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W E L S H S T A T U T O R Y  
I N S T R U M E N T S

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**2025 No. 88 (W. 22)**

**FOOD, WALES**

**The Bread and Flour (Wales)  
Regulations 2025**

**EXPLANATORY NOTE**

*(This note is not part of the Regulations)*

These Regulations make provision in relation to bread and flour that is to be sold in, or imported or moved into, Wales. These Regulations revoke and replace (with amendments) the Bread and Flour Regulations 1998 (S.I. 1998/141) insofar as those regulations apply in relation to Wales.

Regulation 3 and Schedules 1 to 3 make provision in relation to essential ingredients for flour derived from common wheat (*Triticum aestivum* L.), whether or not mixed with other flour.

Regulation 3(2) and (3) prohibits the sale by persons producing flour in the course of a business, and the import or movement into Wales by persons acting in the course of a business and subsequent sale by them, of flour derived from common wheat that does not comply with the mandatory fortification requirements.

The mandatory fortification requirements for flour derived from common wheat are prescribed by regulation 3(4), and Schedules 1 to 3.

Schedule 1, paragraph 1, provides that flour derived from common wheat must be fortified with specified amounts of the prescribed forms of calcium carbonate and folic acid. There are specific and limited exceptions to the calcium carbonate fortification requirement. The folic acid fortification requirement applies from 13 December 2026.

Schedule 1, paragraph 2(1), provides that flour derived from common wheat must contain minimum levels of iron, niacin and thiamin. Paragraph 2(2) makes provision in relation to the addition of prescribed forms of those substances where fortification is required to meet the minimum levels.

Schedule 2 contains the specification for the permitted form of calcium carbonate.

Schedule 3 contains the specification for one of the permitted forms of iron (iron powder).

Specific exemptions from the mandatory fortification requirements for wholemeal flour, flour produced by small mills, and flour for use in certain specified products, are set out in regulation 3(5). See also regulations 6 and 7 for applicable general exemptions.

Regulation 4 prohibits the use (by any person) of flour bleaching agents as food additives in the preparation of bread or flour (subject to the general exemptions in regulations 6 and 7).

Regulation 5 imposes requirements on the use, as part of the name of bread (in the sale, advertising or labelling of the bread), of the terms “wholemeal” and “gwenith cyflawn”, “wheat germ” and “bywyn gwenith”, and equivalents to those terms in other languages (subject to the general exemptions in regulations 6 and 7).

Regulations 6 and 7 contain general exemptions from regulations 3 to 5 for bread and flour produced for the following exempted uses—

- bread or flour that is not for human consumption;
- bread or flour that is for export to a third country, or for use in the production of food that is for export to a third country.

Regulation 8 prohibits the use, by businesses in the production of food, of bread and flour that is exempted by regulations 3(5)(c), 3(5)(d), 6 or 7 other than for the exempted uses.

Regulation 9 specifies that food authorities in Wales are responsible for the enforcement of the Regulations in their areas.

Regulation 10 makes provision for authorised officers of the food authorities to use improvement notices to enforce the requirements of the Regulations.

Regulation 11 provides that a failure to comply with an improvement notice is a criminal offence.

Regulation 12 provides for appeal to a magistrates' court against an improvement notice.

Regulation 13 applies (with modifications) the following provisions of the Food Safety Act 1990 to these Regulations—

- section 3 – the presumption that food is intended for human consumption;

- section 20, to enable proceedings for an offence under regulation 11 to be taken against a person other than the person who has failed to comply with an improvement notice, where the failure to comply is due to the act or default of that other person;
- section 21(1) and (5), to provide for a defence of due diligence;
- section 30(8), to provide for certificates as to the results of analysis of a sample to be accepted, in enforcement proceedings under these Regulations, as evidence of the facts stated in the certificate;
- sections 33 and 35(1) and (2), to make it an offence to intentionally obstruct persons acting in execution of these Regulations, or to fail to give such persons assistance or information when reasonably required to do so, or to give false or misleading information;
- sections 36 and 36A, as to how the offences apply to bodies corporate etc;
- section 44, to provide protection for authorised officers of food authorities acting in good faith in the enforcement of these Regulations;
- section 50, to apply requirements as to proper issuing of an improvement notice, and the date on which a notice is issued where that notice has been issued by post.

