

# Nitrate and private water supplies



This guidance covers the actions to be taken by local authorities in relation to a private water supply, which does not comply with the nitrate standard.

## Background

Monitoring under the 1991 regulations identified how many private water supplies breach the nitrate standard (50mg/l as NO<sub>3</sub>). These regulations and subsequent revised regulations transposed into national law in England and Wales the 1980 EU Drinking Water Directive and later the revised 1998 EU Drinking Water Directive. The 1998 Directive revision did not change the nitrate standard, however it removed the mechanism previously permitted for granting a relaxation of a standard. Therefore Local Authorities **can no longer grant** relaxations for nitrate above 50 mg/l.

In 2019 Public Health England and Public Health Wales updated their advice in relation to nitrate in drinking water following new information from the World Health Organization and Health Canada on the potential effects on the thyroid and because total intake from water and diet could exceed the European Food Safety Authority [Acceptable Daily Intake]<sup>1</sup> ADI for adults above a water concentration of 50 mg/l. As a result, PHE and Public Health Wales do not recommend anyone should regularly consume water above 50 mg/l.

As before this advice particularly applies to bottle-fed infants (up to the age of 6 months ) and the potential acute or immediate risk of infantile methaemoglobinaemia (IM), particularly where there is also microbial contamination of the drinking water. Local Authorities or individuals can get further advice and support from Public Health England or Public Health Wales through the usual contact routes.

PHE (<https://www.gov.uk/guidance/contacts-phe-regions-and-local-centres#contact-details-for-your-region-and-local-centre>) and PHW (<https://phw.nhs.wales/use-of-site/contact-us/>) contact pages.

For supplies identified as failing the nitrate standard, local authorities are required to make an informed risk based decision as to whether these failures are “trivial and unlikely to recur” or alternatively, “ongoing and a potential danger to health”. In the latter case, the local authority must serve a Regulation 18 Notice in England or a Regulation 20 Notice in Wales, in accordance with regulations 18 or 20, as relevant. Local authorities are advised to consider the following in making risk based judgements

- Whether or not the nitrate concentration in the water has exceeded the standard on more than one occasion?
- The maximum recorded concentration of nitrate in the water supply historically?

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<sup>1</sup> Acceptable Daily Intake (ADI) is the estimate of the amount of a substance in food or drink, expressed on a body weight basis (e.g. mg/kg body weight/day), that can be ingested daily over a lifetime by humans without appreciable risk.

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- The likely maximum concentration of nitrate in the water supply in the future (if not mitigated by measures such as blending with another low water source or installation of treatment)?
- The current and likely future use of the water supply e.g. domestic purposes only, commercial use only, mixed commercial/domestic purposes, does the water supply a public building?

Should the local authority decide that the nitrate exceedances are ongoing and a potential danger to health then a Regulation 18 Notice in England, Regulation 20 in Wales should be served. The notice should include short term measures to protect health (e.g. provision of an alternative wholesome supply) and longer term measures such as the installation of treatment or blending of the supply to reduce concentrations of nitrate to acceptable concentrations.

Drinking Water Inspectorate  
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