L.N. 107 of 1995

FOOD, DRUGS AND DRINKING WATER ACT (CAP. 231)

Colours (Use in Foodstuffs) Regulations, 1995

IN exercise of the powers conferred by section 12 of the Food, Drugs and Drinking Water Act, the Minister for Social Development, on the advice of the Food Standards Board, has made the following regulations:—

Citation, commencement and scope.

1. (1) These regulations may be cited as the Colours (Use in Foodstuffs) Regulations, 1995.

(2) These regulations shall come into force on the 1st July, 1996: provided that any colour, or any foodstuff containing a colour in either case which complies with the requirements of these regulations may, until the said date, be imported, prepared, manufactured or sold notwithstanding that it may not comply in full with the regulations currently in force until the coming into force of these regulations.

L.N. 89 of 1994.

(3) These regulations shall complement the Additives in Food Regulations, 1994.

Interpretation.

2. In these regulations, unless the context otherwise requires –

"colour" means a substance which adds or restores colour in a food, and includes any natural constituents of foodstuffs and natural sources which are normally not consumed as foodstuffs as such and which are not normally used as characteristic ingredients of food:

Provided that the following substances shall not be considered as colours for the purposes of these regulations:

(a) foodstuffs, whether dried or in concentrated form and flavourings incorporated during the manufacturing of compound foodstuffs, because of their aromatic, sapid or nutritive properties together with a secondary colouring effect, such as paprika, turmeric and saffron;

(b) colours used for the colouring of the inedible external parts of foodstuffs, such as cheese coatings and sausage casings:

Provided further that preparations obtained from foodstuffs and other natural source materials obtained by physical and/or chemical extraction resulting in a selective extraction of the pigments relative to the nutritive or aromatic constituents are also colours within the meaning of these regulations;

"compound foodstuff" means a foodstuff in itself composed of two or more foodstuffs;

"EEC" as used in these regulations and in the Schedules thereto means the European Economic Community;

"foodstuffs" has the same meaning as is attributed to "food" in section 2 of the Food, Drugs and Drinking Water Act;

"foodstuff for particular nutritional uses" is a foodstuff which, owing to its special composition or manufacturing process, is clearly distinguishable from a foodstuff for normal consumption, which is suitable for its claimed nutritional purposes and which is marketed in such a way as to indicate such suitability. A particular nutritional use shall fulfil the particular nutritional requirements:

(a) of certain categories of persons whose digestive processes or metabolism are disturbed; or

(b) of certain categories of persons who are in a special physiological condition and who are therefore able to obtain special benefit from controlled consumption of certain substances in foodstuffs; or

(c) of infants or young children in good health;

"meat product" means a product prepared from or with meat which has undergone treatment such that the cut surface shows that the product no longer has the characteristics of fresh meat:

Provided that the following shall not be regarded as a meat product:

(a) meat which has undergone only cold treatment; such meat shall remain subject to the rules in the Directive referred to hereunder:—

- Article 2 (a) of Directive 64/433/EEC
- Article 2 of Directive 71/118/EEC
- Article 2 of Directive 72/461/EEC
- Article 2 of Directive 72/462/EEC
- Article 2 of Directive 88/657/EEC
- Article 2(1) and (2) of Directive 91/495/EEC

(b) a product subject to Council Directive 88/657/EEC of 14 December, 1988 laying down the requirements for the production of, and trade in, minced meat, meat in pieces of less than 100 grams and meat preparations and amending Directives 64/433/EEC, 71/118/EEC and 72/462/EEC;

"unprocessed" means not having undergone any treatment resulting in a substantial change in the original state of the foodstuffs. However, they may have been for example divided, parted, severed, boned, minced, skinned, pared, peeled, ground, cut, cleaned, trimmed, deep-frozen, frozen, chilled, milled or husked, packed or unpacked.

Applicability of these regulations.

3. (1) Only a substance listed in the First Schedule to these regulations may be used as a colour in foodstuffs.

(2) A colour may be used only in the foodstuffs listed in the Third, Fourth and Fifth Schedules to these regulations and under the conditions specified therein; a colour may be used in those same foodstuffs when they are intended for particular nutritional uses in accordance with Directive 89/398/EEC of the EEC.