Regulation 14 revokes, in relation to Wales, the Bread and Flour Regulations 1998.

Regulation 15 makes transitional provision that has effect until the end of 12 December 2026, to enable flour to continue to be produced and placed on the market in Wales during the transitional period, in compliance with any of the fortification requirements of the Bread and Flour Regulations 1998 as they applied immediately before these Regulations came into force.

Regulation 16 makes further transitional provision that takes effect from 13 December 2026 – the date that the folic acid fortification requirement comes into force. The provision enables stocks of bread and flour lawfully placed on the market or labelled before that date to continue to be marketed until the stocks are exhausted.

The British Pharmacopeia 1973 and 2023, referred to in Schedule 1, may, for 1973, be inspected at the British Library Lending Division Boston Spa, Wetherby, West Yorkshire, L23 7BQ Tel 01937 546 060 and, for 2023, at shelfmark (B) 615.1141 in the

Science 3 Reading Room, British Library, St Pancras site, 96 Euston Road, London, NW1 2DB.

Further information, including in relation to documentation referenced in these Regulations, can be obtained from the Food Standards Agency in Wales, 4th Floor, Welsh Government Building, Cathays Park, Cardiff, CF10 3NQ or by writing to [regulated.products.wales@food.gov.uk](mailto:regulated.products.wales@food.gov.uk).

The Welsh Ministers' Code of Practice on the carrying out of Regulatory Impact Assessments was considered in relation to these Regulations. As a result, a regulatory impact assessment has been prepared as to the likely costs and benefits of complying with these Regulations. A copy can be obtained from the Food Standards Agency in Wales (see above).

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W E L S H S T A T U T O R Y  
I N S T R U M E N T S

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**2025 No. 88 (W. 22)**

**FOOD, WALES**

**The Bread and Flour (Wales)  
Regulations 2025**

*Made* 27 January 2025

*Laid before Senedd Cymru* 29 January 2025

*Coming into force in accordance with  
regulation 1(2) and (3)*

The Welsh Ministers make these Regulations in exercise of the powers conferred by sections 6(4), 16(1)(a), (c), (e) and (f), 18(1)(c), 26(1)(a), (2)(e) and (3), and 48(1) of the Food Safety Act 1990(1).

The Welsh Ministers have had regard to advice given by the Food Standards Agency as required by section 48(4A) of the Food Safety Act 1990(2).

There has been consultation as required by Article 9 of Regulation (EC) No 178/2002 of the European Parliament and of the Council laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down

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- (1) 1990 c. 16. Section 6(4) was amended by paragraph 6 of Schedule 9 to the Deregulation and Contracting Out Act 1994 (c. 40), paragraph 10(3) of Schedule 5 to, and Schedule 6 to the Food Standards Act 1999 (c. 28), and by Schedule 2 to S.I. 2002/794. Sections 16(1), 18(1) and 48(1) were amended by paragraph 8 of Schedule 5 to the Food Standards Act 1999, and section 26(3) was amended by Schedule 6 to that Act. The relevant functions under the Food Safety Act 1990, formerly exercisable by “the Ministers”, were so far as exercisable in relation to Wales transferred to the National Assembly for Wales by S.I. 1999/672 as read with section 40(3) of the Food Standards Act 1999. Those functions are now exercisable by the Welsh Ministers by virtue of section 162 of, and paragraph 30 of Schedule 11 to, the Government of Wales Act 2006 (c. 32).
- (2) Section 48(4A) was inserted by paragraph 21 of Schedule 5 to the Food Standards Act 1999. That amendment took effect subject to section 40(3) of that Act.

procedures in matters of food safety<sup>(1)</sup> during the preparation and evaluation of these Regulations.

