

GUERNSEY STATUTORY INSTRUMENT

1976 No. 34

THE FOOD AND DRUGS (COLOURING MATTER IN FOOD) ORDER, 1976.

Made 27th May, 1976.

Laid before the States

Coming into operation ... 27th May, 1976.

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THE FOOD AND DRUGS (COLOURING MATTER IN FOOD) ORDER, 1976.

THE STATES BOARD OF HEALTH, in exercise of the powers conferred upon it by sections four, seven and forty-seven of the Food and Drugs (Guernsey) Law, 1970 (a), as amended (b) and of all other powers enabling it in that behalf, hereby orders:-

Citation

1. This order may be cited as the Colouring Matter in Food Order, 1976, and shall come into operation on the twenty-seventh day of May, nineteen hundred and seventy-six.

Interpretation

2. (1) In this Order, unless the context otherwise requires -
"appropriate designation" means, as respects any permitted colouring matter or permitted diluent, a name or description or a name and description sufficiently specific, in each case, to indicate to an intending purchaser the true nature of the permitted colouring matter or permitted diluent to which it is applied.

(a) Ordres en Conseil Vol XXII, p. 412

(b) Ordres en Conseil No. XIV of 1975

"the Board" means the States of Guernsey Board of Health;

"bread" means bread in any form intended for sale for human consumption and includes the following, and any part of the following, that is to say, rolls, baps, fancy loaves and speciality bread, but does not include potato bread;

"butter" means the fatty substance intended for sale for human consumption which -

(a) is usually known as butter,

(b) is derived exclusively from cow's milk the pH of which may have been adjusted by the addition of an alkali carbonate,

and includes whey butter;

"caramel" includes malt preparations for the development of colour;

"cheese" means the fresh or matured product intended for sale for human consumption, which is obtained as follows -

(a) in the case of any cheese other than whey cheese -

(i) by coagulating any or a combination of any of the following substances, namely milk, cream, skimmed milk, partly skimmed milk, concentrated skimmed milk, reconstituted dried milk and butter milk, and

(ii) partially draining the whey resulting from any such coagulation;

(b) in the case of whey cheese -

(i) by concentrating whey with or without the addition of milk and milk fat, and moulding such concentrated whey, or

(ii) by coagulating whey with or without the addition of milk and milk fat;

"cheese spread" means cheese which has been subjected to a process of melting and mixing with milk products other than cheese, with or without the addition of emulsifying salts;

"coffee" means the decorticated berries of coffee and includes any such berries which have been roasted or ground or roasted and ground;

"coffee product" means any dried or liquid extract of coffee, any coffee and chicory mixture, any dried or liquid extract of coffee and chicory mixture, any coffee and fig mixture, or any dried or liquid extract of a coffee and fig mixture;

"container" includes any form of packaging of food for sale as a single item, whether by way of wholly or partly, enclosing the food or by way of attaching the food to some other article, and in particular includes a wrapper or confining band;

"cream" means that part of milk rich in fat which has been separated by skimming or otherwise and which is intended for sale for human consumption;

"diluent" means any substance used to dilute or dissolve colouring matter intended for use in food for human consumption;

"emulsifying salts" means the following substances insofar as their use is permitted by the Miscellaneous Additives in Food Order, 1976 (c) namely, the ammonium, sodium, potassium or calcium salts of citric and orthophosphoric acid; the sodium, potassium or calcium salts of diphosphoric acid; pentasodium triphosphate; pentapotassium triphosphate; ammonium, sodium, potassium and calcium polyphosphates; the sodium, potassium or potassium sodium salts of tartaric acid;

"flour" means the product intended for sale for human consumption which is derived from, or separated during, the milling or grinding of wheat, whether or not any of the wheat has been malted or subjected to any process and whether or not the product contains enzyme active preparations, and includes meal but does not include separated wheat offals, separated wheat germ or semolina;

"food" means food intended for sale for human consumption and includes drink, chewing gum and other products of a like nature and use, and articles and substances used as ingredients in the preparation of food or drink or of such products, but does not include -

- (a) water, live animals or birds,
- (b) fodder or feeding stuffs for animals, birds or fish, or
- (c) articles or substances used only as drugs;

"hard cheese" means cheese other than soft cheese, whey cheese, processed cheese or cheese spread;

"human consumption" includes use in the preparation of food for human consumption;

"the Island" includes the Islands of Guernsey, Alderney, Herm and Jethou;

"the Law" means the Food and Drugs (Guernsey) Law 1970;

"permitted colouring matter" means any colouring matter described in the table in, or paragraph 1 of, Part 1 of Schedule 1 to this Order which complies with any specific purity criteria relating to that colouring matter specified in Part 11 of that Schedule and, so far as is not otherwise provided by any such specific purity criteria, with the general purity criteria specified in Part 111 of that Schedule, or any combination of two or more such colouring matters and (except in the definition of appropriate designation in this sub-section and in section 6 of and Schedules 1 and 4 to this Order) shall be construed as including any permitted diluent combined with such colouring matter or combination of such colouring matters;

"permitted diluent" means any diluent described in Part 1 of Schedule 2 to this Order, which complies with the general purity criteria specified in Part 11 of that Schedule or any permitted solvent which complies with the purity criteria specified in Part 111 of that Schedule and includes any combination of two or more such diluents or solvents or diluents and solvents;

"permitted solvent" has the meaning assigned to it by the Miscellaneous Additives in Food Order, 1976;

"processed" in relation to any food, includes curing by smoking and any treatment or process resulting in a substantial change in the natural state of any food but does not include boning, paring, grinding, cutting, cleaning or trimming and "unprocessed" shall be construed accordingly;

"processed cheese" means cheese which has been subjected to a process of melting and mixing with or without the addition of emulsifying salts;

"sell" includes offer or expose for sale or have in possession for sale, and "sale" and "sold" shall be construed accordingly;

"soft cheese" means cheese which is readily deformed by moderate pressure, but does not include whey cheese, processed cheese or cheese spread, and any reference to soft cheese includes a reference to cream cheese or curd cheese;