(3) A colour may not be used in the foodstuffs listed in the Second Schedule to these regulations except where specifically provided for in the Third or Fourth or Fifth Schedule to these regulations.

(4) Colours permitted for certain uses only are listed in the Fourth Schedule to these regulations.

(5) Colours permitted in general in foodstuffs and the conditions of use therefor are listed in the Fifth Schedule to these regulations.

(6) The maximum levels indicated in the Schedules to these regulations —

(a) relate to the foodstuffs prepared according to the instructions for use, and which are ready to eat after such preparation;

(b) refer to the quantities of colouring principle contained in the colouring preparation.

(7) In the Schedules to these regulations *quantum satis* means that no maximum level is specified. However, colours shall be used according to good manufacturing practice at a level not higher than is necessary to achieve the intended purpose and provided that the consumer is not misled.

(8) For the purpose of health marking and other markings required on meat products, only E155 Brown HT, E133 Brilliant Blue FCF or E129 Allura Red AC or an appropriate mixture of E133 Brilliant Blue FCF and E129 Allura Red AC may be used.

(9) Only a colour mentioned in the First Schedule to these regulations may be used for the stamping or for the decorative colouring of eggshells.

(10) Only a colour listed in the First Schedule to these regulations, except E123, E127, E128, E154, E160b, E161g, E173 and E180, may be sold directly to consumers.

(11) Without prejudice to any other regulation, the presence of a colour in a foodstuff is permissible —

(a) either in a compound foodstuff other than one mentioned in the Second Schedule to these regulations to the extent that the colour is permitted in one of the ingredients of the compound foodstuff,

(b) or if the foodstuff is destined to be used solely in the preparation of a compound foodstuff and to such an extent that the compound foodstuff conforms to the provisions of these regulations.

Sale of food containing colouring matter.

4. (1) No person shall for the purpose of a food business other than that of export to a non-European Union Country, import or sell any colour or any food in which or on which there is any colour or any mark of any colour in either case not being a colour permitted which complies with the requirements of these regulations.

(2) No person shall keep or allow or permit to be kept on any premises used for the preparation, or for the preparation for sale of food, any colour not being a colour which complies with the requirements of these regulations.

Criteria of purity

5. A colour shall at all times comply with the criteria of purity listed in the Sixth Schedule to these regulations.

Labelling.

L.N. 89 of 1994.

L.N. 65 of 1992.

6. The package or container of a permitted colour shall bear a clear, indelible easily legible label containing the information as prescribed under the Additives in Food Regulations, 1994. The provisions of the Labelling and Presentation of Foodstuffs Regulations, 1992 shall apply to any foodstuff containing a colour.

Repeal of L.N. 39 of 1977.

7. (1) The Colouring Matter in Food Regulations, 1977 are hereby repealed without prejudice to anything which may have been done or omitted to be done under the regulations hereby repealed.

(2) Any reference in any other regulations to the Colouring Matter in Food Regulations, 1977 shall be construed as a reference to these regulations.

FIRST SCHEDULE

List of Permitted Food Colours

Note: Aluminium lakes prepared from colours mentioned in this Schedule are authorised.

EC No.	*Common Name*	*Colour index No.* [1] *or description*
E 100	Curcumin	75300
E 101	(i) Riboflavin (ii) Riboflavin-5'-phosphate	
E 102	Tartrazine	19140
E 104	Quinoline Yellow	47005
E 110	Sunset Yellow FCF Orange Yellow S	15985
E 120	Cochineal, Carminic acid, Carmines	75470
E 122	Azorubine, Carmoisine	14720
E 123	Amaranth	16185
E 124	Ponceau 4R, Cochineal Red A	16255
E 127	Erythrosine	45430
E 128	Red 2G	18050
E 129	Allura Red AC	16035
E 131	Patent Blue V	42051
E 132	Indigotine, Indigo Carmine	73015
E 133	Brilliant Blue FCF	42090
E 140	Chlorophylls and Chlorophyllins: (i) chlorophylls (ii) chlorophyllins	75810 75815
E 141	Copper complexes of chlorophylls and chlorophyllins (i) copper complexes of chlorophylls (ii) copper complexes of chlorophyllins	75815
E 142	Green S	44090
E 150a	Plain caramel [2]	
E 150b	Caustic sulphite caramel	
E 150c	Ammonia caramel	
E 150d	Sulphite ammonia caramel	
E 151	Brilliant Black BN, Black PN	28440