### **Title, coming into force, extent and application**

**1.**—(1) The title of these Regulations is the Bread and Flour (Wales) Regulations 2025.

(2) Subject to paragraph (3), these Regulations come into force on 19 February 2025.

(3) The following provisions come into force on 13 December 2026—

(a) regulation 3(4) and paragraph 1 of Schedule 1 in so far as those provisions impose requirements relating to the addition of folic acid to flour derived from common wheat;

(b) regulation 16.

(4) These Regulations—

(a) extend to England and Wales;

(b) apply in relation to Wales.

### **Interpretation**

**2.** In these Regulations—

“authorised officer” (“*swyddog awdurdodedig*”) in relation to a food authority has the meaning given in section 5(6) of the Food Safety Act 1990<sup>(2)</sup>;

“bread” (“*bara*”) means a food of any size, shape or form which—

(a) is usually known as bread, and

(b) consists of a dough made from flour and water, with or without other ingredients, which has been fermented by yeast or otherwise leavened and subsequently baked or partly baked,

but does not include buns, bunloaves, chapatis, chollas, pitta bread, potato bread or bread specially prepared for coeliac sufferers;

“common wheat” (“*gwenith cyffredin*”) means *Triticum aestivum* L.;

“flour” (“*blawd*”) means the product which is derived from, or separated during, the milling or grinding of cleaned cereal whether or not the cereal has been malted or subjected to any other process, and includes meal, but does not include other cereal products, such as separated cereal bran, separated cereal germ, semolina or grits;

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(1) EUR 2002/178, amended by S.I. 2019/641; there are other amending instruments but none is relevant.

(2) Section 5(6) was amended by paragraph 8 of Schedule 5 to the Food Standards Act 1999. That amendment took effect subject to section 40(3) of that Act.

“food” (*“bwyd”*) has the meaning given in section 1(1) of the Food Safety Act 1990;

“food authority” (*“awdurdod bwyd”*) refers to a food authority in Wales within the meaning given in section 5(1A) of the Food Safety Act 1990(1);

“ingredient” (*“cynhwysyn”*) has the meaning given in Article 2(2)(f) of Regulation (EU) No 1169/2011 of the European Parliament and of the Council on the provision of food information to consumers(2);

“labelling” (*“labelu”*) has the meaning given in Article 2(2)(j) of Regulation (EU) No 1169/2011;

“sell” (*“gwerthu”*) includes—

- (a) offering, exposing or possessing for sale, and
- (b) the extended meaning of sale in section 2 of the Food Safety Act 1990(3) as applied by regulation 13 of these Regulations;

“wholemeal flour” (*“blawd gwenith cyflawn”*) means the flour consisting of the whole of the product obtained from the milling or grinding of cleaned cereals.

### **Essential ingredients for flour derived from common wheat**

**3.—**(1) This regulation applies in relation to flour derived from common wheat, whether or not mixed with other flour.

(2) A person producing flour in the course of a business must not sell flour derived from common wheat that does not comply with this regulation.

(3) A person acting in the course of a business must not import or move into Wales any flour derived from common wheat, or sell such flour imported or moved into Wales by them, which does not comply with this regulation.

(4) Flour derived from common wheat must contain the substances specified in Schedule 1 to these Regulations in accordance with the provisions set out in that Schedule(4).

(5) Paragraph (4) does not apply to—

- (a) wholemeal flour;
- (b) flour produced at a production site which, at the time of production, has—

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(1) Section 5(1A) was inserted by the Local Government (Wales) Act 1994 (c. 19), Schedule 9, paragraph 16(1).  
(2) EUR 2011/1169; relevant amending instruments are S.I. 2019/529, 778, 2020/1627. S.I. 2019/529 was amended by S.I. 2020/1501.  
(3) Section 2 was amended by paragraph 8 of Schedule 5 to the Food Standards Act 1999. That amendment took effect subject to section 40(3) of that Act.  
(4) See regulations 15 and 16 for transitional provision.