"vegetables" includes pulses;

"whey cheese" means the product obtained by one or other of the processes referred to in paragraph (b) of the foregoing definition of "cheese";

and any other expression shall have the same meaning as in the Law

- (2) The Interpretation (Guernsey) Law, 1948 (d) shall apply to the interpretation of this Order as it applies to the interpretation of a Guernsey enactment.
- (3) Unless a contrary intention is expressed, all proportions mentioned in this Order are proportions calculated by weight of the product as sold.
- (4) All proportions and quantities of any colouring matter mentioned in this Order are calculated on the pure colouring matter.
- (5) Any reference in this Order to a label borne on a container shall be construed as including a reference to any legible marking on the container however effected.
- (6) For the purposes of this Order, the supply of food, otherwise than by sale, at, in or from any place where food is supplied in the course of a business shall be deemed to be a sale of that food.
- (7) Except in so far as the context otherwise requires, any reference in this Order to any enactment or order shall be construed as a reference to that enactment or order as amended, repealed and replaced, extended or applied by or under any other enactment or order including this Order.

Exemptions

3. The provisions of this Order shall not apply to any food having any colouring matter in it or on it, to any colouring matter or to any diluent combined with any colouring matter or colouring matters which, in each case, is intended at the time of sale, consignment, delivery or importation, as the case may be,-
 - (a) for exportation to any place outside the Bailiwick of Guernsey; or
 - (b) for the purpose of scientific laboratory testing, if the container of any such food, colouring matter or diluent bears a label stating clearly that such food, colouring matter or diluent, as the case may be, is sold, consigned, delivered or imported, as the case may be, only for such purpose.

(d) Ordres en Conseil Vol XLIII, p. 355

Sale, etc. of food containing colouring matter

4. (1) Subject to subsection (3) of this section, no food sold, consigned, delivered or imported into the Island shall have in it or on it any colouring matter other than a permitted colouring matter.
- (2) Subject to subsection (3) of this section, no food sold, consigned, delivered or imported into the Island shall have in it or on it, any mark however effected, in any colouring matter other than a permitted colouring matter.
- (3) Save as hereinafter provided, no food sold, consigned, delivered or imported into the Island shall have in it or on it any permitted colouring matter specified in column 2 of Schedule 3 to this Order.

Provided that any food specified in column 1 of that Schedule may have in it or on it any such permitted colouring matter specified in relation thereto in column 2 thereof subject to any restriction on use specified in relation thereto in column 3 thereof.

- (4) No person shall sell, consign, deliver or import into the Island any food which does not comply with this section.

Prohibition of the use of added colouring matter

5. (1) Save as hereinafter provided, no meat, game, poultry, fish, fruit or vegetable, in a raw or unprocessed state, sold, consigned, delivered or imported into the Island for human consumption, shall have in it or on it (otherwise than for the purpose of marking) any added colouring matter;

Provided that the husk containing any nut may have in it or on it added permitted colouring matter.

- (2) No tea (whether in leaf or essence form), coffee, coffee product, condensed milk or dried milk, sold, consigned, delivered or imported into the Island for human consumption shall have in it or on it any added colouring matter.
- (3) No bread, other than white bread or soda bread, sold, consigned, delivered or imported into the Island for human consumption, shall have in it or on it any added colouring matter other than caramel:

Provided that the provisions of this subsection shall not apply in relation to any bread sold, consigned, delivered or imported into the Island for use by a manufacturer for the purposes of his manufacturing business.

- (4) No flour, intended for sale as such, sold, consigned, delivered or imported into the Island for human consumption, shall have in it or on it any added colouring matter other than caramel:

Provided that the provisions of this subsection shall not apply as respects any sale, consignment or delivery, or importation into the Island of flour -

- (a) for use by the States of Guernsey or the States of Alderney, or by any person authorised to purchase or import the flour on behalf of the States of Guernsey or the States of Alderney for stockpiling or experimental purposes; or
- (b) for use for the purpose of diagnosis, treatment or research.

- (5) No butter sold, consigned, delivered or imported into the Island for human consumption shall have in it or on it any added colouring matter except annatto, alpha-, beta-, and gamma-carotene, synthetic beta-carotene or tumeric, inasmuch as their use is permitted by this Order or salt or lactic acid cultures.
- (6) No cheese sold, consigned, delivered or imported into the Island for human consumption shall have in it or on it any added colouring matter:

Provided that -

- (a) hard cheese, soft cheese and whey cheese may contain the permitted colouring matters alpha-carotene, beta-carotene, gamma-carotene and annatto and the synthetic equivalent identical with the pure colouring principle of the permitted colouring matters alpha-carotene, beta-carotene, gamma-carotene and annatto;
- (b) The rind of hard cheese may contain any permitted colouring matter other than aluminium, silver, gold or methyl violet;
- (c) processed cheese, cheese spread and sage cheese spread may contain -
 - (i) the permitted colouring matters mentioned in paragraph (a) of this proviso;
 - (ii) the following permitted colouring matters, namely, curumin, riboflavin (lactoflavin), cochineal (carminic acid), orchil (orcin), chlorophyll, caramel, carotenoids, luteoxanthin, lutein, cryptoxanthin, rubixanthin, violaxanthin, rhodoxanthin, canthaxanthin, beetroot red (betanin), anthocyanins, paprika, tumeric, saffron, sandalwood, the pure colouring principle of the permitted colouring matters paprika, tumeric, saffron and sandalwood, and the synthetic equivalent identical with the pure colouring principle of any natural colouring matter specified in this sub-paragraph;
- (d) hard sage cheese and soft sage cheese may contain -
 - (i) the permitted colouring matters mentioned in paragraph (a) of this proviso;
 - (ii) any green permitted colouring matter mentioned in sub-paragraph (ii) of paragraph (c) of this proviso.
- (7) No cream sold, consigned, delivered or imported into the Island for human consumption shall have in it or on it any added colouring matter.
- (8) No person shall sell, consign, deliver or import into the Island any food which does not comply with this section.

