Administration
de la gestion de l'eau
Grand-Duché de Luxembourg

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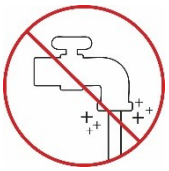
Guidelines for Drinking Water Sampling – English Version

Version : 1

Mémento No 2 - Guidelines for Drinking Water Sampling

To ensure proper sample collection, **make sure your hands are clean** and carefully follow the procedure below:

Important: In cases of suspected corrosion or when testing for copper, lead or nickel, please first collect a sample directly from the tap without prior flushing. Instructions are provided in Section 1. Then proceed with Section 2, followed by Section 3.



1. Metal Analysis :



Tap Water Sampling – Copper, Nickel and Lead Analysis and Suspected Corrosion

Samples must be collected **without prior flushing**. **Fill** the 1000 mL bottle **to the brim without overflowing**, ensuring that no air bubbles are trapped (ISO 5667-5).

2. Bacteriological Analysis :



The sample must be collected in a sterile 500 mL bottle containing sodium thiosulfate. These bottles are available from the laboratory and **must not be rinsed before use**!

The bottle cap must not come into contact with any other object or surface (floor, wall, teeth, etc.).

Do not remove the label indicating the bottle's expiry date, and do not use the bottle after this date!

Fill the bottle to approximately 5/6 of its capacity to allow sufficient space for mixing before analysis. Close the bottle immediately after sampling and shake well to ensure that the preservative is completely dissolved.

2.1. Sampling froma Tap According to ISO 19458

Objective a) « Water in the Main Distribution Network»

Select a tap as close as possible to the main water supply inlet**. Let the water run until a constant temperature is reached**, then remove any attachment from the tap outlet. Next, repeatedly open and close the tap fully. Disinfect the tap outlet using either a gas burner or alcohol (70% v/v isopropanol or 70% v/v ethanol) applied with cotton wool. **A lighter flame alone does not ensure adequate disinfection!** Then let the water run for 5–10 seconds to ensure that the sample is not affected by residual heat or disinfectant. Fill the sterile bottle to approximately 5/6 of its capacity to allow sufficient space for mixing, avoiding splashing. Close the bottle immediately after sampling and shake well to ensure that the preservative is completely dissolved.

Objective b) « Water as Delivered from the Tap»

Remove any attachment from the tap outlet. Disinfect the tap outlet using either a gas burner or alcohol (70% v/v isopropanol or 70% v/v ethanol) applied with cotton wool. **A lighter flame alone does not ensure adequate disinfection! Then let the water run for 5–10 seconds** to ensure that the sample is not affected by residual heat or disinfectant. Fill the sterile bottle to approximately 5/6 of its capacity to allow sufficient space for mixing, avoiding splashing. Close the bottle immediately after sampling and shake well to ensure that the preservative is completely dissolved.

Objective c) « Water as Consumed»

N.B.: Potential contamination of the water by bacteria originating from the outside of the tap and any attachments or other devices must be taken into account. Fill the sterile bottle to approximately 5/6 of its capacity to allow sufficient space for mixing, avoiding splashing. Close the bottle immediately after sampling and shake well to ensure that the preservative is completely dissolved.

2.2. Sampling from a Water Storage Tank According to ISO 19458

When sampling from a water storage tank, the sample must be collected from a tap located at the tank outlet. If no sampling tap is available, subsurface samples may exceptionally be collected using bottles fitted with a lead weight.

These 500 mL glass bottles, sterile on both the inside and outside and containing sodium thiosulfate, are available from the laboratory and **must not be rinsed before use!**



The bottle cap must not come into contact with any other object or surface (floor, wall, teeth, etc.).

Immerse the bottle approximately 10 cm below the water surface and fill it to approximately 5/6 of its capacity to allow sufficient space for mixing. Close the bottle immediately after sampling and shake well to ensure that the preservative is completely dissolved.

The laboratory will not accept samples collected from hot water pipes, closed hot water systems (boilers), fire hydrants, long pipe sections where water tends to stagnate, or samples collected using hoses or other auxiliary devices.

3. Chemical Analysis :

The sample must be collected in a 500 mL or 1000 mL plastic bottle. These bottles are available from the laboratory. Fill the bottle to the brim.



3.1. Sampling from a Tap

To obtain a representative sample of the main water supply, **let the water run at a steady flow rate for 2–3 minutes or until a constant temperature is reached**. Fill the bottle (500 mL or 1000 mL) to the brim, allowing water equivalent to twice the bottle's volume to overflow. Ensure that no air bubbles are trapped (ISO 5667-5).

3.2. Sampling from a Water Storage Tan

If no sampling tap is available, subsurface samples may be collected as described in Section 2.2. Immerse the bottle approximately 10 cm below the water surface. Fill the bottle to the brim, ensuring that no air bubbles are trapped (ISO 5667-5).

Samples must be clearly labelled on the bottle, identified on an accompanying sample information form, and delivered to the laboratory on the day of sampling between 8:00 a.m. and 11:30 a.m.

The reliability of your analytical results directly depends on proper sample collection. Incorrect sampling procedures will inevitably lead to unrepresentative results. Thank you for your cooperation!

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