



guardians of drinking water quality

## DRINKING WATER INSPECTORATE

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DWI Information Letter 05/2011

### **To: Board Level and Day to Day contacts of Water and Sewerage Companies, Water Companies and licensed water suppliers in England and Wales**

Dear Sir/Madam

### **Production, delivery, receipt and control of water treatment chemicals**

#### **Purpose**

1. The purpose of this letter is to remind companies of the need for robust quality assurance, audit and control of water treatment chemicals delivered to site and to ensure that there is no potential for contamination of a chemical either at source or in transportation and use.

#### **Background**

2. The Inspectorate wrote to companies on the matter of 'vigilance' with regard to water treatment chemical operations on 16 September 2003, (Information Letter 12/2003). This letter provided companies with a summary of the Inspectorate's relevant technical audit findings and highlighted some areas of concern.
3. The letter set out the general approach that, in the opinion of the Inspectorate, reflected best practice citing two cases related to chemicals not meeting the required specification, with actual or potential impacts on the efficacy of the treatment process. Issues were noted concerning the cleanliness of carboys used to transport small volumes of chemicals, the use of chemical tankers with multi compartments, and tankers carrying adapters for their delivery hoses. Specifically in 2002, carboys containing Industrial sodium hypochlorite solution used for disinfection, were contaminated with a chemical that produced a petrol like odour.
4. The Inspectorate subsequently wrote to companies on the matter of the control of water treatment chemicals on 17 February 2006, (Information Letter 05/2006).

5. This letter discussed an incident involving in the connection to the water supply of a water treatment chemical container which contained diesel. At that time, the Inspectorate sought assurance from companies that the scope of their operating practices and procedures robustly addresses the particular risk that 'the contents of a container may not be as marked at the time it is connected to the water supply'.
6. In September 2008, a company in Scotland took delivery of a drum of sodium hypochlorite intended for disinfecting the water supply at a water treatment works. The seal on the drum was intact but when opened the smell of diesel was noticed.
7. In October 2010, a water company in England identified an organic solvent type odour in the bulk sodium hypochlorite tank at a Treatment Works. The contents of the tank originated from two deliveries of drums with separate batch numbers and are thought to have been contaminated by unleaded petrol at the time of filling. The supplier of the chemical was the same for the 2008 Scottish event and furthermore was the supplier to which the water company changed to after the 2002 event. At the time, the water company stipulated that sodium hypochlorite must only be supplied in single-use containers to prevent any reoccurrence.

## Detail

8. The likelihood of the recurrence of such a contamination in these similar circumstances being a result of chance is negligible.
9. If these containers had been single use, as was the assurance given in 2002, and the supplier adequately followed its procedures, the sealed drums delivered to the water company would most likely not have been contaminated.
10. This letter highlights the risk that is posed by third party chemical suppliers even when the supplier is known, has made assurances and has apparently appropriate procedures in place, and the chemical in question apparently conforms to British Standard 901:2008.
11. This letter requires companies to ensure regular robust review and audit of key suppliers to secure compliance with quality standards for chemicals used in water treatment. For suppliers which are used by multiple companies the use of a syndicate system may be advantageous.
12. Within this, companies must ensure that there are appropriate procedures and traceable documentation in place throughout the supply chain including raw materials and containers right through to the acceptance of chemical deliveries, such that only the correct chemicals of the correct specification are received.
13. Companies should carry out their own quality control assays on chemical deliveries which should include physical checking of the chemical, where possible, and to sample each delivery for analysis in the event of a problem developing if not done routinely where reasonably easy to do so.

## Regulations

14. The Water Supply (Water Quality) Regulations 2000 as amended requires companies to comply with Regulation 31 (2) in which a water undertaker shall not apply any substance or product to, or introduce any substance or product into, water which is supplied for Regulation 4(1) purposes unless, subject to regulation 31(3) one of the requirements of paragraph(4) is satisfied. Failure to comply with these requirements is an offence under Regulation 33(3)
15. Furthermore, Companies are reminded that they could be liable for prosecution under section 70 of the Water Industry Act 1991 in the event of a contamination incident resulting in the supply of water unfit for human consumption.

## Enquiries

16. Copies of this letter are being sent to Pamela Taylor, Chief Executive, Water UK; Mike Walker, John Bourne, WaFERR, Department for Environment, Food and Rural Affairs; Olwen Minney, Water Management Team, Welsh Assembly Government; Philip Anderson, Drinking Water Quality Regulator for Scotland; Margaret Herron, Drinking Water Inspectorate for Northern Ireland; Tony Smith and Chairs of the Regional Consumer Council for Water; Noel Wheatley, Ofwat; Tony Warn, Environment Agency; Jane Downes, Food Standards Agency; and Frances Pollitt at the Health Protection Agency.
17. This letter is being sent electronically to Board Level and day to day contacts. Please acknowledge receipt by email to [dwi.enquiries@defra.gsi.gov.uk](mailto:dwi.enquiries@defra.gsi.gov.uk). Hard copies are not being sent but the letter may be freely copied. Any enquiries about the letter should be addressed directly to me using the contact details above.

Yours sincerely



Marcus Rink  
Deputy Chief Inspector (Operations)