



chemsec

INTERNATIONAL CHEMICAL SECRETARIAT





AVAILABILITY, CHALLENGES AND GAPS FOR ALTERNATIVES TO PFAS IN DIFFERENT SECTORS



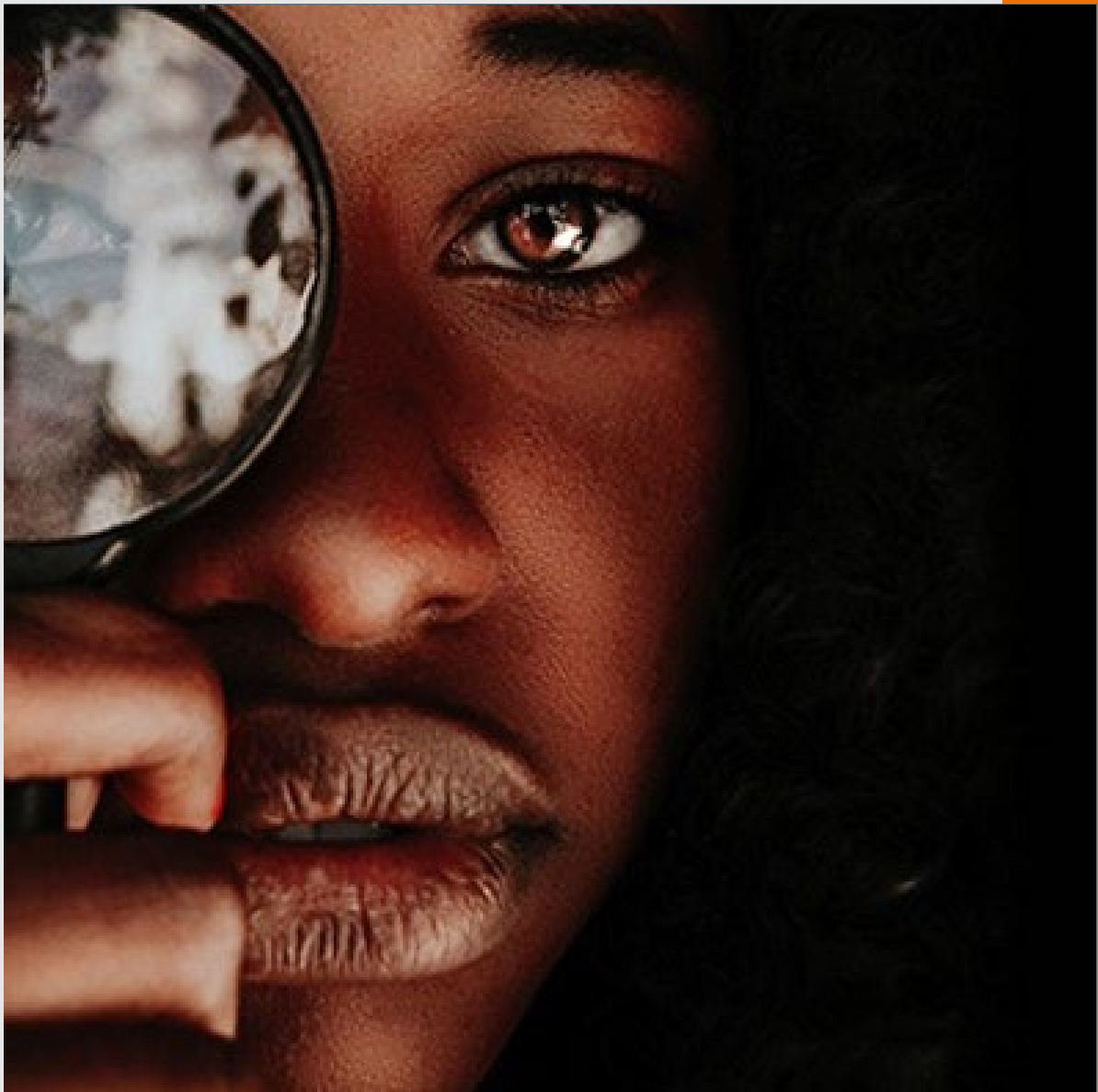
Swedish based non-profit organisation founded in 2002 by four environmental NGOs



Receives funding from the Swedish Government and various charity funds



Offers concrete tools and highlights positive examples from the business world



WHAT WE DO AT CHEMSEC

- Drive the political discussion on hazardous chemicals
- Challenge companies to improve their chemicals management
- Develop online tools to help companies switch to safer chemicals
- Inform investors about risks and opportunities in the chemical industry



PFAS MOVEMENT

- Gathering companies that:
 - want to regulate PFAS as a group
 - Support the transition towards PFAS free
- Highlight progressive businesses
- chemsec.org/pfas



- POPs regulation of PFOA/PFOS
- PFAS restrictions
 - C9-C14 – in force 2023
 - PFHxA – C6 - in preparation
 - Firefighting foams – in preparation
 - Broad PFAS restriction

--> Regulation is coming!