Inorganic and organic impurity limits for colouring matters and diluents

6. (1) No permitted colouring matter sold, consigned, delivered or imported into the Island for use as an ingredient in the preparation of food and no permitted diluent combined with any such permitted colouring matter shall contain any inorganic or organic impurity specified in Part II or Part III, as the case may be, of Schedule 1 to this Order in relation to such permitted colouring matter or in Part II or Part III, as the case may be, of Schedule 2 thereto in relation to such permitted diluent in excess of the amount therein prescribed for such impurity;

Provided that the maximum amount of any inorganic or organic impurity that may be contained in a combination of permitted colouring matters or of a permitted colouring matter or permitted colouring matters with a permitted diluent or permitted diluents shall be determined by multiplying the maximum amount of that impurity as specified in Part II or Part III of Schedule 1 to this Order in relation to each permitted colouring matter or in Part II or Part III of Schedule 2 thereto in relation to each permitted diluent, which in either case is contained in that combination, by the proportion of the total amount of such combination represented by that colouring matter or diluent and by adding together the products resulting therefrom.

- (2) No person shall sell, consign, deliver or import into the Island any permitted colouring matter or permitted diluent combined with any permitted colouring matter which does not comply with this section.

Sale, advertisement and labelling of colouring matter

7. (1) No person shall sell, consign, deliver, import into the Island or advertise for sale any colouring matter for use as an ingredient in the preparation of food unless such colouring matter is a permitted colouring matter.
- (2) No person shall sell, consign or deliver any permitted colouring matter for use as an ingredient in the preparation of food except in a container bearing a label which complies with the requirements specified in Schedule 4 to this Order.

Condemnation of food

8. Where any food is certified by the States Analyst as being food which it is an offence against section 4 or 5 of this Order to sell, consign, deliver or import into the Island, that food may be treated for the purposes of section 9 of the Law (under which food may be seized and destroyed on the order of the Magistrate's Court) as being unfit for human consumption.

Penalties

9. - (1) If any person contravenes or fails to comply with any of the foregoing provisions of this Order he shall be guilty of an offence and shall be liable to a fine not exceeding one hundred pounds or to imprisonment for a term not exceeding three months, or to both, and, in the case of a continuing offence, to a further fine not exceeding five pounds for each day during which the offence continues after conviction.

Defences

10. - (1) In any proceedings for an offence against this Order in relation to the publication of an advertisement, it shall be a defence for the defendant to prove that, being a person whose business it is to publish or arrange for the publication of advertisements, he received the advertisement for publication in the ordinary course of business.
- (2) In any proceedings against the manufacturer or importer of any colouring matter for use as an ingredient in the preparation of food, or of any food having colouring matter in or on it, for an offence against this Order in relation to the publication of an advertisement, it shall rest on the defendant to prove that he did not publish, and was not a party to the publication of, the advertisement.

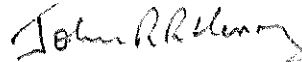
Application of various sections of the Law

11. Subsections (2) and (3) of section thirty-seven (which relate to prosecutions), section thirty-eight (which relates to evidence of analysis), section forty (which relates to a contravention due to some person other than the person charged), subsection (2) of section forty-one (which relates to the conditions under which a warranty may be pleaded as a defence) and section forty-two (which relates to offences in relation to warranties and certificates of analysis) of the Law shall apply for the purposes of this Order as if references therein to proceedings, or a prosecution, under or taken or brought under the Law included references to proceedings, or a prosecution as the case may be, taken or brought for an offence under this Order.

Extent

12. This Order shall have effect in the Islands of Guernsey, Alderney, Herm and Jethou.

Dated this Twenty seventh day of May, nineteen hundred and
seventy-six.



President of the States Board of Health
for and on behalf of the Board.

PART I

PERMITTED COLOURING MATTER

Column 1	Column 2	Column 3	Column 4
Name of Colour	Serial Number	Colour Index (1971) Number	Systematic Name or Description
Curcumin	E 100	75300	1,7-di-(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione
Riboflavin or Lactoflavin	E 101	—	7,8-Dimethyl-10-(D-1-ribityl)isoalloxazine
Tartrazine	E 102	19140	trisodium 5-hydroxy-1-(4-sulphophenyl)-4-(4-sulphophenylazo)pyrazole-3-carboxylate
Quinoline Yellow	E 104	47005	sodium salt of a mixture of the mono- and disulphonic acids (mainly the latter) of quinophthalone or 2-(2-quinoly)indanedione
Fast Yellow AB	E 105	13015	disodium 2-amino-5-(4-sulphophenylazo)benzenesulphonate
Yellow 2G	—	18965	disodium 2,5-dichloro-4-[5-hydroxy-3-methyl-4-(4-sulphophenylazo)pyrazol-1-yl]benzenesulphonate
Sunset Yellow FCF or Orange Yellow S	E 110	15985	disodium 6-hydroxy-5-(4-sulphophenylazo)naphthalene-2-sulphonate
Orange G	—	16230	disodium 7-hydroxy-8-phenylazonaphthalene-1,3-disulphonate
Cochineal or Carminic acid	E 120	75470	extract of <i>Coccus cacti</i> (Ammonium salts are included)
Orchil or Orcein	E 121	—	extract obtained with ammonia solution, in air, of the red colouring matter of the species <i>Rocella</i> , <i>Lechanora</i> and <i>Orchella</i>
Carmoisine or Azorubine	E 122	14720	disodium 4-hydroxy-3-(4-sulpho-1-naphthylazo)naphthalene-1-sulphonate
Amaranth	E 123	16185	trisodium 3-hydroxy-4-(4-sulpho-1-naphthylazo)naphthalene-2,7-disulphonate
Ponceau 4R or Cochineal Red A	E 124	16255	trisodium 7-hydroxy-8-(4-sulpho-1-naphthylazo)naphthalene-1,3-disulphonate
Erythrosine BS	E 127	45430	disodium salt of 2,4,5,7-tetraiodofluorescein (xanthene numbering)
Red 2G	—	18050	disodium 5-acetamido-4-hydroxy-3-phenylazonaphthalene-2,7-disulphonate
Solanthrene Blue RS or Anthragen Blue or Indanthrene Blue	E 130	69800	6,15-Dihydro-5,9,14,18-anthrazinetetrone (Indanthrone)

