1972. No. 275 **[C]**

FOOD AND DRUGS

Composition, Labelling, Etc.

Bread and Flour

REGULATIONS, DATED 20TH OCTOBER 1972, MADE BY THE MINISTRY OF HEALTH AND SOCIAL SERVICES UNDER SECTIONS 4, 7 AND 68 OF THE FOOD AND DRUGS ACT (NORTHERN IRELAND) 1958.

The Ministry of Health and Social Services on behalf of the Secretary of State and in exercise of the powers conferred upon it by sections 4, 7 and 68 of the Food and Drugs Act (Northern Ireland) 1958(a), having consulted with such organisations as appear to it to be representative of interests substantially affected by these regulations, hereby makes the following regulations:—

Citation and commencement

1. These regulations may be cited as the Bread and Flour (Amendment) Regulations (Northern Ireland) 1972 and shall come into operation on 1st November 1972.

Amendment of principal regulations

2. The Bread and Flour Regulations (N.I.) 1964(b) shall be amended as follows:—

(1) in regulation 2(1)—

(*a*) by inserting immediately after the definition of the Act the following definition:—

" 'azodicarbonamide' means the substance conforming to the description, specification and requirements for azodicarbonamide contained in the Food Chemicals Codex 1966 (publication 1406, National Academy of Sciences—National Research Council, Washington D.C., U.S.A.) at page 61;";

(*b*) by substituting in the definition of chalk for the words "or the British Pharmaceutical Codex" the figures and words "1968 at page 178";

(*c*) by inserting at the end of the definition of improving agent the words "L-cysteine hydrochloride and L-cysteine hydrochloride monohydrate";

(*d*) by inserting immediately after the definition of improving agent the following definitions:—

" 'L-cysteine hydrochloride' means the substance conforming to the description, specification and requirements relating thereto in Schedule 3;

'L-cysteine hydrochloride monohydrate' means the substance conforming to the description, specification and requirements relating thereto in Schedule 4;";

(a) 1958. c. 27. (b) S.R. & O. (N.I.) 1964, No. 172.

(2) by inserting immediately after sub-paragraph (*b*) of the proviso to regulation 26(2) the following sub-paragraphs:—

"(*ba*) all flour other than wholemeal may contain azodicarbonamide in any proportion not exceeding 45 parts per million (calculated by weight);

(*bb*) all flour other than wholemeal may contain L-cysteine hydrochloride or L-cysteine hydrochloride monohydrate or both L-cysteine hydrochloride and L-cysteine hydrochloride monohydrate in any proportion not exceeding 75 parts per million (calculated by weight as L-cysteine hydrochloride);";

(3) by substituting for Schedule 1 the Schedule set out in Schedule 1 to these regulations;

(4) by adding, as Schedules 3, 4 and 5 respectively, Schedules 2, 3 and 4 to these regulations.

Amendment of the Arsenic in Food Regulations (N.I.) 1961

3. The Arsenic in Food Regulations (N.I.) 1961(c) shall be amended by substituting in the Schedule thereto for item 22 relating to reduced iron intended for use in the preparation of flour the following item:—

"Description of food	Proportions of arsenic (expressed in terms of parts per million estimated by weight)
22. Iron powder intended for use in the preparation of flour	10·0"

Sealed with the Official Seal of the Ministry of Health and Social Services for Northern Ireland this 20th day of October 1972.

(L.S.)

S. E. Taylor,
Assistant Secretary.

(c) S.R. & O. (N.I.) 1961, No. 98.

SCHEDULE 1 Regulation 2(3)

Column 1	Column 2
Description of flour	Compositional requirement
All flour other than self-raising flour which has a calcium content of not less than 0·2 per centum (calculated by weight), wholemeal and wheat malt flour.	To contain chalk as follows:— (*a*) Not less than 235 milligrams per 100 grams of flour, and (*b*) Not more than 390 milligrams per 100 grams of flour.
All flour	To contain quantities of the undermentioned nutrients as follows:— Iron—Not less than 1·65 milligrams Vitamin B1—Not less than 0·24 milligrams Nicotinic acid or nicotinamide—Not less than 1·60 milligrams per 100 grams of flour. In the case of flour described as wholemeal, such nutrients shall be naturally present and not added. In the case of flour not so described such nutrients shall be added, where addition is necessary— (*a*) in the case of iron in the form of any, or any combination of two or more, of the following:— (i) ferric ammonium citrate conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 410; (ii) green ferric ammonium citrate conforming to the description, specification and requirements contained in the British Pharmaceutical Codex 1954 at page 303; (iii) ferrous sulphate conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 418; (iv) dried ferrous sulphate conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 419; (v) iron powder conforming to the description, specification and requirements contained in Schedule 5;

Column 1	Column 2
Description of flour	Compositional requirement
	(*b*) in the case of vitamin B1, in a form conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 1009; (*c*) in the case of nicotinic acid in a form conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 653; and (*d*) in the case of nicotinamide, in a form conforming to the description, specification and requirements contained in the British Pharmacopoeia 1968 at page 652.

