

SAMPLING STANDARD - US EPA TO-9A

Short guideline how to spike the sampling standard

ALS provides spiking of sampling train or provides doses of sampling standard for ambient air sampling according to the required methodology.

- Sampling standards according to the specific required methodology
- US EPA TO-9A
- Vial ready to spike
- Single dose for easiness of use



The sampling train can be spiked with the sampling standard as follows:

| Sampling method | Combination of spiked parts of the sampling train |
|-----------------|---|
| US EPA TO-9A | <ul style="list-style-type: none"> • Filter • Solid sorbent (PUF) |

The sampling ¹³C₁₂ and ³⁷Cl₄ labelled standard have the following composition:

| Methodology | Labelled | Composition of the sampling standard | Application-on field |
|--------------|-----------|--|----------------------------|
| US EPA TO-9A | Clean 0,2 | ³⁷ Cl ₄ -2,3,7,8-TCDD | Whole vial before sampling |
| | 03 | ¹³ C ₁₂ -1,2,3,7,8-PeCDF | |
| | | ¹³ C ₁₂ -1,2,3,7,8,9-HxCDF | |
| | | ¹³ C ₁₂ -1,2,3,4,7,8,9-HpCDF | |

Parts of the sampling train (filter, PUF) can be spiked in our laboratories prior to delivery of the trap.

APPLICATION OF THE SAMPLING STANDARD:

1. Addition to filter

- The full dose is uniformly and slowly distributed on the active surface of the filter to avoid any loss.
- Losses are most often due to seepage loss of the solution through the filter, or due to an incomplete spike of the full vial on the filter.

2. Addition to PUF sorbent

- The full dose is uniformly and slowly distributed to the center bed of the PUF cartridge, using a micro syringe to avoid any loss.
- Losses are most often due to an incomplete spike of the full vial on the sorbent.

ALS recommends the following procedure:

- Place the flat filter on the neck of a glassware, which diameter is slightly smaller than the diameter of the filter.
- Carefully distribute small doses (20-30µL) of the solution on different parts of the filter using a micro syringe or an automatic pipette, so that the solution does not pass through the filter, does not leak on the glass or does not drop out of the filter.
- After application of the full volume, rinse the vial with a minimum of 200 µL of dichloromethane, and distribute this amount the same way as you apply the standard on the filter or on the sorbent with the same micro syringe or pipette.
- ALS recommends to proceed the rinsate by dichloromethane at least twice (2*200µL dichloromethane).
- Labelled filter or sorbent has to be protected from possible contamination (Petri dish, aluminium foil, closed glassware).

General warning:

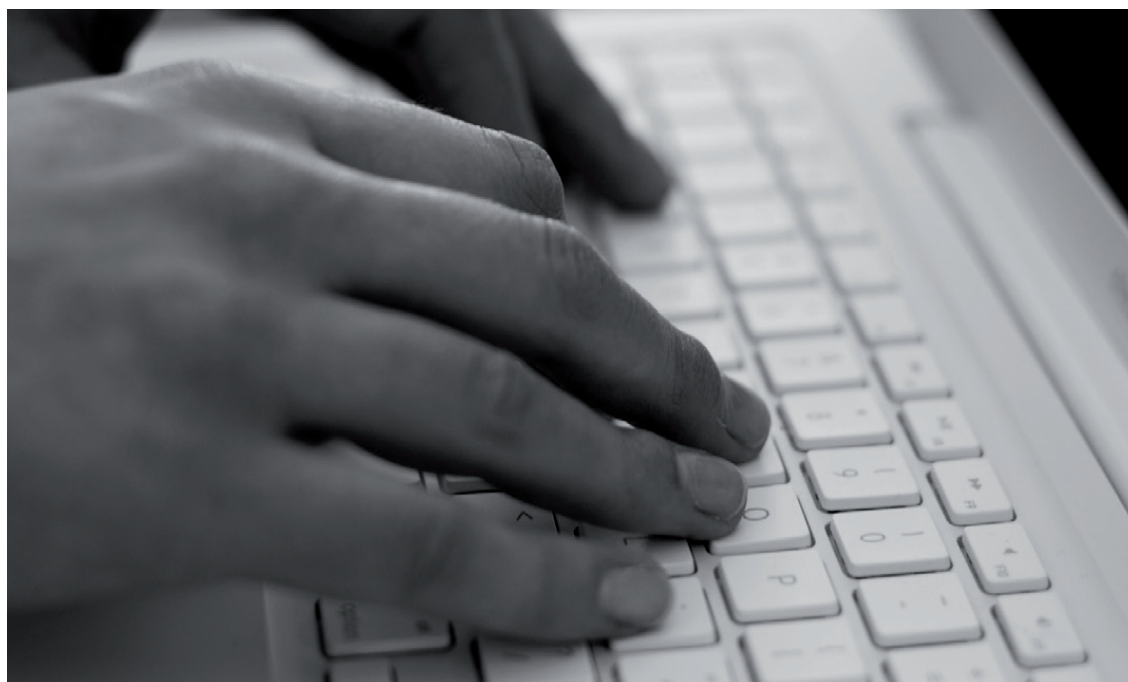
Loss of sampling standard during application reduces the values of recovery, which shall be according to the US EPA Method TO-9A in the range 50 to 120% for the 37Cl4-2,3,7,8-TCDD sampling standard.

If more doses of sampling standard are added during the sampling, each of them should be quantitatively applied. Information on number of doses and spiking locations of the standard shall be documented prior to analysis in the laboratory, so that the calculation of recoveries can be correctly carried out.

Ordering:

To benefitiate from this service, either fulfil the specific chain of custody or order on line at:

<http://sampling.alsglobal.eu>



In case of any questions do not hesitate to contact us:

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