Column 1	Column 2	Column 3	Column 4
Name of Colour	Serial Number	Colour Index (1971) Number	Systematic Name or Description
Patent Blue V	E 131	42051	Calcium di- 4-[4-diethylammoniohexa-2,5-dienylidene-(4-diethylamino)phenyl]methyl-6-hydroxybenzene-1,3-disulphonate
Indigo Carmine or Indigotine	E 132	73015	<i>di</i> Sodium 5,5'-indigo trisulphonate
Brilliant Blue FCF	—	42090	<i>di</i> Sodium 4',4''-di-(<i>N</i> -ethyl-3-sulphamoylbenzylamino)triphenylmethylum-2-sulphonate
Chlorophyll	E 140	75810	<i>Chlorophyll a</i> : Phytol 4-ethyl-10-methoxycarbonyl-1,3,5,8-tetramethyl-9-oxo-2-vinylphorb-7-propionate, magnesium complex <i>Chlorophyll b</i> : Phytol 4-ethyl-3-formyl-10-methoxycarbonyl-1,5,8-trimethyl-9-oxo-2-vinylphorb-7-propionate, magnesium complex
Copper complexes of chlorophyll and chlorophyllins	E 141	75810	copper chlorophyll complex and copper chlorophyllin complex
Green S or Acid Brilliant Green BS or Lissamine Green	E 142	44090	<i>mono</i> Sodium 4-[4-dimethylammoniohexa-2,5-dienylidene-(4-dimethylamino)phenyl]methyl-3-hydroxynaphthalene-2,7-disulphonate
Brown FK	—	—	mixture of the following components: (I) Sodium 2',4'-diaminoazobenzene-4-sulphonate (II) Sodium 2',4'-diamino-5'-methylazobenzene-4-sulphonate (III) <i>di</i> Sodium 4,4'-(4,6-diamino-1,3-phenylenebisazo)dibenzene-sulphonate (IV) <i>di</i> Sodium 4,4'-(2,4-diamino-1,3-phenylenebisazo)dibenzene-sulphonate (V) <i>di</i> Sodium 4,4'-(2,4-diamino-5-methyl-1,3-phenylenebisazo)dibenzene-sulphonate (VI) <i>tri</i> Sodium 4,4',4''-(2,4-diaminobenzene-1,3,5-triazoltribenzene-sulphonate
Chocolate Brown FB	—	—	the product of coupling diazotised naphthionic acid with osage orange extract (principally a mixture of machurin (CI 75240) and morin (CI 75660))
Chocolate Brown HT	—	20285	<i>di</i> Sodium 4,4'-(2,4-dihydroxy-5-hydroxy-methyl-1,3-phenylenebisazo)di(naphthalene-1-sulphonate)
Caramel	E 150	—	products obtained exclusively by heating sucrose or other edible sugars; or water-soluble amorphous brown products, obtained by the controlled action of heat on edible sugars in the presence of one or more of the following chemical compounds:

Column 1	Column 2	Column 3	Column 4
Name of Colour	Serial Number	Colour Index (1971) Number	Systematic Name or Description
			—acetic acid, citric acid, phosphoric acid, sulphuric acid, sulphurous acid or sulphur dioxide; —ammonium-, sodium-, potassium hydroxides or gaseous ammonia; —ammonium-, sodium-, potassium carbonates, phosphates, sulphates or sulphites
Black PN or Brilliant Black BN	E 151	28440	tetraSodium 4-acetamido-5-hydroxy-6-[7-sulpho-4-(4-sulphophenylazo)-1-naphthylazo] naphthalene-1,7-disulphonate
Black 7984	E 152	27755	tetraSodium 6-amino-4-hydroxy-3-[7-sulpho-4-(4-sulphophenylazo)-1-naphthylazo] naphthalene-2,7-disulphonate
Carbon black or Vegetable carbon or Channel black	E 153	—	—
Carotenoids:	E 160	—	—
alpha-carotene, beta-carotene, gamma-carotene	E 160(a)	75130	mainly in the <i>trans</i> forms
annatto, bixin, norbixin	E 160(b)	75120	annatto includes bixin, the principal colouring of oil extracts of annatto, and norbixin, the alkaline salt of which is the principal colouring of aqueous extracts of annatto
capsanthin or capsorubin	E 160(c)	—	paprika extract
lycopene	E 160(d)	75125	mainly in the <i>trans</i> forms
beta-apo-8'-carotenal (C30)	E 160(e)	40820	β -8'-apocrotenal mainly in the <i>trans</i> forms
ethyl ester of beta-apo-8'-carotenoid acid (C30)	E 160(f)	40825	ethyl β -8'-apocarotenate mainly in the <i>trans</i> forms
Flavoxanthin	E 161(a)	—	the ketonic or hydroxylic derivatives or the ketonic and hydroxylic derivatives of carotenes
Lutein	E 161(b)	—	
Cryptoxanthin	E 161(c)	—	
Rubixanthin	E 161(d)	75135	
Violaxanthin	E 161(e)	—	
Rhodoxanthin	E 161(f)	—	
Canthaxanthin	E 161(g)	40850	—
Beetroot Red or Betanin	E 162	—	aqueous extract of red beetroots
Anthocyanins	E 163	—	(a) those glycosides of 2-phenylbenzopyrylium salts which are anthocyanins; (b) the following anthocyanidin aglycones: pelargonidin; cyanidin; peonidin; delphinidin; petunidin; malvidin.