- (i) a maximum annual production capacity of 500 metric tonnes of flour or less, and
- (ii) produced less than 500 metric tonnes of flour for each of the last three calendar years;
- (c) flour for use in the manufacture of communion wafers, matzos, gluten or starch;
- (d) any concentrated preparation for use for the purpose of facilitating the addition to flour of substances as required by paragraph (4).

#### **Prohibition on use of flour bleaching agents**

**4.—**(1) A person must not use a flour bleaching agent in the preparation of bread or flour.

(2) In this regulation—

- (a) a “flour bleaching agent” is a food additive primarily used to remove colour from flour;
- (b) “food additive” has the meaning given in Article 3(2)(a) of Regulation (EC) No 1333/2008 of the European Parliament and of the Council on food additives<sup>(1)</sup>.

#### **Requirements in relation to the use of the terms “wholemeal” and “wheat germ”**

**5.—**(1) A person acting in the course of a business must not sell or advertise for sale any bread in contravention of this regulation.

(2) In the labelling or advertising of bread, a term specified in paragraph (3) may be used as part of the name of the bread, whether or not qualified by other words, only where the requirements of that paragraph in relation to that term are met.

(3) The term—

- (a) “wholemeal”, “gwenith cyflawn” or the equivalent term in any other language may be used where all the flour used as an ingredient in the preparation of the bread is wholemeal flour;
- (b) “wheat germ”, “bywyn gwenith” or the equivalent in any other language may be used where the bread has an added processed wheat germ content of 10% or more calculated on the dry matter of the bread.

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(1) EUR 2008/1333, to which there are amendments not relevant to these Regulations.

### **General exempted uses**

**6.**—(1) Regulations 3 to 5 do not apply to bread or flour that is for any use other than for human consumption.

(2) But regulation 5 does apply to such bread insofar as that regulation relates to advertising.

**7.**—(1) Regulations 3 to 5 do not apply to bread or flour that is for the following exempted uses if the exempted uses of the bread or flour are clearly indicated in English, or in English and in Welsh, on the labelling—

- (a) bread or flour for export to a third country;
- (b) bread or flour for use in the production of food that is for export to a third country.

(2) In paragraph (1), “third country” means any country other than the United Kingdom, and includes—

- (a) the Bailiwick of Guernsey;
- (b) the Bailiwick of Jersey;
- (c) the Isle of Man.

### **Restriction on use of exempted bread and flour**

**8.** A person acting in the course of a business must not use, in the production of food, bread or flour exempted by regulations 3(5)(c), 3(5)(d), 6 or 7 except for a use exempted by those regulations.

### **Enforcement**

**9.** Each food authority must enforce and execute these Regulations in its area.

### **Improvement notices**

**10.**—(1) An authorised officer of a food authority may issue a notice (an “improvement notice”) to a person if the officer has reasonable grounds for believing that the person has not complied, or is not complying, with one or more of the relevant provisions.

(2) The “relevant provisions” are regulations 3(2), 3(3), 4(1), 5(1) and 8.

(3) An improvement notice must be in writing, and must include the following information—

- (a) the authorised officer’s grounds for believing that the person has not complied, or is not complying, with a relevant provision;
- (b) the act or omission that constitutes the failure to comply with the relevant provision;
- (c) the measures which, in the authorised officer’s opinion, the person must take to

ensure compliance with the relevant provision;

- (d) the date of issue of the notice<sup>(1)</sup>;
- (e) the period within which the required measures, or measures which are at least equivalent to them, must be taken (the “compliance period”);
- (f) details of the person to whom, and as to how and by when, any representations about the notice may be made;
- (g) the right of appeal to a magistrates’ court, including the period within which an appeal may be made;
- (h) an explanation of the consequences of failure to comply with the requirements of the notice.

(4) The “compliance period” is the period determined by the authorised officer and specified in the improvement notice, being at least 14 days beginning with the date on which the notice is issued.