PFAS – VERSATILE!



PROPERTIES

- Non-reactive/Inertness
- Low surface tension
- Non-flammable
- Heat conductivity

FUNCTIONS

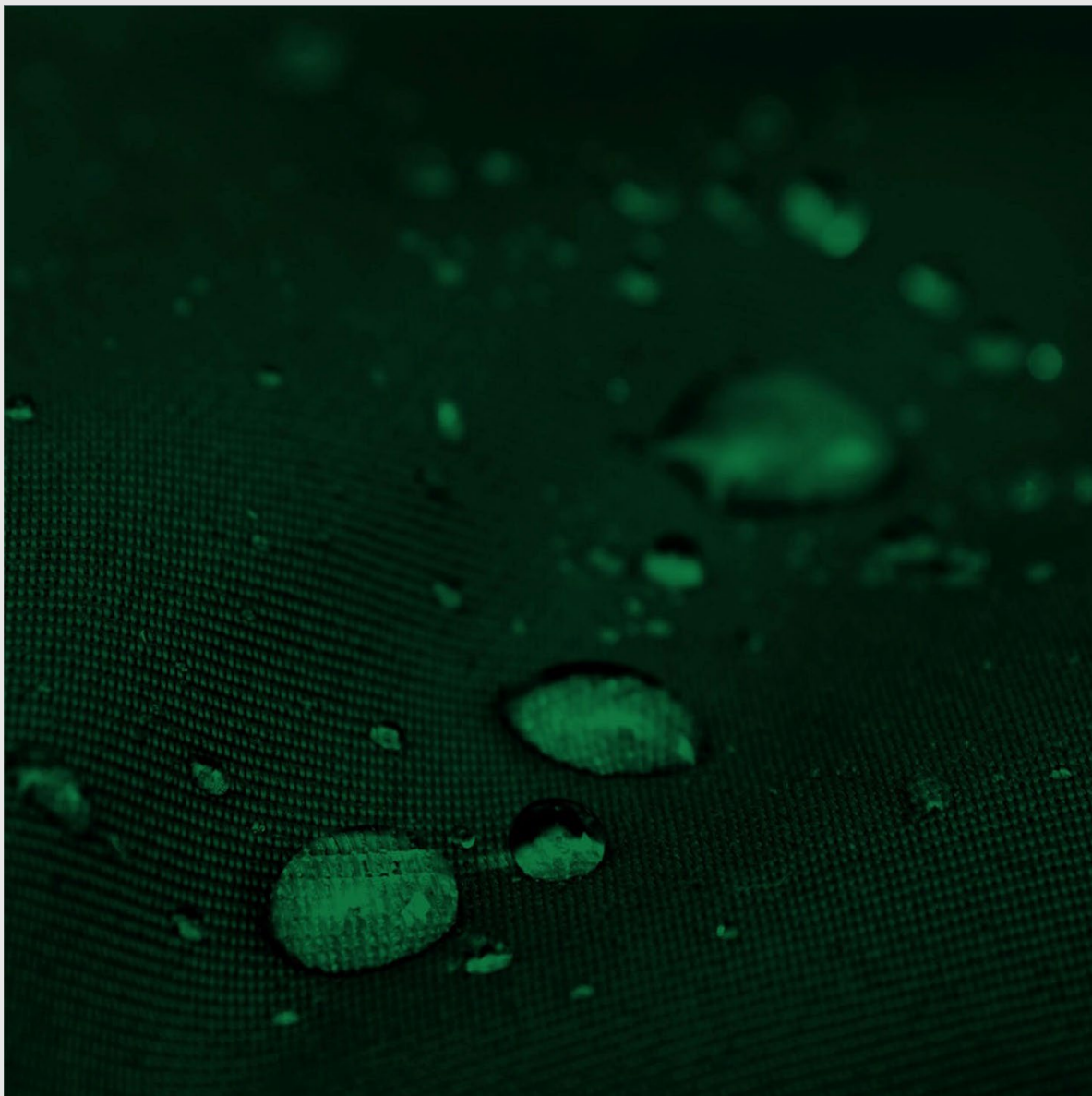
- Water-oil-stain repellency
- Corrosion inhibition
- Heat resistance
- Anti-foaming agent
- Release agent
- Surfactant
- Flame retardant

USES

- Process aids
- Surface treatments
- Coatings
- Paints
- Material – polymers
- Refrigerants

- **Alternatives**
 - Properties and functions – identify possible alternatives
- **Cross sectorial solutions necessary**
- **Different maturity levels**
 - Knowledge of PFAS use
 - External pressure
 - Customers
 - Legislation
 - Development of alternatives





