Advice Sheet 3

Treatment Chemicals, Filter Media and Ion Exchange Resins

Version 6.3
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Preface

This series of advice sheets has been prepared by the Drinking Water Inspectorate (DWI) to provide guidance on the approval process for products for use in contact with water intended for human consumption.

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Availability

Copies of the most up-to-date versions of these advice sheets can be freely downloaded from the DWI website.

Application Forms

A series of product type related applications forms are available from the DWI website.

Laboratory Test Protocols

A series of product type related laboratory test procedures are available from the DWI website.

Contact

For further information or help please contact:

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Glossary

The Regulations
The following regulations apply to the approval of substances and products used in the provision of public water supplies within the United Kingdom:


c) Scotland – regulation 33 of The Public Water Supplies (Scotland) Regulations 2014


Where reference is required to specific regulatory requirements, these are given in footnotes.

The Authorities
Under the relevant regulations water suppliers shall not apply or introduce any substance or product into public water supplies unless the requirements of the relevant regulations are met. One of these requirements is that the substance or product has been approved by either the Secretary of State for the Environment Food and Rural Affairs (England), the Welsh Ministers (Wales), the Northern Ireland Assembly (Northern Ireland) or the Scottish Ministers (Scotland); collectively referred to as “the Authorities”.

The List
Under the relevant regulations lists of all the substances and products approved or refused, and of all approvals revoked or modified are published at least once a year:

England and Wales: this list is regularly updated by DWI throughout the year, and includes details of changes to approved products and additions to the List; the list (the List of Products for use in Public Water supply in the United Kingdom) is posted on the DWI website. Reference to “the List” throughout this publication refers to the most up-to-date version available from the website.

Scotland: a list is published annually by the Scottish Government on their website.

Northern Ireland: in due course the Department for Regional Development (Northern Ireland) will also publish a list.

The Approval of a Product
Approval is based upon consideration as to whether the use of a substance or product will adversely affect the quality of the water supplied, or cause a risk to the health of consumers; no consideration is given to fitness for purpose and approval by the Authorities must not be taken as a favourable assessment of the performance or merits of any substance or product. It is the responsibility of the end user to ensure fitness for purpose.

The approval process for general products used with water intended for human consumption is set out in Advice Sheet 1. Relevant deviations from this process are set out in the appropriate Advice Sheets.

Water Suppliers
These include water undertakers, inset appointees, and water supply licensees; see The Water Act 2003 (Consequential and Supplementary Provisions) Regulations 2005.
1. Introduction

This Advice Sheet outlines the regulatory requirements for treatment chemicals, filtration media, ion exchange resins and on-site electro-chemical generating processes used in the treatment of water intended for human consumption in the UK.

2. Treatment Chemicals and Filter Media

2.1 Chemicals and Media covered by European Standards

Many commonly used treatment chemicals and filter media are now covered by European Standards which are published in the UK by BSi as BS ENs. Where an appropriate European Standard exists for a treatment chemical the water undertakers are obliged to purchase these products by reference to that standard. It is the water companies’ responsibility to ensure that the treatment chemicals they use conform to the standard, either by reference to the conformity statements provided by the supplier or by their own checks.

Where a European Standard exists member states are not permitted to have their own approvals. However, a member state can impose conditions of use on a chemical or media on the grounds of justifiable additional technical requirements, e.g. protection of public health. In the UK conditions of use are set for a number of treatment chemicals and these are published in the List of Approved Products. Water companies must comply with the conditions of use stated in the List.

Where chemicals conforming to European Standards are mixed before being sold the resultant mixture is not considered to conform to a European Standard and approval from the Authorities must be obtained before the product is used in public water supplies (see below).

2.2 Treatment Chemicals and conformity to the Biocides Regulations (BPR)

Products that claim biocidal effects, such as disinfectants, may require authorisation under the Biocidal Products Regulation (BPR) in addition to meeting the provisions of regulation 31. The two provisions, BPR and Regulation 31, are operated separately.

It is up to the end user or the manufacturer/supplier of a product to check that it conforms with all the appropriate regulations. Product approval holders should check whether their product is covered under the BPR and if so should ensure that the active substance(s) in their biocidal products are:

- under review for that the relevant product type and their active substance supplier is listed in accordance with Article 95 of the BPR; or already approved for the relevant product type or listed in Annex I of the EU BPR (simplified actives list);
- and that they have made any necessary application for Product Authorisation under the BPR.
2.3 Traditional Chemicals and Media

Traditional chemicals and filter media, and products based entirely on such chemicals, that are considered by DWI to be unobjectionable on health grounds, are listed in the Authorities’ List of Approved Products. A general condition of their use is the method of use and the purity of these products shall be such that, when used in the treatment of water intended for human consumption, the water so treated shall meet the appropriate requirements of the Water Supply (Water Quality) Regulations. In practice, as a minimum, water suppliers should know what the purity is and ensure the chemicals are dosed at normally accepted concentrations and points of application and any specific conditions of use in the Authorities’ List are followed.

2.4 Approval of Chemicals and Media

Where a chemical or filter media is not the subject of a BS EN and not on the list of traditional chemicals should be made on the “chemicals” or “filter media” application form, obtainable from DWI’s website or from Regulation 31 Enquiries Service.

3. Ion Exchange Resins

Ion exchange resins are not the subject of any BS EN standards and require approval under the regulations. Applications for approval of ion exchange resins should be made on the appropriate application form, which can be obtained from DWI's website, or from Regulation 31 Enquiries.

Please ensure that you submit the following additional product information with your application.

Product description
- the type of resin;
- the media bed size, capacity etc.;
- operational flow rate;
- empty bed contact time;
- regenerant used and volume;
- rinse water volume;
- pH values attained and how attained (including any acid or alkali used).

Description of the manufacturing process
- This does not need to be a detailed manufacturing protocol but should give details of raw materials used, the temperature of each part of the manufacturing process and the products of each part of the manufacturing process. It is important to give details of any materials that are not entirely consumed during manufacturing.
Regeneration

- Full details on how the ion exchange resin will be regenerated, including how it is ensured that regeneration chemicals are adequately removed before the resin is returned to service.

Instructions for use (IFU)

- This should meet the appropriate requirements set out in Advice Sheet 2;
- The IFU should also include a statement on the suitability of the product for use with chlorinated water.

4. Products for Generating Hypochlorite On-Site

Although there is a European standard for hypochlorite this standard excludes hypochlorite generated on-site. Sodium chloride used for the generation of hypochlorite on site is addressed in BS EN 14805 however the apparatus for generating the hypochlorite requires approval under the regulations.

Applications for approval of equipment used for the on-site generation hypochlorite sound be made on the appropriate application form, which can be obtained from DWI’s website.