SCHEDULE 2 Regulation 2(4)

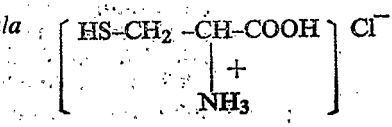
Specification for L-cysteine hydrochloride

Definition

L-cysteine hydrochloride shall contain not less than 98 per centum by weight of L-cysteine hydrochloride and conform to the following requirements.

Chemical name L(+)-2-amino-3-mercaptopropionic acid hydrochloride

Structural formula



Description

L-cysteine hydrochloride shall be a fine white crystalline powder.

Identification

Reagents required : *Glacial acetic acid*

(Analytical reagent grades) : *Acid ninhydrin solution* (freshly prepared). Dissolve 250mg ninhydrin in a mixture of 6ml glacial acetic acid and 4ml concentrated hydrochloric acid by repeated mixing for at least twenty minutes at room temperature.

Identity test : Dissolve 25mg of the sample in 500ml water, and to 1ml of this solution in a test-tube add 1ml glacial acetic acid and 1ml acid ninhydrin solution. Cap the test-tube and heat it for ten minutes in a boiling water bath. A distinctly pink coloured solution indicates the presence of cysteine.

Specific rotation $[\alpha]_D^{20°C}$ +6·1° to +7·8°

(8g of sample made up to 100ml with N hydrochloric acid)

Assay

Nitrogen	8·60 to 9·20 per centum by weight
Chlorine	21·8 to 23·6 per centum by weight

A sample containing not less than 98 per centum by weight of L-cysteine hydrochloride will comply with the nitrogen, chlorine and specific rotation requirements.

Purity

Residue on ignition (sulphated). Not more than 0·1 per centum by weight.

SCHEDULE 3 Regulation 2(4)

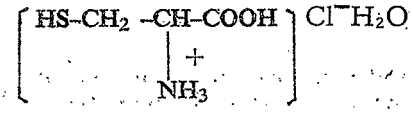
Specification for L-cysteine hydrochloride monohydrate

Definition

L-cysteine hydrochloride monohydrate shall contain not less than 98 per centum by weight of L-cysteine hydrochloride monohydrate and conform to the following requirements.

Chemical name L(+)-2-amino-3-mercaptopropionic acid hydrochloride monohydrate

Structural formula



Description

L-cysteine hydrochloride monohydrate shall be a white crystalline powder or colourless crystals.

Identification As for the anhydrous substance

Specific rotation $\left[\alpha\right]_D^{20°C}$ +5·5° to +7·0°

(8g of sample made up to 100ml with N hydrochloric acid)

Assay

Nitrogen	7·70 to 8·30 per centum by weight
Chlorine	19·6 to 21·2 per centum by weight

A sample containing not less than 98 per centum by weight of L-cysteine hydrochloride monohydrate will comply with the nitrogen, chlorine and specific rotation requirements.

Purity

Residue on ignition (sulphated). Not more than 0·1 per centum by weight.

SCHEDULE 4 Regulation 2(4)

Specification for iron powder

Definition

Iron powder shall consist essentially of finely-divided metallic iron containing not less than 90 per centum by weight of iron and conform to the following requirements.

Chemical name Iron

Symbol Fe

Description

Fine greyish-black powder of such granularity that not more than 0·1 per centum by weight shall remain on a British Standard 410:1969 wire sieve nominal aperture size 150μm and not more than 5 per centum by weight on a British Standard 410:1969 wire sieve nominal aperture size 53μm.

Assay

Accurately weigh 0·25g of sample into a stoppered flask. Add a hot solution of 1·25g of copper sulphate pentahydrate in 20ml of water and shake for ten 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 0·005585g of iron.

Solubility

Not less than 95 per centum of the iron content when determined by the following method.

Accurately weigh 0·1g of sample into a 750ml conical flask. Add 450ml 0·2 per centum weight in weight hydrochloric acid previously warmed to 37°C. Stir continuously for three 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.

EXPLANATORY NOTE

(This note is not part of the Regulations, but is intended to indicate their general purport.)

These amending regulations, which come into operation on 1st November 1972:—

(*a*) extend the list of bleaching and improving agents which may be present in flour, to include azodicarbonamide, L-cysteine hydrochloride and L-cysteine hydrochloride monohydrate;

(*b*) amend the specified forms in which the nutrients chalk, iron, vitamin B1 and nicotinic acid or nicotinamide are required to be added to flour.

The Food Chemicals Codex 1966 referred to in the definition of azodicarbonamide may be inspected at the National Reference Library of Science and Invention (Holborn Division), 25 Southampton Buildings, Chancery Lane, London WC2A 1AW, (telephone 01-405-8721), or at Liverpool City Libraries, William Brown Street, Liverpool, L3 8EW (telephone 051-207-2147).