EC No.	*Common Name*	*Colour index No.* [1] *or description*
E 153	Vegetable Carbon	
E 154	Brown FK	
E 155	Brown HT	20285
E 160a	Carotenes: (i) Mixed carotenes (ii) Beta-carotene	 75130 40800
E 160b	Annatto, bixin, norbixin	75120
E 160c	Paprika extract, capsanthin, capsorubin	
E 160d	Lycopene	
E 160e	Beta-apo-8′-carotenal (C30)	40820
E 160f	Ethyl ester of Beta-apo-8′-carotenic acid (C30)	40825
E 161b	Lutein	
E 161g	Canthaxanthin	
E 162	Beetroot Red, betanin	
E 163	Anthocyanins	prepared by physical means from fruits and vegetables
E 170	Calcium carbonate	77220
E 171	Titanium dioxide	77891
E 172	Iron oxides and hydroxides	77491 77492 77499
E 173	Aluminium	
E 174	Silver	
E 175	Gold	
E 180	Litholrubine BK.	

[1] Colour index numbers are taken from the third edition 1982 of the Colour Index, volumes 1 to 7, 1315. Also amendments 37 to 40 (125), 41 to 44 (127-50), 45 to 48 (130), 49 to 52 (132-50), 53 to 56 (135).

[2] The term "caramel" relates to products of a more or less intense brown colour which are intended for colouring. It does not correspond to the sugary aromatic product obtained from heating sugars and which is used for flavouring food (e.g. confectionery, pastry, alcoholic drinks).

SECOND SCHEDULE

Foodstuffs which may not contain added colours, except where specifically provided for in the Third, Fourth or Fifth Schedule

(The designations used in the Second Schedule do not prejudice the 'carry over' principle in cases where products contain ingredients with legitimate colouring in their own right)

1. Unprocessed foodstuffs
2. All bottled or packed waters
3. Milk, semi-skimmed and skimmed milk, pasteurised or sterilised (including UHT sterilisation) (unflavoured)
4. Chocolate milk
5. Fermented milk (unflavoured)
6. Preserved milk as mentioned in Directive 76/118/EEC
7. Butter-milk (unflavoured)
8. Cream and cream powder (unflavoured)
9. Oils and fats of animal or vegetable origin
10. Eggs and egg products as defined in Article 2 (1) of Directive 89/437/EEC
11. Flour and other milled products and starches
12. Bread and similar products
13. Pasta and gnocchi
14. Sugar, including all mono- and disaccharides
15. Tomato paste and canned and bottled tomatoes
16. Tomato-based sauces
17. Fruit juice and fruit nectar as mentioned in Directive 75/726/EEC and vegetable juice
18. Fruit, vegetables (including potatoes) and mushrooms – canned, bottled or dried; processed fruit, vegetables (including potatoes) and mushrooms
19. Extra Jam, extra Jelly, and chestnut purée as mentioned in Directive 79/693/EEC; creme de pruneaux
20. Fish, molluscs and crustaceans, meat, poultry and game as well as their preparations, but not including prepared meals containing these ingredients
21. Cocoa products and chocolate components in chocolate products as mentioned in Directive 73/241/EEC
22. Roasted coffee, tea, chicory; tea and chicory extracts; tea, plant, fruit and cereal preparations for infusions, as well as mixes and instant mixes of these products
23. Salt, salt substitutes, spices and mixtures of spices
24. Wine and other products defined by Regulation (EEC) No. 822/87

25. *Korn, Kornbrand,* fruit spirit drinks, fruit spirits, *Ouzo, Grappa, Tsikoudia* from Crete, *Tsipouro* from Macedonia, *Tsipouro* from Thessaly, *Tsipouro* from Tyrnavos, *Eau de vie de marc Marque nationale luxembourgeoise, Eau de vie de seigle Marque nationale luxembourgeoise, London gin,* as defined in Regulation (EEC) No. 1576/89