Column 1	Column 2	Column 3	Column 4
Name of Colour	Serial Number	Colour Index (1971) Number	Systematic Name or Description
The following natural substances having a secondary colouring effect: (a) paprika (b) turmeric (c) saffron (d) sandalwood (e) the pure colouring principle of any of the colouring matters listed under (a) to (d) above	— — — — —	— 75300 75100 — —	— — — — —
Titanium dioxide	E 171	77891	—
Iron oxides and hydroxides	E 172	77489 77491 77492 77499	— — — —
COLOURING MATTERS FOR CERTAIN PURPOSES ONLY			
Aluminium	E 173	77000	—
Silver	E 174	—	—
Gold	E 175	77480	—
Pigment Rubine or Lithol Rubine BK	E 180	15850	only the calcium and aluminium salts of 3-hydroxy-4-(2-sulpho- <i>p</i> -tolylazo)-2-naphthoic acid
Burnt Umber	E 181	—	product obtained by roasting in air a mixture consisting essentially of iron and manganese oxides, and calcium and aluminium silicates, carbonates and sulphates
Methyl violet	—	42535	mixture of the hydrochlorides of the more highly methylated pararosanilines containing principally the <i>N</i> -leira, <i>p</i> -enta, and hexamethyl derivatives
The synthetic equivalent identical with the pure colouring principle of any natural colouring matter described in this Part of this Schedule	—	—	—

1. Each colouring matter specified in column 1 of the above table shall, except where otherwise provided in any specific purity criteria in relation to that colouring matter in Part II of this Schedule and in the case of E 180 Pigment Rubine, include the acid form of the colouring matter and its sodium, calcium, potassium and aluminium salts (lakes).

PART II
SPECIFIC PURITY CRITERIA APPLICABLE TO
PERMITTED COLOURING MATTER

E 101 Riboflavin or Lactoflavin

1. Limit test for lumiflavin (7,8,10-trimethylisoalloxazine):
The colour of the filtrate obtained by shaking 25 mg of the colouring matter with 10 ml of ethanol-free chloroform for 5 minutes and filtering shall not be more intense than that of an aqueous solution obtained by diluting 3 ml of 0.1N potassium dichromate to 1,000 ml.
2. The ethanol-free chloroform to which the preceding paragraph refers shall be prepared as follows:
carefully shake 20 ml of chloroform with 20 ml of water for 3 minutes and allow time to separate; draw off the chloroform layer and repeat the extraction twice using 20 ml each time; filter the chloroform through dry filter paper, shake the filtrate well for 5 minutes with 5 g of powdered anhydrous sodium sulphate, leave the mixture to stand for 2 hours and decant or filter the clear chloroform.

E 102 Tartrazine

1. The colouring matter shall not contain—
 - (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 1 per cent. of subsidiary colours.

E 104 Quinoline Yellow

1. The colouring matter shall not contain more than 0.2 per cent. of water-insoluble matter.

E 105 Fast Yellow AB

1. The colouring matter shall not contain—
 - (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 3 per cent. of subsidiary colours;
 - (c) more than 10 milligrams per kilogram of unsulphonated aromatic amines, including 2-aminoazobenzene, 4-aminoazobenzene and aniline.
2. The quantities of 2-aminoazobenzene and 4-aminoazobenzene present in the colouring matter shall be determined by the following method:
dissolve 20 g of the colouring matter in 400 ml of water; add 5 ml of N sodium hydroxide, and shake 4 times with 50 ml of chlorobenzene in a separating funnel for 5 minutes. Wash the combined chlorobenzene extract with successive amounts of 400 ml of 0.1N sodium hydroxide until the upper aqueous layer remains colourless. Filter the chlorobenzene solution through a thick folded filter. Concentrate 100 ml of the chlorobenzene extract to about 20 ml by heating on a water bath in a current of hot air; pour the concentrated solution on to a suitably activated alumina column of appropriate size; elute with chlorobenzene. The first 100 ml of the chlorobenzene eluate contains the 2-aminoazobenzene; elution of 4-aminoazobenzene follows thereafter. Make up a solution of each compound to 100 ml. Measure the extinction of the 2-aminoazobenzene (E_1) and that of the 4-aminoazobenzene (E_2) in a spectrophotometer against chlorobenzene contained in cells of suitable thickness (d_1 and

d_2 cms respectively) at 414 nm and 376 nm respectively. Calculate the quantities of 2-aminoazobenzene and 4-aminoazobenzene present in the colouring matter, using the following formulae:

$$\text{2-aminoazobenzene content (milligrams per kilogram)} = \frac{E_1 \times 100}{0.397 \times d_1}$$

$$\text{4-aminoazobenzene content (milligrams per kilogram)} = \frac{E_2 \times 100}{1.10 \times d_2}$$

it being understood that:

$$\begin{array}{l} E \\ 1 \text{ cm} \\ \text{and} \\ 1 \text{ mg/ml} \end{array} \quad \begin{array}{l} \text{at 414 nm for 2-aminoazobenzene} \\ \\ \\ \end{array} = 39.7$$

$$\begin{array}{l} E \\ 1 \text{ cm} \end{array} \quad \begin{array}{l} \text{at 376 nm for 4-aminoazobenzene} \\ \\ \end{array} = 110$$

3. The quantity of aniline present in the colouring matter shall be determined by the following method:

shake 75 ml of the residuum of the chlorobenzene extract, to which reference is made in the preceding paragraph, with 2 successive portions of 50 ml of 0.5N hydrochloric acid, then with 2 successive portions of 25 ml of water; neutralize the combined aqueous extracts with a 30 per cent. solution of sodium hydroxide and acidify with 10 ml of 0.5N hydrochloric acid; dissolve 1-2 g of potassium bromide in this solution. After cooling in iced water add about 20 drops of 0.1N sodium nitrite and allow to stand for 10 minutes; remove any excess of nitrite by adding sulphamic acid. Pour the solution into about 5 ml of a 3 per cent. solution of R Salt (*di*Sodium 3-hydroxy-naphthalene-2, 7-disulphonate) added to 10 ml of 2N sodium hydroxide; allow to stand for 15 minutes. Acidify the solution of the dyestuff with Congo Red as indicator, until the latter turns blue, and filter. The aminoazobenzene dyestuff will remain on the filter. Dilute the filtrate to 200 ml and measure its extinction (E_3) in a spectrophotometer against chlorobenzene contained in cells of suitable thickness (d_3 cms) at 490 nm. Calculate the quantity of aniline present in the colouring matter, using the following formula:

$$\text{aniline content (milligrams per kilogram)} = \frac{E_3 \times 266}{2.26 \times d_3}$$

it being understood that:

$$\begin{array}{l} E \\ 1 \text{ mg/ml} \\ 1 \text{ cm} \end{array} \quad \begin{array}{l} \text{at 490 nm for aniline} \\ \\ \end{array} = 226$$