TEXTILE

- Repellency – water/oil/stain
 - Focus for a long time
 - > Alternatives available
 - Extensive R&D
 - Performance comparable to PFAS for water repellency
 - Slightly different function for stain and oil repellency
- Transfer solution to other sectors with same function
 - Paper packaging for food

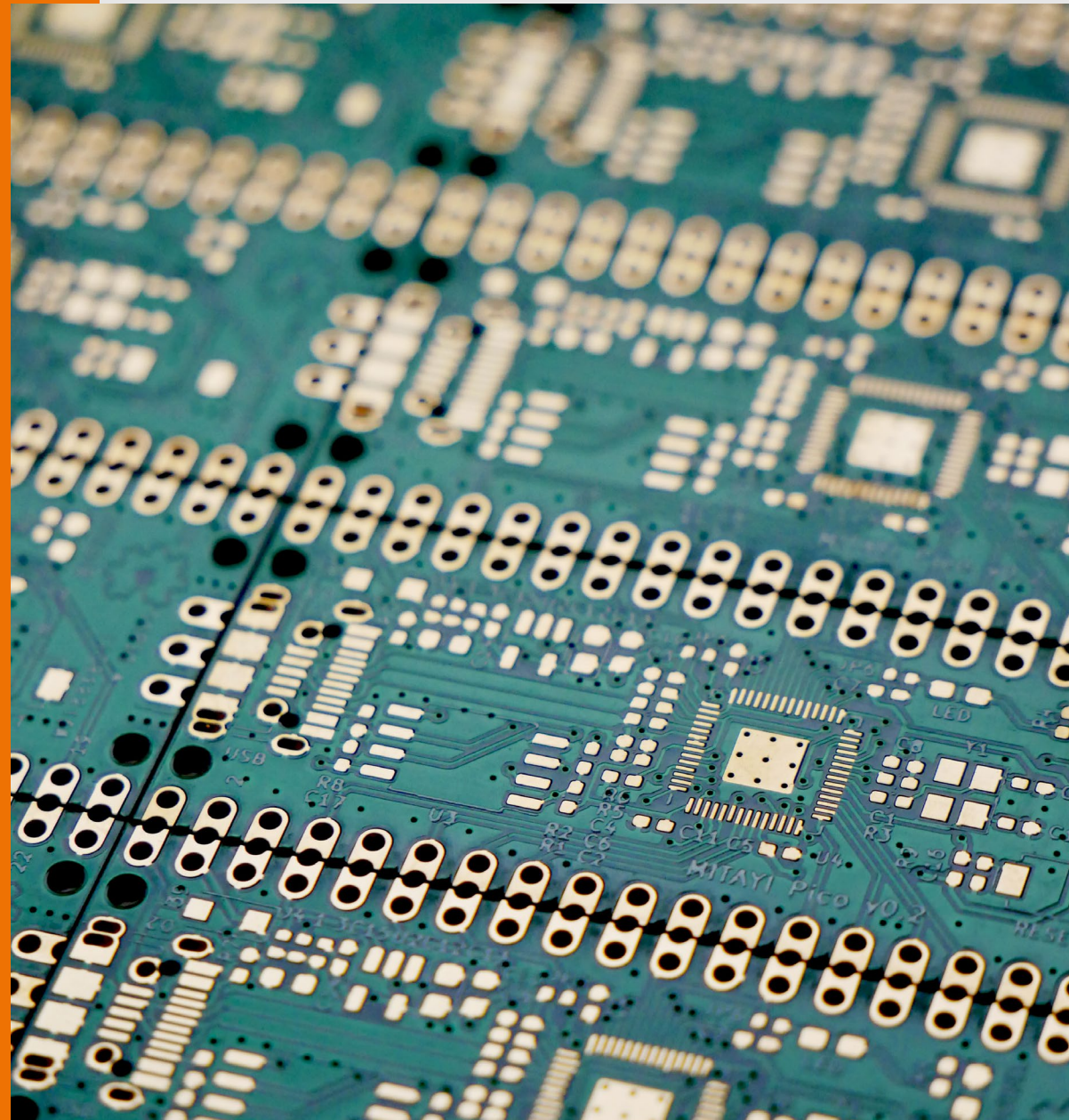


SECTORS?