#### **Offence and penalty**

**11.**—(1) A person who fails to comply with an improvement notice commits an offence.

(2) A person guilty of an offence under paragraph (1) is liable on summary conviction to a fine.

#### **Appeals against improvement notices**

**12.**—(1) A person to whom an improvement notice is issued may appeal to a magistrates’ court against the notice.

(2) An appeal must be made before the earlier of—

- (a) the end of the compliance period, or
- (b) the end of the period of one month beginning with the date of issue of the improvement notice.

(3) An appeal is to be by way of complaint for an order, and in accordance with the Magistrates’ Courts Act 1980<sup>(2)</sup>.

(4) On an appeal, the magistrates’ court may—

- (a) confirm the improvement notice, with or without modifications, or
- (b) cancel the improvement notice.

(5) Where an appeal is made, the compliance period of the improvement notice is suspended for the period during which the appeal is pending.

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(1) See regulation 13(2)(l), applying section 50 of the Food Safety Act 1990 (with modifications) as to the point at which an improvement notice is issued.

(2) 1980 c. 43.

(6) In paragraph (5), the appeal is pending until it is finally determined or withdrawn.

**Application of various provisions of the Food Safety Act 1990**

**13.**—(1) The provisions of the Food Safety Act 1990 set out in paragraph (2) apply for the purposes of these Regulations—

- (a) as if any reference in those provisions to the Food Safety Act 1990, or to any Part of that Act, were a reference to these Regulations;
- (b) with any modifications specified in paragraph (2).

(2) The provisions are—

- (a) section 2 (extended meaning of “sale” etc.);
- (b) section 3 (presumptions that food intended for human consumption);
- (c) section 20 (offences due to fault of another person);
- (d) section 21(1) and (5) (defence of due diligence);
- (e) section 30(8) (evidence of certificates given by a food analyst or examiner);
- (f) section 33 (obstruction etc. of officers);
- (g) section 35(1)(1) (punishment of offences) insofar as it relates to an offence under section 33(1) of the Food Safety Act 1990 as applied by this regulation;
- (h) section 35(2)(2) (punishment of offences) insofar as it relates to an offence under section 33(2) of the Food Safety Act 1990 as applied by this regulation;
- (i) section 36 (offences by bodies corporate);
- (j) section 36A(3) (offences by Scottish partnerships);
- (k) section 44 (protection of officers acting in good faith);
- (l) section 50(4) (service of documents) as if—
  - (i) references to “given to or served on”, and “given or served” include “issued to” and “issued”, respectively, and

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(1) Section 35(1) is amended by paragraph 42 of Schedule 26 to the Criminal Justice Act 2003 (c. 44), from a date to be appointed.

(2) Section 35(2) was amended by S.I. 2015/664.

(3) Section 36A was inserted by paragraph 16 of Schedule 5 to the Food Standards Act 1999.

(4) Section 50 was amended by paragraph 18 of Schedule 16 to the Deregulation and Contracting Out Act 1994 (c. 40).

- (ii) references to serving a document by sending it in a prepaid letter are references to serving that document by post in accordance with sections 13 and 14 of the Legislation (Wales) Act 2019(1).

### **Revocation**

**14.** The Bread and Flour Regulations 1998(2) are revoked.

### **Transitional provision coming into force on 19 February 2025**

**15.** Until the end of 12 December 2026, flour derived from common wheat which does not comply with regulation 3(4) of these Regulations in relation to a substance is nevertheless deemed to comply with that regulation if it would have complied in relation to that substance with regulation 4(1) of the Bread and Flour Regulations 1998 as they had effect immediately before 19 February 2025.

### **Transitional provision coming into force on 13 December 2026**

**16.—**(1) Flour derived from common wheat which does not comply with regulation 3(4) of these Regulations is nevertheless deemed to comply with that regulation if—

- (a) it was lawfully placed on the market or labelled before the end of 12 December 2026, and
- (b) it would have complied, or have been deemed to have complied, with regulation 3(4) of these Regulations as they had effect immediately before 13 December 2026.