Yellow 2G

1. The colouring matter shall not contain—

- (a) more than 0.1 per cent. of water-insoluble matter;
- (b) more than 2 per cent. of subsidiary colours.

E 110 Sunset Yellow FCF or Orange Yellow S

1. The colouring matter shall not contain more than 0.2 per cent. of water-insoluble matter.

Orange G

1. The colouring matter shall not contain -
 - (a) more than 0.1 per cent. of water-insoluble matter;
 - (b) more than 2 per cent. of subsidiary colours.

E 120 Cochineal or Carminic acid

1. Using paper chromatography, the colouring matter shall give only a single spot in the alkaline zone with a solution of 2 g of trisodium citrate in 100 ml of a 5 per cent. solution of ammonium hydroxide (ammonia solution).

E 122 Carmoisine or Azorubine

1. The colouring matter shall not contain -
 - (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 1 per cent. of subsidiary colours.

E 123 Amaranth

1. The colouring matter shall not contain more than 0.2 per cent. of water-insoluble matter.

E 124 Ponceau 4 R or Cochineal Red A

1. The colouring matter shall not contain more than 0.2 per cent. of water-insoluble matter.

E 127 ~~Erythrosine~~ Erythrosine BS

1. The colouring matter shall not contain -
 - (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 3 per cent. of subsidiary colours,
 - (c) more than 1,000 milligrams per kilogram of mineral iodides (evaluated as sodium iodide).

Red 2G

1. The colouring matter shall not contain -
 - (a) more than 0.1 per cent. of water-insoluble matter;
 - (b) more than 2 per cent. of subsidiary colours.

E 131 Patent Blue V

1. The colouring matter shall not contain—

- (a) more than 0.5 per cent. of water-insoluble matter;
- (b) more than 1 per cent. of subsidiary colours;
- (c) more than 20 milligrams per kilogram of chromium (expressed as Cr).

E 132 Indigo Carmine or Indigotine

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 1 per cent. of isatin-4(5 or 6 or 7) sulphonic acid;
- (c) more than 20 per cent. of *di*Sodium 5,7'-indigotindisulphonate;
- (d) more than 1 per cent. of subsidiary colours other than that referred to in the preceding sub-paragraph.

Brilliant Blue FCF

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 7 per cent. of subsidiary colours;
- (c) more than 6 per cent. of the leuco base;
- (d) more than 0.35 per cent. of free aromatic amines;
- (e) more than 2 per cent. of synthetic intermediates other than free aromatic amines;
- (f) more than 0.4 per cent. of diethyl ether extract.

E 141 Copper complexes of chlorophyll and chlorophyllins

1. The colouring matter shall not contain more than 200 milligrams per kilogram of copper (free ionisable Cu).

2. A 1 per cent. solution of copper complex of chlorophyll in turpentine shall not be turbid and shall not give a sediment.

E 142 Green S or Acid Brilliant Green BS or Lissamine Green

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 1 per cent. of subsidiary colours.

Brown FK

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 5 per cent. of subsidiary colours;

- (c) more than 0.5 per cent. of free aromatic amines (calculated as 1, 3-phenylenediamine);
 - (d) more than 1 per cent. of synthetic intermediates other than free aromatic amines.
2. The colouring matter shall not contain more than the following proportions of the following components identified in column 4 of the table in Schedule 1 Part 1:
- (a) Component I: 26 per cent.;
 - (b) Component II: 17 per cent.;
 - (c) Component III: 17 per cent.;
 - (d) Component IV: 16 per cent.;
 - (e) Component V: 20 per cent.;
 - (f) Component VI: 16 per cent.

Chocolate Brown FB

1. The colouring matter shall not contain—
- (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 1.5 per cent. of synthetic intermediates other than free aromatic amines;
 - (c) more than 1 per cent. of diethyl ether extract.

Chocolate Brown HT

1. The colouring matter shall not contain—
- (a) more than 0.2 per cent. of water-insoluble matter;
 - (b) more than 1 per cent. of synthetic intermediates other than free aromatic amines;
 - (c) more than 15 per cent. of subsidiary colours.

2. Where any subsidiary colours are present, they shall consist principally of *monoSodium 4-(α ,2,4-trihydroxy-*m*-tolylazo)naphthalene-1-sulphonate*.

E 150 Caramel

1. The colouring matter shall not contain—
- (a) more than 0.5 per cent. of phosphates, expressed as P_2O_5 ;
 - (b) more than 0.5 per cent. of ammoniacal nitrogen.
2. The quantity of ammoniacal nitrogen referred to in the preceding sub-paragraph and present in the colouring matter shall be determined according to the Tillmans-Mildner method, as follows:
- Mix 5-10 g of the colouring matter with 300 ml of water and 1.2 g of MgO , and distil. (To avoid foaming, a few drops of octyl alcohol, silicone, or a few drops of paraffin oil, or small pieces of paraffin, are added.) The duration of the distillation should be 35 minutes, of which 10 minutes is required for heating up and 25 minutes for the distillation. Absorb the volatile nitrogen compounds which are liberated in excess of 0.1N sulphuric acid. After back titration of the excess, the amount of nitrogen can be calculated using the following formula:
- 1 ml 0.1N sulphuric acid $\equiv$ 1.4 mg nitrogen.
3. The pH of the colouring matter shall be not less than 1.8.

