

## Advice Sheet 5 - Nitrate



### Nitrate

Nitrate is not normally considered to be a naturally occurring contaminant of water. It is normally associated with either sewage or animal waste contamination or the application of inorganic fertilisers. The main concern, associated with high nitrate concentrations in drinking water, is the development of methaemoglobinaemia (blue baby syndrome) in infants up to 12 months, and in particular those under 3 months. It is not usually a problem in adults, although pregnant women are thought to be at risk for unclear reasons. With nitrate concentrations under 100 mg/litre, it is unlikely that infantile methaemoglobinaemia is caused in bacteriologically pure water supplies, but it has been found to occur at lower concentrations where the bacteriological status of the water has been poor and/or an infant has gastroenteritis.

Levels of nitrate in water are typically below 20mg/l, but levels exceeding 45mg/l occur in some water sources. Increases above this are typically associated with the land application of inorganic fertilisers. In water sources such as a well or springs, the nitrate level will fluctuate depending on several factors such as rainfall and the season. However, nitrate levels in groundwater (i.e. from borehole supplies) tend to be more constant. High levels of nitrate are best reduced by land management changes or in a small supply by ion exchange or reverse osmosis.

For further advice or information, please contact:

Environmental Health  
South Hams District Council  
Follaton House  
Plymouth Road  
Totnes  
Devon TQ9 5NE

Telephone: 01803 861234  
Fax: 01803 861294

Email: [environmental.health@southhams.gov.uk](mailto:environmental.health@southhams.gov.uk)

[www.southhams.gov.uk](http://www.southhams.gov.uk)

January 2006