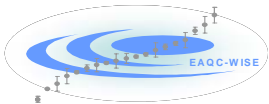


WP1

Survey & questionnaire on QA/QC tools (PT, RM, Method validation)

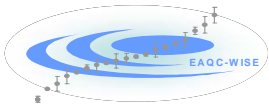


RMs, PTs, Validated Methods important QA/QC tools

➤ **Q: *but who is responsible to provide these tools ?***

➤ **answers ...**

- We have no idea (25%)
- The accreditation body (20%)
- The lab itself (10%)
- Named institutions (5%)
- (Rest said yes, but no specific names given)

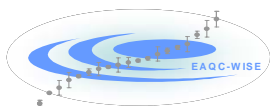


CRMs pure calibrants

➤ pure compounds/solutions available for most classes of organic pollutants

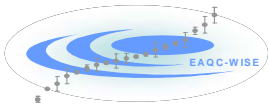
➤ For some priority list compounds : no pure calibrants available

(chloroalkanes, chlorfenvinphos, chlorpyrifos, dichloromethane, di(2-ethylhexyl)phthalate, diuron, nonylphenols, octylphenols, pentachlorobenzene, trichlorobenzenes and trifluralin).



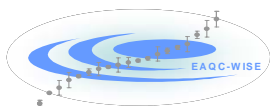
Matrix CRMs :

- **No matrix CRMs available for organics in water**
- **For certain compounds (PAHs, haloforms, phenols) there are some CRMs available (but do not contain any matrix constituents)**
- **Considerable lack of materials (very few matrix-CRMs) for atrazine, benzene, 1,2-dichloroethane, endosulfan, isoproturon, simazine and chloroform**
- **No CRMs for brominated diphenylethers, C10-13 chloroalkanes, chlorfenvinphos, chlorpyrifos, dichloromethane, diuron, DEHP, nonyl- and octylphenols, trifluralin**
- **Matrix RMs ought to be representative for matrices / target concentrations, but often threshold values set by EQS do not correlate to the concentration range of existing CRMs**



RMs and CRMs : INORGANICS

- **As for priority list : numerous CRMs related to the analysis of total contents of Cd, Pb, Hg and Ni in the water compartment are available as either pure calibrants or water-matrix CRMs ;**
- **Few on speciation**



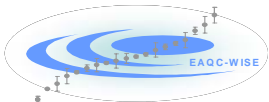
PT : question asked to

➤ **Competent Authorities**

- ¾ require PT explicitly or implicitly (accreditation), still ¼ does not ask
- 20% finance the obligatory PT participation
- 90% do not specify in contract requirements for successful participation in PT
- 60% state they can examine PT data (some say they actually do so in reality), 20% state no, 20% no answer

➤ **Monitoring laboratories**

- About half say they use accredited PT providers, 15% no, rest not sure
- PT on sampling : 30% claim they participated to one
- After PT participation : all labs state it triggers corrective action where needed, but only 5% of labs state that PT participation plays a systematic role for training purposes



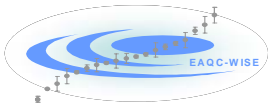
Proficiency Testing schemes: existing PTs providers related to WFD. Info collected by:

➤ EPTIS database

- PTs providers on sampling: 14 (7 not updated); no PTs related to WFD
- PTs providers on chemical analysis: 24 in 12 Countries related to WFD

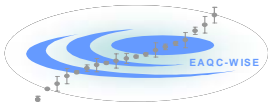
➤ Distribution of a dedicated questionnaire to 2 selected PTs providers in 13 European Countries (16 answers)

- PTs on chemical analysis: 16
- PTs on ecotoxicology: 3
- PTs on microbiology: 4
- PTs on sampling: 0



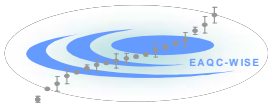
existing WFD-PTs providers : some observations

- EPTIS database : contains only brief info
- PTs providers : mainly in N-Europe ; language ?
- No PTs on sampling for WFD related matrices
- All types of matrices/analytes of WFD covered;
 - mainly for trace elements, major components, PAHs, PCBs, pesticides determination
 - Few on other classes of organic compounds (VOC, phenols, etc.) and chemical species
 - For natural water matrices, often fortified materials (representative ?)
- Most follow recent ISO 13528 for the evaluation of laboratory performance results



PT : from SWIFT-WFD experience performance across EU :

- very good for major components
- good for trace elements (some problems with high salinity matrices);
- good for PAHs at $\mu\text{g/L}$, worse at ng/L
- low number of labs measuring pesticides but highly comparable in results
- Fairly similar performances across Europe.



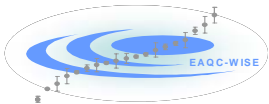
Standard methods and validated methods

➤ **Q: Does monitoring lab easily find WFD S.O.P.s?**

- 50% say no, 15% say yes (internet, via research lab, literature)

➤ **Q: When no S.O.P available, what does monitoring lab do ?**

- No reply from 30% labs
- 10% refuse contract
- 60% develop own procedure (starting from literature, EPA, consult with polluter ; typically 1-2 year task)



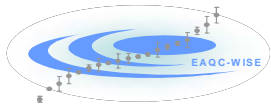
Q : validation of methods is carried out against which document ?

➤ Accreditors :

- 50% mention ISO/IEC-17025
- 25% mention EURACHEM fit-for-purpose

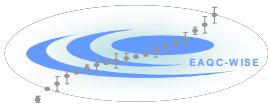
➤ Monitoring labs :

- 15% mention ISO/IEC-17025
- 15% mention EURACHEM fit-for-purpose
- 40% mention various national standards, ISO-5725, ISO 13530, ISO 13025, SANCO 10476 etc ...
- 30% no reply or not understood



Literature Survey of Existing Standard Methods (EN, ISO and EPA)

- **standard methods exist for most of the WFD relevant substances, for at least one matrix (water, soil/sediment, biota)**
- WATER: for 40 out of 41 substances, except C10-13 chloroalkanes
 - SOIL/SEDIMENT: for 29 out of 41 substances
 - BIOTA: There are no EN or ISO standards for biota but a very few for fatty and non-fatty food; the survey of EPA methods is still ongoing



Literature Survey of Existing Standard Methods (EN, ISO and EPA)

➤ **The sensitivities of the methods are satisfactory to conduct compliance monitoring in water only for about 70% of the substances**

- Most methods have been validated for filtered water samples
- Information on how to proceed with samples containing substantial amounts of SPM is often lacking
- LOQs reported by laboratories are often lower than those stated in the respective standard methods