E 151 Black PN or Brilliant Black BN

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 1 per cent. of synthetic intermediates;
- (c) more than 15 per cent. of subsidiary colours.

2. Where any subsidiary colours are present, they shall consist principally of the diacetyl compound.

E 152 Black 7984

1. The colouring matter shall not contain—

- (a) more than 0.2 per cent. of water-insoluble matter;
- (b) more than 10 milligrams per kilogram of lead;
- (c) more than 2 milligrams per kilogram of arsenic.

E 153 Carbon Black or Vegetable Carbon or Channel Black

1. Limit test for residual higher aromatic hydrocarbons:

The extract obtained by extracting 1 g of the colouring matter with 10 g of pure cyclohexane for 2 hours shall not show any colour; in ultra-violet light it shall give practically no fluorescence; there shall be no residue on evaporation.

2. Limit test for tar products:

The filtrate obtained by boiling 2 g of the colouring matter with 20 ml of N sodium hydroxide and filtering shall be colourless.

E 160a Beta-Carotene

1. Using chromatography, by adsorption on alumina or silica gel, pure beta-carotene shall give only one zone.

E 160b Annatto, Bixin, Norbixin

1. Annatto shall be identified according to the following method and criteria:

(a) Dissolve a sufficient quantity of annatto in benzene or sufficiently dilute a benzene solution of annatto to obtain a solution of the same colour as a 0.1 per cent. potassium dichromate solution. Pour 3 ml of the solution on the top of an alumina column: elute slowly. Wash the column three times with benzene. Bixin is very strongly absorbed on the surface of the alumina, forming a brilliant orange-red zone (which distinguishes it from crocetin). A very pale yellow zone usually moves very quickly down the column, even with pure crystalline bixin. The bixin cannot be eluted with benzene, petroleum ether, chloroform, acetone, ethanol or methanol, but ethanol and methanol cause the orange colour to turn into an orange-yellow.

(b) Proceed as described in the preceding sub-paragraph, then remove the benzene from the column by washing three times with chloroform previously dried with potassium carbonate. After elution of the last chloroform washing add 5 ml of Carr-Price reagent (antimony trichloride—a saturated solution in chloroform) at the top of the column. The bixin zone immediately turns blue/green (which distinguishes it from crocetin). This is known as the Carr-Price Reaction.

2. Bixin shall be identified according to the following method and criteria:

Dissolve 1-2 mg of crystalline bixin in 20 ml of chloroform. Add 5 ml of this solution to the top of a suitable alumina column. Rinse the solution with chloroform previously dried with sodium carbonate. After elution of the last chloroform washing add 5 ml of Carr-Price reagent at the top of the column. The bixin zone immediately turns blue/green.

3. Alkaline solutions of norbixin shall be identified according to the following method and criteria:

Place 2 ml of an aqueous annatto solution in a 50 ml separating funnel. Add a sufficient quantity of 2N sulphuric acid to obtain a strongly acid reaction. Norbixin separates as a red precipitate. Add 50 ml of benzene and shake vigorously. After separation, discard the aqueous layer and wash the benzene solution with 100 ml of water until the solution is no longer acid. Centrifuge the solution (usually emulsified) of norbixin in benzene for 10 minutes at 2,500 revolutions per minute. Decant the clear norbixin solution and dry with anhydrous sodium sulphate. Add 3-5 ml of this solution to the top of an alumina column. Norbixin, like bixin, forms an orange/red zone at the surface of the alumina. Treated by the elutants benzene, petroleum ether, chloroform, acetone, ethanol or methanol it behaves like bixin and also gives the Carr-Price reaction described in sub-paragraph (b) of paragraph 1 above.

E 162 Beetroot Red or Betanin

1. Using ascending paper chromatography, with butanol saturated with 2N hydrochloric acid as solvent, the colouring matter shall give a single red spot with a brownish trail and little migration.

E 171 Titanium dioxide

1. The weight of the residue obtained by the following method shall not exceed 0.0175 g:

Suspend 5 g of the colouring matter in 100 ml of 0.5N hydrochloric acid and heat for 30 minutes on a water bath, shaking occasionally. Filter through a Gooch crucible containing a filter bed which shall consist of three layers—the first, coarse asbestos; the second, filter paper reduced to a pulp; and the third, fine asbestos. Wash with three successive 10 ml portions of 0.5N hydrochloric acid. Evaporate the filtrate to dryness in a platinum evaporating dish and heat to a dull red until the weight of the residue is constant.

2. The colouring matter shall not contain—

- (a) more than 100 milligrams per kilogram of antimony;
- (b) more than 50 milligrams per kilogram of zinc;
- (c) more than 5 milligrams per kilogram of soluble barium compounds (expressed as Ba).

E 172 Iron oxides and hydroxides

1. The colouring matter shall not contain—

- (a) more than 1 milligram per kilogram of selenium;
- (b) more than 1 milligram per kilogram of mercury.

E 181 Burnt Umber

1. The colouring matter shall not contain more than 8 per cent. of manganese oxides, expressed as Mn_2O_3 .
2. The filtrate obtained by the following method, designed to test for the presence of incompletely burnt organic material, shall be colourless.
Boil 2 g of the colouring matter with 30 ml of a 20 per cent. solution of potassium hydroxide, and filter.

PART III

GENERAL PURITY CRITERIA APPLICABLE TO PERMITTED COLOURING MATTER
EXCEPT WHERE OTHERWISE PROVIDED BY SPECIFIC PURITY CRITERIA

Inorganic impurities

1. Each colouring matter shall not contain—
 - (a) more than 5 milligrams per kilogram of arsenic;
 - (b) more than 20 milligrams per kilogram of lead;
 - (c) more than 100 milligrams per kilogram of any of the following substances, namely antimony, copper, chromium, zinc or barium sulphate, or more than 200 milligrams per kilogram of any combination of those substances.

