## Norman Workshop "New" brominated flame retardants as emerging contaminants in the environment



- There is a need for a common set of abbreviations for the BFR compounds. These should reflect the structure of the compound but cannot be too long.
- A large number of "new" and "novel" BFRs have been identified but there are also many unknown substances
- Several of the "new" BFRs found in the Nordic environment, sometimes also in background areas
- Indications of long-range transport and bioaccumulation
- Difficulties in obtaining data on use and manufacture
- Lack of data on environmental levels



- Dechlorane plus is a possible substitute for decaBDE and is frequently found in environmental matrices.
   More research is needed on fate and effects of this compound
- Several of "new" BFRs meet the P criteria (or do potentially meet the P criteria), which has been shown both experimentally and by modelling exercises.
- PBDD/Fs are present in plastic articles and are formed during fires - generating high concentrations in soot
- Indoor environment and dust important pathway of exposure – studies on the "new" BFRs are needed



- Analytical methods have improved during recent years but further improvements are still needed
- Lack of data on (eco)toxicological effects
- What level of detail do we need to reach in our research into non-PBDE BFRs before they can be regulated / banned?

