

Information note on Regulation 4 (Wales)



Wholesomeness

Drinking water must be wholesome as defined by the three conditions of this regulation.

The first condition is a requirement that states drinking water must not contain any microorganism, parasite or substance, whether alone or in conjunction with any other substance, at a concentration or value that would constitute a potential danger to human health. This 'catch all' element of wholesomeness supplements the requirement to meet the prescribed drinking water quality standards specified in the second condition of this regulation.

The second condition refers to the strict concentrations or values for a broad range of chemical, microbiological and physical parameters, listed in part 1 of schedule 1 of the regulations, which must not be exceeded. In addition to being protective of public health, these prescribed standards are also set to ensure drinking water is acceptable to consumers in the way it appears, its odour and taste.

The third and last condition relates to nitrate and nitrite. When found in high enough concentrations, either alone or together, these parameters can cause methaemoglobinaemia in bottle fed infants up to the age of 6 months and in particular those younger than three months. Whilst there are prescribed standards for each parameter, this condition takes in to account that nitrate and nitrite may occur in drinking water supplies together, and therefore need to be considered collectively by way of the nitrate nitrite formula. This formula simply states that for the water to be considered wholesome the sum of the ratio of nitrate and nitrite concentrations to that prescribed respectively should not exceed 1.

If the all three conditions are met, then the drinking water can be considered safe and wholesome.

Whether or not the parameter is specified by the regulations, there is good worldwide agreement on the science behind the setting of health and non-health based drinking water quality standards which include a wide safety margin. This expert evidence is documented by the World Health Organisation in their guidelines for drinking water quality which inform the legal requirements of the European Drinking Water Directive 1998 from which UK drinking water regulations are derived. In addition to the legal requirements of the Directive, UK regulations include requirements based on national interest.

Further advice about nitrate in private drinking water supplies can be found [here](#):