(2) In paragraph (1), “placed on the market” means the holding of food for the purpose of sale or any other form of transfer, whether free of charge or not, and the sale, distribution and other forms of transfer themselves.

*Sarah Murphy*

Minister for Mental Health and Wellbeing, under the authority of the Cabinet Secretary for Health and Social Care, one of the Welsh Ministers

27 January 2025

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(1) 2019 anaw 4. Sections 13 and 14 were amended by paragraph 5(3) and (8) of Schedule 1 to the Senedd and Elections (Wales) Act 2020 (anaw 1).

(2) S.I. 1998/141; relevant amending instruments are S.I. 1999/1136, 2014/2303 (W. 227), 2018/806 (W. 162), 2022/112 (W. 40).

## SCHEDULE 1

Regulation 3

## Essential ingredients for flour derived from common wheat

**Substances that must be added to flour derived from common wheat in specified proportions**

1. The substances listed in column 1 of Table 1 must be added to flour derived from common wheat in the proportions and in accordance with the other provisions specified in column 2.

Table 1

<i>Column 1 Substance</i>	<i>Column 2 Quantity of the substance to be added and other provisions in relation to addition of those substances</i>
<b>Calcium carbonate</b>	(a) At least 300 mg/100 g flour. (b) Not more than 455 mg/100 g flour. (c) The substance must be added in the form of E 170 calcium carbonate conforming to the specification set out in Schedule 2 to these Regulations. (d) But the addition of calcium carbonate is not required to flour that is— (i) self-raising flour with a calcium content of 0.2% or more, or (ii) wheat malt flour.
<b>Folic acid</b>	(a) 0.25 mg/100 g flour. (b) The substance must be added in the form of pteroylmonoglutamic acid conforming to the criteria in the monograph for folic acid hydrate contained in the British Pharmacopoeia 2023 at page I-1110.

**Substances that must be present in flour derived from common wheat at or above specified proportions**

2.—(1) The substances listed in column 1 of Table 2 must be present in flour derived from common wheat in the proportions specified in column 2.

(2) Where the addition of substances is necessary in order to meet the required proportions specified in column 2 of Table 2, the substances must be added in accordance with the other provisions specified that column.

Table 2

<i>Column 1 Substance</i>	<i>Column 2 Quantity of the substance that must be present in flour and other provisions in relation to addition of those substances</i>
<b>Iron</b>	(a) At least 2.10 mg/100 g flour. (b) Any addition of the substance must be in the form of any of, or any combination of, the following— (i) ferric ammonium citrate conforming to the criteria in the monograph for ferric ammonium citrate contained in the British Pharmacopoeia 1973 at page 201; (ii) ferrous sulphate conforming to the criteria in the monograph for ferrous sulphate heptahydrate contained in the British Pharmacopoeia 2023 at page I-1037; (iii) dried ferrous sulphate conforming to the criteria in the monograph for dried ferrous sulphate contained in the British Pharmacopoeia 2023 at page I-1036; (iv) iron powder conforming to the specification contained in Schedule 3 to these Regulations.

<p><b>Niacin</b></p>	<p>(a) At least 2.40 mg/100 g flour.</p> <p>(b) Any addition of the substance must be in the form of either, or a combination of, the following—</p> <ul style="list-style-type: none"> <li>(i) nicotinic acid conforming to the criteria in the monograph for nicotinic acid contained in the British Pharmacopoeia 2023 at page II-404;</li> <li>(ii) nicotinamide conforming to the criteria in the monograph for nicotinamide contained in the British Pharmacopoeia 2023 at page II-399.</li> </ul>
<p><b>Thiamin (vitamin B<sub>1</sub>)</b></p>	<p>(a) At least 0.24 mg/100 g flour.</p> <p>(b) Any addition of the substance must be in the form of thiamin hydrochloride conforming to the criteria in the monograph for thiamin hydrochloride contained in the British Pharmacopoeia 2023 at page II-1129.</p>