- Electronics
 - Building and construction
 - Manufacture of metal products
 - Petroleum and mining
 - Semiconductors
 - Cleaning products
 - Household products
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- Industrial uses
 - Plastic production / treatment
 - Process fluids
 - Process aids
 - Machinery

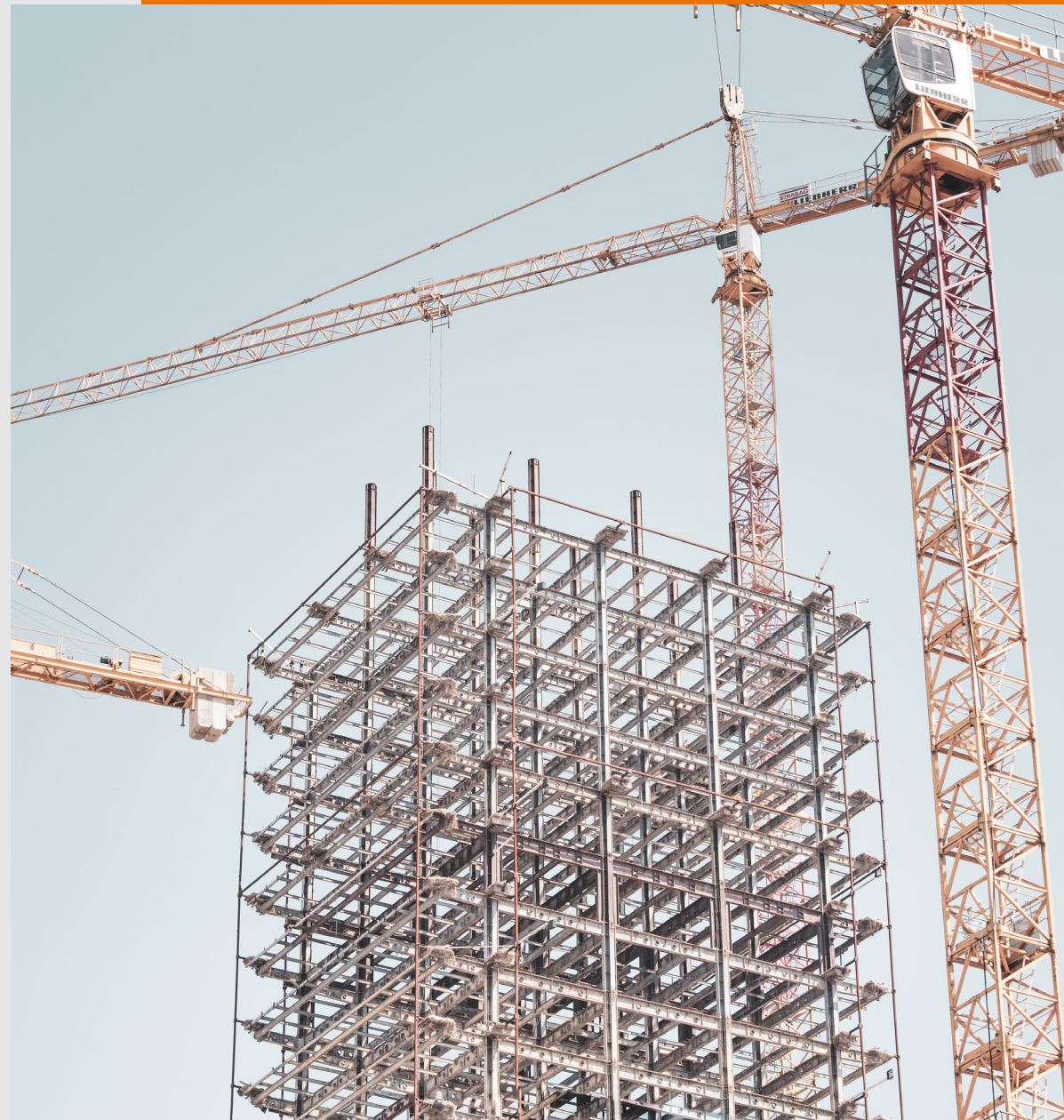
ELECTRONICS

- Semiconductors
- Etching
 - Different alternatives depending on material
- Wiring/Cables
 - Specific alternatives depending on properties
- Plastic parts
- In conclusion: many functions/uses → different alternatives necessary



BUILDING & CONSTRUCTION

- Architectural membranes
 - Cable and wiring
 - Interior surfaces
 - Cement additive
-
- In conclusion: widespread use, similar functions --> alternatives from other solutions





PFAS ALTERNATIVES - SUMMARY

- Most sectors affected
- Properties/functions general
 - Non-reactive / inert
 - Surface tension
 - And other
- Industrial uses common – hard to address but important
- Alternatives available for many uses/functions/properties – further investigation of specific conditions necessary

TO DO LIST

Identify pfas uses and functions

find pfas free alternatives

Start phasing out pfas



GAPS AND CHALLENGES

- Attention deficit
- Alternatives for different functions are available – understanding of applicability is needed
- **Awareness** - focus on PFAS has been inadequate
- **Identification** of function and use in different products
- **Guidance** on how to identify and phase out PFAS

THANK YOU FOR LISTENING!





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