Organic impurities

- 2.—(1) Each synthetic organic colouring matter shall not contain—
 - (a) more than 0.01 per cent. of free aromatic amines;
 - (b) more than 0.5 per cent. of synthetic intermediates other than free aromatic amines;
 - (c) more than 4 per cent. of subsidiary colours such as isomers or homologues.
- (2) Each sulphonated organic colouring matter shall not contain more than 0.2 per cent. of any substance extractable by diethyl ether.

SCHEDULE 2

Sections 2(1) and

Part 1

Permitted Diluents other than Permitted Solvents

Sodium carbonate
Sodium hydrogen carbonate
Sodium chloride
Sodium sulphate
Glucose
Lactose
Sucrose
Dextrins
Starches
Sorbitol
Edible oils and fats
Beeswax
Water
Citric acid
Tartaric acid
Lactic acid
Gelatin
Pectins
Ammonium, sodium or potassium alginates
Esters of L-ascorbic acid with straight-chain C14, C16, and C18
fatty acids, used exclusively with the colouring matters described
in the table in Part 1 of Schedule 1 to these regulations in relation
to the serial numbers E 160 and E 161 specified in column 2 thereof
Acetic acid
Sodium hydroxide
Ammonium hydroxide (ammonia solution)

Part 11

General Purity Criteria Applicable to Permitted Diluents other
than Permitted Solvents

Inorganic impurities

Each diluent shall not contain -

- (a) more than 5 milligrams per kilogram of arsenic;
- (b) more than 20 milligrams per kilogram of lead;
- (c) more than 100 milligrams per kilogram of any of the following
substances, namely antimony, copper, chromium, zinc or barium
sulphate, or more than 200 milligrams per kilogram of any
combination of those substances.

Part 111

Purity Criteria Applicable to Permitted Solvents which
are Permitted Diluents

Each permitted solvent shall comply with the specification specified
in relation thereto in Schedule 5 to the Miscellaneous Additives in
Food Order, 1976, and, so far as is not otherwise provided by that
specification, shall not contain -

- (a) more than 2 milligrams per kilogram of arsenic;
- (b) more than 10 milligrams per kilogram of lead;

SCHEDULE 3

Section 4

COLOURING MATTER PERMITTED ONLY IN CERTAIN FOODS

Column 1	Column 2	Column 3
Food	Permitted colouring matter	Restriction on use
Dragees	Aluminium Silver Gold	For external colouring only
Sugar coated flour confectionery	Aluminium Silver Gold	For decoration only
Hard cheese	Pigment Rubine or Lithol Rubine BK Burnt Umber	On the rind only
Raw or unprocessed meat	Methyl Violet	For marking only
Citrus fruit	Methyl Violet	For marking only

Labelling of Permitted Colouring Matter
and Permitted Diluents

1. - (1) Each container to which section 7 of this Order applies shall bear a label on which is printed a true statement -

- (a) in respect of each permitted colouring matter present, of the serial number, if any, as specified in relation thereto in column 2 of the table in Part 1 of Schedule 1 to this Order and of the common or usual name or an appropriate designation of that permitted colouring matter; and
- (b) where any permitted diluent or diluents other than water is or are present, of the common or usual name or an appropriate designation of each such diluent:

and, if two or more such substances are present, the said statement shall be in the form of a list in compliance with the following sub-paragraph.

- (2) The list referred to in the preceding sub-paragraph shall, unless the quantity or proportion of each such substance is specified, be in the order of the proportion by weight which each such substance bears to the total contents of the container at the time of sale by the manufacturer, the common or usual name or appropriate designation of the substance present at that time in the greatest proportion by weight being listed first.
- (3) The said statement shall be headed or preceeded by the words "food colour".

- 2.- Any statement required by the preceding paragraph -

- (a) shall be clear and legible;
- (b) shall be in a conspicuous position on the label which shall be marked on, or securely attached to, the container in such a manner that it will be readily discernible and easily read by an intending purchaser or consumer under normal conditions of purchase or use;
- (c) shall not be in any way hidden or obscured or reduced in conspicuousness by any other matter, whether pictorial or not, appearing on the label.

- 3.- The figures and the letters in every word in any statement to which the preceding paragraph applies -

- (a) shall be in characters of uniform colour and size being not less than 1.5 millimetres in height for a label on a container of which the greatest dimension does not exceed 12 centimetres, and not less than 3 millimetres in height for a label on a container of which the greatest dimension exceeds 12 centimetres, but so that the initial letter of any word may be taller than any other letter in the word;
- (b) shall appear on a contrasting ground, so however that where there is no ground other than such as is provided by a transparent container and the contents of that container are visible behind the letters, those contents shall be taken to be the ground for the purposes of this paragraph;
- (c) shall be within a surrounding line and no other written or pictorial matter shall appear within that line.

4. - For the purposes of this Schedule

- (a) the height of any lower case letter shall be taken to be the x height thereof, disregarding any ascender or descender thereof;
- (b) any requirement that figures or letters shall be of uniform height, colour or size, shall be construed as being subject to the saving that any inconsiderable variation in height, colour size, as the case may be, may be disregarded.

EXPLANATORY NOTE

(This Note is not part of the Order)

The Order -

- (a) specifies permitted colouring matters and permitted diluents which may be combined with such colouring matters and prescribes purity criteria for those colouring matters and diluents (sections 2 and 6 and Schedules 1 and 2);
- (b) prohibits the sale or importation of food having in it or on it any colouring matter other than a permitted colouring matter and limits the use of certain particular permitted colouring matters to specified foods (section 4 and Schedule 3);
- (c) limits the use of permitted colouring matters in or on certain named foods (section 5);
- (d) prohibits the sale, importation or advertisement for sale of any colouring matter other than a permitted colouring matter (section 7(1));
- (e) prescribes labelling requirements for permitted colouring matters sold as such (section 7(2) and Schedule 4);

The Order does not apply to any colouring matter, to any diluent combined with any colouring matter, or to any food having colouring matter in it or on it, which is sold, consigned, delivered or imported for export, or for the purpose of scientific laboratory testing (section 3).