## SCHEDULE 2

Regulation 3 and Schedule 1

## Specification for E 170 calcium carbonate

## Specification for E 170 calcium carbonate for the purpose of Schedule 1, paragraph 1, Table 1

Synonyms	CI Pigment White 18; Chalk
Definition	Calcium carbonate is the product obtained from ground limestone or by the precipitation of calcium ions with carbonate ions.
Colour Index No	77220
EINECS number <sup>(1)</sup>	Calcium carbonate: 207-439-9 Limestone: 215-279-6
Chemical name	Calcium carbonate
Chemical formula	CaCO <sub>3</sub>
Molecular weight	100.1 g/mol
Assay	Content $\geq$ 98% on the anhydrous basis
Description	White crystalline or amorphous, odourless and tasteless powder
<b>Identification</b>	
Solubility	Practically insoluble in water and in alcohol. Dissolves with effervescence in diluted acetic acid, in diluted hydrochloric acid and in diluted nitric acid, and the resulting solutions, after boiling, give positive tests for calcium.
<b>Purity</b>	
Loss on drying	$\leq$ 2.0% (200°C, 4 hours)
Acid-insoluble substances	$\leq$ 0.2%
Magnesium and alkali salt	$\leq$ 1.0%
Fluoride	$\leq$ 50 mg/kg
Antimony (Sb)	$\leq$ 100mg/kg, singly or in combination
Copper (Cu)	
Chromium (Cr)	
Zinc (Zn)	
Barium (Ba)	
Arsenic (As)	$\leq$ 3 mg/kg
Lead (Pb)	$\leq$ 3 mg/kg
Cadmium (Cd)	$\leq$ 3 mg/kg
Ethylene oxide <sup>(2)</sup>	Total residues of ethylene oxide, irrespective of origin, must not exceed 0.1 mg/kg

<sup>(1)</sup> European Inventory of Existing Commercial Chemical Substances, as published in OJ No C 146A, 15.6.1990, p.1.

<sup>(2)</sup> Sum of ethylene oxide and 2-chloroethanol expressed as ethylene oxide (i.e. ethylene oxide + (0.55  $\times$  2-chloroethanol)).

## SCHEDULE 3

Regulation 3 and Schedule 1

## Specification for iron powder

## Specification for iron powder for the purpose of Schedule 1, paragraph 2, Table 2

Definition	Iron powder consisting essentially of finely-divided metallic iron containing at least 90% by weight of iron and conforming to the requirements of this Schedule.
Chemical name	Iron
Chemical formula	Fe
Assay	Accurately weigh 0.25 g of sample into a stoppered flask. Add a hot solution of 1.25 g of copper sulphate pentahydrate in 20 ml of water and shake for 10 minutes. Filter rapidly and wash the filter with water; acidify the mixed filtrate and washings with sulphuric acid, and titrate with N/10 potassium permanganate. Each ml of N/10 potassium permanganate is equivalent to 0.005585 g of iron.
Description	Fine greyish-black powder of such granularity that not more than 0.1% by weight remains on a British Standard 410:1969 <sup>(1)</sup> wire sieve nominal aperture size 150 µm and not more than 5% by weight on a British Standard 410:1969 wire sieve nominal aperture size 53 µm.
<b>Identification</b>	
Solubility	At least 95% of the iron content when determined by the following method.  Accurately weigh 0.1 g of sample into a 750 ml conical flask. Add 450 ml 0.2% weight in weight hydrochloric acid previously warmed to 37°C. Stir continuously for 3 hours, maintaining the temperature at 37°C. Cool to room temperature and dilute to 500 ml with distilled water. Filter; determine the iron content of the filtrate by a suitable method. Calculate the total iron in solution as a percentage of the metallic iron content of the sample taken.

<sup>(1)</sup> BS 410:1969 "Specification for test sieves". Published by the British Standards Institution on 31 August 1971. Available at: <https://knowledge.bsigroup.com>.