

# Information note on Regulation 12



## **Regulation 12 (Sampling and analysis)**

When monitoring private supplies, local authorities must collect and analyse samples from specified points and using appropriate analytical systems to the required accredited standards specified in the Regulations. For each type of supply likely to be encountered; domestic, food-production, tanker and other situations, this Regulation describes a suitable sample point that must be used when taking samples for testing. (For sampling frequencies see note for regulation 7).

Regulation 12 describes the sample point as the tap normally used to supply water for human consumption. Where there is more than one potential sample point in the premises, it must be representative of the water supplied to that premises. This is usually the kitchen tap. On larger supplies, the premises from which the sample is taken may be varied at each sample visit, and records kept of which premises have been selected. Any premises with a point of use treatment device should not be selected if this is unrepresentative of the supply. More than one sample may be taken at the local authorities' discretion, where a risk-based approach is applied.

When sampling a supply used in food production, the point at which it is used in the process of manufacture should be sampled.

Where a tanker is used, local authorities must collect a sample at the point it emerges from the tanker.

Two parameters – nitrate and turbidity, should be sampled as the water leaves the final part of the treatment process (if applicable). Where the local authority encounters a situation that is not adequately described above then it should locate a suitable sample point where the water is representative of that being supplied to the premises for human consumption.

Compliance samples for certain chemical “plumbing metal” parameters, i.e. copper, lead and nickel must be taken in the form of a random daytime sample taken from a consumer’s tap without prior flushing. This is then representative of water that has been standing in contact with the internal domestic pipework. ‘Random day time’ means that one litre volume sample be taken at any time in the day, without first flushing the tap. Samples taken for these parameters are first in the order of sampling where multiple parameters are required (see sampling manual on the Drinking Water Inspectorate website).

The Inspectorate in its technical advisory role to local authorities, has developed a sampling procedures manual, which forms the basis of a UKAS accredited sampling scheme, meeting the ISO17024 standard. Any individual who undertakes sampling of private water supplies must be formally certified to do so in accordance with this scheme. In doing so, the regulatory requirements are satisfied when taking, handling, transporting and storing each sample.

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Further details on sampling certification and the sampling manual can be found here:

<https://www.dwi.gov.uk/private-water-supplies/regulations-guidance/guidance-documents/#sampling-manual>

This procedure lays out the correct order of sampling, tap sterilisation, bottle filling methods and the necessary requirements for the adequate collection of samples. When collected, samples should be representative of the water being supplied to the property at the time of collection. It should not be contaminated during collection and it should be kept at a temperature and condition that will not cause erroneous results.

Following sample collection, local authorities must ensure that the sample is analysed as soon as reasonably practicable after it is taken, using a system of analytical quality control that is subjected to independent audit by an independent person who is approved by the Secretary of State. In England and Wales this is UKAS, and their accreditation is covered by the Drinking Water Testing Specification scheme.

## **Sampling and analysis by persons other than local authorities**

Local authorities may wish to sub-contract out the collection of samples and analysis. This is permitted, provided the local authority is satisfied the person is competent certified to regulatory standards. Analysis must be carried out in a timely fashion at an accredited laboratory, and any breach of water quality standards is communicated immediately to the local authority. Results of all samples taken for regulatory purposes by another party must be included in the local authority's annual data return to the Inspectorate.

## **Analysing samples**

Local authorities should ensure the specified analytical performance criteria and methods are met. This is best dealt with by employing a laboratory that is accredited to the ISO 17025 Drinking Water Testing Specification which ensures that suitable methods are employed.

Local authorities are encouraged to use electronic reporting tools offered by laboratories for ease of completing the annual return to the Drinking Water Inspectorate.

The standard for odour and taste is that a sample must be 'acceptable to consumers and no abnormal change'. This implies a qualitative assessment for which a trueness and precision cannot apply. However, The Inspectorate requires water undertakers to carry out a quantitative assessment in which case the above trueness and precision values apply. Local authorities are advised to follow this practice.