26. *Sambuca, Maraschino* and *Mistra* as defined in Regulation (EEC) No. 1180/91

27. *Sangria, Clarea* and *Zurra* as mentioned in Regulation (EEC) No. 1601/91

28. Wine vinegar

29. Foods for infants and young children as mentioned in Directive 89/398/EEC including foods for infants and young children not in good health

30. Honey

31. Malt and malt products

32. Ripened and unripened cheese (unflavoured)

33. Butter from sheep and goats' milk.

THIRD SCHEDULE

Foodstuffs to which only certain permitted colours may be added

Foodstuffs	*Permitted colour*	*Maximum Level*
Malt Bread	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*
Beer Cidre bouchè	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*
Butter (including reduced fat butter and concentrated butter)	E 160a Carotenes	*quantum satis*
Margarine, minarine, other fat emulsions, and fats essentially free from water	E 160a Carotenes E 100 Curcumin E 160b Annatto, Bixin, Norbixin	*quantum satis* *quantum satis* 10mg/kg

Foodstuffs	*Permitted colour*	*Maximum Level*
Sage Derby cheese	E 140 Chlorophylls Chlorophyllins E 141 Copper Complexes of chlorophylls and chlorophyllins	*quantum satis*
Ripened Orange, Yellow and broken-white cheese; Unflavoured processed cheese	E 160a Carotenes E 160c Paprika extract	*quantum satis*
	E 160b Annatto, Bixin, Norbixin	15mg/kg
Red Leicester cheese	E 160b Annatto, Bixin, Norbixin	50mg/kg
Mimolette cheese	E 160b Annatto, Bixin, Norbixin	35mg/kg
Morbier cheese	E 153 Vegetable Carbon	*quantum satis*
Red Marbled Cheese	E 120 Cochineal, Carminic Acid, Carmines	125mg/kg
	E 163 Anthocyanins	*quantum satis*
Vinegar	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*
Whisky, Whiskey, grain spirit (other than Korn or Kornbrand or Eau de vie de seigle Marque nationale luxembourgeoise), wine spirit, rum, Brandy, Weinbrand, grape marc, grape marc spirit, (other than Tsikoudia and Tsipouro and Eau de vie de marc Marque nationale luxembourgeoise), Grappa invecchiata, Bagaceira velha as mentioned in Regulation (EEC) No. 1576/89	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*

Foodstuffs	*Permitted colour*	*Maximum Level*
Aromatised wine-based drinks (except Bitter Soda) and aromatised wines as mentioned in Regulation (EEC) No. 1601/91	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*
Americano	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel E 163 Anthocyanins	*quantum satis*
	E 100 Curcumin E 101 i) Riboflavin ii) Riboflavin-5′-phosphate E 102 Tartrazine E 104 Quinoline Yellow E 120 Cochineal, Carminic acid, Carmines E 122 Azorubine Carmoisine E 123 Amaranth E 124 Ponceau 4R	100mg/1 (individually or in combination)
Bitter Soda, bitter vino as mentioned in Regulation (EEC) No. 1601/91	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*
	E 100 Curcumin E 101 i) Riboflavin ii) Riboflavin-5′-phosphate E 102 Tartrazine E 104 Quinoline Yellow E 110 Sunset Yellow FCF Orange Yellow S E 120 Cochineal, Carminic acid, Carmines E 122 Azorubine Carmoisine E 123 Amaranth E 124 Ponceau 4R, Cochineal Red A E 129 Allura Red AC	100 mg/l (individually or in combination)
Liquer wines and quality liqueur wines produced in specified regions	E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel	*quantum satis*

