15 comment period second half of ‘22
- Socio-economic Committee (SEAC) opinion: public consultation ~May 23

The Netherlands would ‘*like to see a broad ban that covers as many applications of PFAS as possible, with exceptions only for a handful of applications that are genuinely considered indispensable*’

A lack of reliable data will not stop the process but rather will require member states to make assumptions.

Specific examples of:

- Uses
- Technical requirements & alternatives are not possible
- Timeframes for qualification

Above and Beyond the EU

US has the PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024

- PFAS reporting under TSCA Section 8 (Winter ’22): This would introduce a data-gathering rule that would collect certain information on any PFAS manufactured since 2011, including information on uses, production volumes, disposal, exposures, and hazards

UK has recently completed a call for evidence for PFAS

In Conclusion

1. Where to look and what it looks like
2. Find out what kind of PFAS
3. Do you have Essential Uses?
4. Alternatives? Are these just different PFAS?
5. Join in the discussions
6. You still have time (at the moment)

Compliance & Risks

RINA

One Springfield Drive, Leatherhead,
Surrey KT22 7SA. UK
T. +44 1372 367350
infoLH@rina.org | www.rina.org

Compliance & Risks | RINA

Thank You