



# Progress report

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# Introduction

- Project title: Migration pathways to the environment – “horizon scanning” for FRs present in consumer goods and construction materials
- Work package 1: Migration pathways



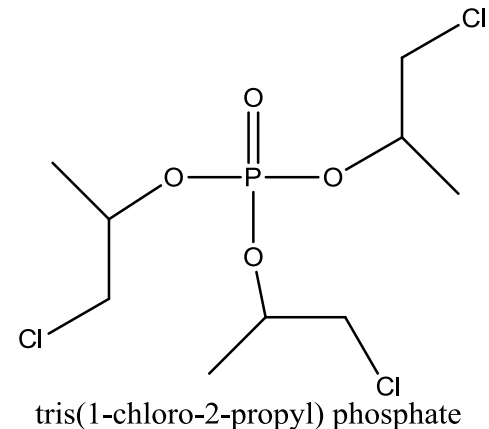
## Progress to date

- Initial theoretical training: “The basics of GC-MS” course
- Initial lab training: screening polymeric foam / mineral wool samples for FRs
- Techniques used:
  - GC-EI/MS (Agilent 6890 GC coupled with an Agilent 5973 MSD)
  - GC-ECNI/MS (Agilent 6890 GC coupled with an Agilent 5973 MSD)



## Progress to date

- Found no BFRs (PBDEs, HBCD, TBBPA, etc) in any analysed sample
- Found *TCPP* in a thermal insulation foam sample
- Found some antioxidants toxic for aquatic organisms: *Deenox* and *Irganox* in another thermal insulation foam sample





## Next 6 months

- Analyse materials known to contain flame retardant compounds produced in the last couple of years, including foam samples
- Look into handheld XRF screening for Br in materials
- Analyse dust samples collected from electronics stores and screen for FRs



## Techniques to be used

- GC-EI/MS
- GC-ECNI/MS
- Handheld XRF
- LC-IT/MS
- LC-QTOF/MS
- If required, GCxGC-MS (during secondment at VU)



# Plans for the project as a whole (1)

- Screen for new FRs in:
  - Construction materials: insulating foams/mineral wool, wallpapers, chemically treated wood
  - Consumer goods:
    - electronics (in-use -> horizon scanning)/e-waste
    - furniture, carpets, curtains and clothes (newly produced preferably)
    - plastic/polymeric products (hard plastics, PUF, HIPS, XPS, ABS)



## Plans for the project as a whole (2)

- Optimise a screening procedure for BFRs using a handheld XRF
- Develop analytical methods for the detection and quantitation of new/emerging FRs
- Secondment at VU: estimate leaching of FRs present in hard plastic toys as a result of “mouthing” by infants and toddlers



Thank you for your  
attention