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A quantitative assessment is where a small panel of assessors taste or smell the water, and dilutions of the water, and estimate the taste or odour as a dilution number. Local authorities should be aware of the health and safety risks of carrying out qualitative and quantitative odour and taste measurements (on site or in the laboratory), more so with the taste (rather than odour), because private water supplies could be contaminated with harmful microorganisms.

## Supplies in bottles or containers

If water is supplied in bottles and containers instead of, or to supplement a private water supply and it is not controlled under the Natural Mineral Water, Spring Water and Bottled Drinking Water (Wales) Regulations 2015, the water must be monitored for Group A and Group B parameters. Monitoring includes all the parameters required for regulation 9, and 10 supplies with the addition of *Pseudomonas aeruginosa* as a Group A monitoring parameter. Frequency of bottled water Group A and Group B monitoring may be seen in Table 1 below.

**Table 1: Minimum frequencies for water put into bottles or containers not intended for sale**

Volume <sup>(1)</sup> of water produced in bottles or containers each day (m <sup>3</sup> )	Group A monitoring number of samples per year	Group B monitoring number of samples per year
≤10	1	1
>10≤ 60	12	1
>60	1 for each 5 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 5 m <sup>3</sup> /day)	1 for each 100 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 100 m <sup>3</sup> /day)

<sup>1</sup> The volumes are calculated as averages taken over a calendar year.

## Sample point selection

Samples from private water supplies should be collected from a point where the water is consumed. In most cases this will be at a kitchen tap, but it may vary, for example at a premise where the water is being used to manufacture a food product.

The regulatory sampling requirements of a private water supply should be determined by its supply type, i.e. in accordance with either regulation 8, 9, or 10. Sampling must not be determined on a property specific basis. If the supply is being used as part of a commercial or public activity on one or more building, then the entire supply must be monitored in accordance with regulation 9. Furthermore,

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regulatory samples should not normally be collected from multiple buildings on each sampling visit, unless multiple treatment methods are in use. The regulatory sample must be taken at a suitable location on the supply, where it is representative of the water being consumed.

Samples must be taken in a way that ensures (a) the sample is representative of the water being consumed on that supply (b) the monitoring fees and other charges are applied in a fair and proportionate manner, particularly where there are 2 or more buildings on the supply and/or more than 1 relevant person exists.

The sampling location must ensure that the sample best represents any risk identified on the risk assessment. Where there are multiple buildings or rooms on a private supply, which share the same treatment, it may also be appropriate to alternate between these locations to ensure that the water quality is accessed across the whole supply over time. Other considerations when determining a suitable sampling location include:

- The number of relevant persons associated with the supply.
- The configuration of the distribution system.
- The suitability of tap types at the various premises.
- The suitability of sampling locations and the hygienic conditions of the immediate surroundings.
- Whether or not there is an overall supply owner who as a relevant person accepts responsibility for the provision and quality of the overall supply.
- Any local (legal or customary) agreements relating to the responsibility for the supply and its upkeep where there are multiple users/relevant persons.
- Any potential breaches of regulation 5 (substances and products), within buildings, which may influence the sample results (i.e. water fittings and product materials). These should be remedied through the risk assessment process, using enforcement where relevant.
- Any potential risks of non-compliance with regulatory standards due to inadequate building specific treatment arrangements (for example, poorly maintained UV treatment).
- The presence of plumbing metals.
- Inadequate distribution system (for example, lead pipes) between buildings. These should be remedied through the risk assessment process, using enforcement where relevant.

In general, where there are 2 or more properties on a supply sampling costs should be shared amongst appropriate relevant persons in a fair and proportionate manner, as the local authority sees fit. How this is done will vary and should be determined on a case by case basis. In some situations, a system of rotation between owners and/or occupiers may be considered the most appropriate, whereas in others fees

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may be charged to a single supply owner and/or a person or persons exercising control of the supply, either instead of, or in addition to, consumers. It is however necessary when selecting a suitable sampling point that it best represents the water being consumed on the supply.