



**APPROVAL OF PRODUCTS FOR  
USE WITH DRINKING WATER**

## **Advice Sheet 3**

# **Treatment Chemicals, Filter Media and Ion Exchange Resins**

*Document Control*

### **DOCUMENT CONTROL**

The only controlled version of this document can be accessed on the DWI Website. (<https://www.dwi.gov.uk/drinking-water-products/>) Printed copies of this document, together with electronic copies held on local computers and other storage devices are uncontrolled.

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Revision notes – Version 2.0 – minor editorial and technical corrections; 2.1 – addition of contents page. Version 3.0 – addition of guidance for mixtures of chemicals, products made from natural ingredients and biocides; 3.1 – revision of Section 1.4. Version 4.0 – re-ordering of sections for clarity, and addition of “Relevant Documents” to Annex A. Version 5.0 – revisions to reflect new approval processes and requirements, plus addition of 2 background papers (Annex B & C); 5.1 – addition of a new section (7 Miscellaneous products) and renumbering of the previous section 7; 5.2 – addition of new section on User Responsibilities (Section 9); 5.3 – revision of Section 3 and minor editorial corrections 5.5 Address change. V5.6 Correction to legislative references. Version 6.0 ; Revision of all Sections, including removal of Sections 6 - 9; 6.1 – Revision of Glossary section; 6.2 – Updated Glossary references; 6.3 – Update of Preface and addition of Section 2.2; 6.4 – Contact details updated; 6.5 – Revision of document links and references.

## 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.

The following advice sheets are currently available:

### *Advice Sheet Overview*

Advice Sheet	Title
1.	Overview of the Application Process
2.	Instructions for Use (IFU) Requirements
<b>3.</b>	<b>Treatment Chemicals, Filter Media &amp; Ion Exchange Resins</b>
4.	Changes to Approved Products
5.	Products made from Recognised Grades of Materials
6.	Approval of Membrane Filtration Systems & Associated Equipment
7.	Construction Products for Water Retaining Structures
8.	Small Surface Area Products (Regulation 31(4)(b))
9.	Emergencies – Use of Equipment and Disinfectants
10.	Natural and Traditional Products
11.	Product Re-approval Process

### **Availability**

Copies of the most up-to-date versions of these advice sheets can be freely downloaded from the [DWI website](https://www.dwi.gov.uk/drinking-water-products/) (https://www.dwi.gov.uk/drinking-water-products/).

### **Application Forms**

A series of product type related applications forms are available from the [DWI website](https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/) (https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/).

### **Laboratory Test Protocols**

A series of product type related laboratory test procedures are available from the [DWI website](https://www.dwi.gov.uk/drinking-water-products/laboratory-information/) (https://www.dwi.gov.uk/drinking-water-products/laboratory-information/).

### **Contact Information**

For further information or help please contact:

Regulation 31 Enquiries,

Telephone: +44 (0)300 068 6400

E-mail: [reg31.enquiries@defra.gov.uk](mailto:reg31.enquiries@defra.gov.uk)

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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:

**England** - regulation 31 of [The Water Supply \(Water Quality\) Regulations 2016](https://www.legislation.gov.uk/uksi/2016/614/contents/made) (Statutory Instruments 2016 No 614) (<https://www.legislation.gov.uk/uksi/2016/614/contents/made>).

**Wales** – regulation 31 of [The Water Supply \(Water Quality\) Regulations 2018](https://www.legislation.gov.uk/wsi/2018/647/contents/made) (Welsh Statutory Instrument 2018 No 647 (W.121)) (<https://www.legislation.gov.uk/wsi/2018/647/contents/made>).

**Scotland** – regulation 33 of [The Public Water Supplies \(Scotland\) Regulations 2014](https://www.legislation.gov.uk/ssi/2014/364/contents/made) (<https://www.legislation.gov.uk/ssi/2014/364/contents/made>).

**Northern Ireland** – regulation 30 of [The Water Supply \(Water Quality\) Regulations \(Northern Ireland\) 2017](https://www.legislation.gov.uk/nisr/2017/212/contents) (Northern Ireland Statutory Rules 2017 No.212) (<https://www.legislation.gov.uk/nisr/2017/212/contents>)

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](https://cdn.dwi.gov.uk/wp-content/uploads/2020/12/01151233/soslistcurrent.pdf) (<https://cdn.dwi.gov.uk/wp-content/uploads/2020/12/01151233/soslistcurrent.pdf>). 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 on the Scottish Government [website](https://www.gov.scot/publications/list-approved-products-use-public-water-supply-united-kingdom/pages/1/) (<https://www.gov.scot/publications/list-approved-products-use-public-water-supply-united-kingdom/pages/1/>).

**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](https://cdn.dwi.gov.uk/wp-content/uploads/2020/12/15092444/Advicesheet1-1.pdf) (<https://cdn.dwi.gov.uk/wp-content/uploads/2020/12/15092444/Advicesheet1-1.pdf>). 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 2014](https://www.legislation.gov.uk/ukpga/2014/21/introduction) (<https://www.legislation.gov.uk/ukpga/2014/21/introduction>).

# 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 the British Standards Institution (BSi) as a British adoption of a European (EN) standard (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 (GB BPR)

Products that claim biocidal effects, such as disinfectants, may require authorisation under the [Biocidal Products Regulation](https://www.hse.gov.uk/biocides/index.htm) (GB BPR) (<https://www.hse.gov.uk/biocides/index.htm>) in addition to meeting the provisions of regulation 31. The two provisions, GB 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](https://www.hse.gov.uk/biocides/checking.htm) under the GB BPR (<https://www.hse.gov.uk/biocides/checking.htm>) 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 GB BPR; or already approved for the relevant product type or listed in Annex I of the GB BPR (simplified actives list);
- and that they have made any necessary application for Product Authorisation under the GB BPR.

Information on the GB BPR, including how to check the status of an active substance, how and when to apply for product authorisation and what actions need to be taken whilst an active substance is still under review, is available on the Health and Safety Executive website at [www.hse.gov.uk/biocides](https://www.hse.gov.uk/biocides) (<https://www.hse.gov.uk/biocides/>). Any queries about the applicability of the GB BPR should be addressed to [biocidisenquiries@hse.gov.uk](mailto:biocidisenquiries@hse.gov.uk).

### 2.3. Approval of Chemicals and Filter Media

Where a chemical or filter media is not the subject of a British adoption of a European (EN) standard (BS ENs), an application should be made using the "chemicals" or "filter media" application form, obtainable from the [DWI website](https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/) (<https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/>) or from the Regulation 31 Enquiries Service.

## 3. Ion Exchange Resins

Ion exchange resins, including those used in the preparation of water for use with treatments chemicals are not the subject of any BS EN standards and require approval under the regulations, including those used to produce any diluent used in combination with any treatment chemical that is dosed into the water supply.

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](http://dwi-content.s3.eu-west-2.amazonaws.com/wp-content/uploads/2020/12/01174115/Advicesheet2.pdf) (<http://dwi-content.s3.eu-west-2.amazonaws.com/wp-content/uploads/2020/12/01174115/Advicesheet2.pdf>);
- 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 of hypochlorite should be made using the appropriate application form, which can be obtained from [DWI's website](https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/) (<https://www.dwi.gov.uk/drinking-water-products/reg-31-approval/advice-and-approval/>).