Foodstuffs	*Permitted colour*	*Maximum Level*
Vegetables in vinegar, brine or oil (excluding olives)	E 101 i) Riboflavin ii) Riboflavin-5′-phosphate E 140 Chlorophylls, Chlorophyllins E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel E 141 Copper complexes of chlorophylls and chlorophyllins E 160a Carotenes: i) Mixed Carotenes ii) Beta-Carotene E 162 Beetroot Red, Betanin E 163 Anthocyanins	*quantum satis*
Extruded, puffed and/or fruit-flavoured breakfast cereals	E 150c Ammonia Caramel E 160a Carotenes E 160b Annatto, Bixin, Norbixin E 160c Paprika extract, Capsanthin, Capsorubin	*quantum satis* *quantum satis* 25mg/kg *quantum satis*
Fruit-flavoured breakfast cereals	E 120 Cochineal, Carminic acid, Carmines E 162 Beetroot Red, Betanin E 163 Anthocyanins	200mg/kg (individually or in combination)
Jam, jellies and marmalades as mentioned in Directive 79/693/EEC and other similar fruit preparations including low calorie products	E 100 Curcumin E 140 Chlorophylls and Chlorophyllins E 141 Copper complexes of chlorophylls and chlorophyllins E 150a Plain Caramel E 150b Caustic Sulphite Caramel E 150c Ammonia Caramel E 150d Sulphite Ammonia Caramel E 160a Carotenes i) Mixed Carotenes ii) Beta-Carotene E 160c Paprika extract, Capsanthin Capsorubin E 162 Beetroot Red, Betanin E 163 Anthocyanins	*quantum satis*
	E 104 Quinoline Yellow E 110 Sunset Yellow E 120 Cochineal, Carminic acid, Carmines E 124 Ponceau 4R, Cochineal E 142 Green S E 160d Lycopene E 161b Lutein	100mg/kg (individually or in combination)

Foodstuffs	*Permitted colour*	*Maximum Level*
Sausages, pates and terrines	E 100 Curcumin	20 mg/kg
	E 120 Cochineal, Carminic acid, Carmines	100mg/kg
	E 150a Plain Caramel	*quantum satis*
	E 150b Caustic Sulphite Caramel	*quantum satis*
	E 150c Ammonia Caramel	*quantum satis*
	E 150d Sulphite Ammonia Caramel	*quantum satis*
	E 160a Carotenes	20mg/kg
	E 160c Paprika extract, Capsanthin, Capsorubin	10mg/kg
	E 162 Beetroot Red, Betanin	*quantum satis*
Luncheon Meat	E 129 Allura Red	25mg/kg
Breakfast Sausages with a minimum cereal content of 6%	E 129 Allura Red AC	25mg/kg
Burger meat with a minimum vegetable and/or cereal content of 4%	E 120 Cochineal, Carminic acid Carmines	100mg/kg
	E 150a Plain Caramel	*quantum satis*
	E 150b Caustic Sulphite Caramel	*quantum satis*
	E 150c Ammonia Caramel	*quantum satis*
	E 150d Sulphite Ammonia Caramel	*quantum satis*
Chorizo sausages: Salchichon	E 120 Cochineal, Carminic acid, Carmines	200mg/kg
	E 124 Ponceau 4R, Cochineal Red A	250mg/kg
Sobrasada	E 110 Sunset Yellow FCF	135mg/kg
	E 124 Ponceau 4R, Cochineal Red A	200mg/kg
Pasturmas (edible external coating)	E 100 Curcumin	*quantum satis*
	E 101 i) Riboflavin	
	ii) Riboflavin-5′-phosphate	
	E 120 Cochineal, Carminic acid, Carmines	
Dried potato granules and flakes	E 100 Curcumin	*quantum satis*
Processed mushy and garden peas (canned)	E 102 Tartrazine	100mg/kg
	E 133 Brilliant Blue	20mg/kg
	E 142 Green S	10mg/kg

FOURTH SCHEDULE

Colours permitted for certain uses only

Colour	*Foodstuff*	*Maximum Level*
E 123 Amaranth	Aperitif wines, spirit drinks including products with less than 15% alcohol by volume	30 mg/l
	Fish roe	30 mg/kg
E 127 Erythrosine	Cocktail cherries and candied cherries	200mg/kg
	Bigarreaux cherries in syrup and in cocktails	150mg/kg
E 128 Red 2G	Breakfast sausages with a minimum cereal content of 6%	20mg/kg
	Burger meat with a minimum vegetable and/or cereal content of 4%	
E 154 Brown FK	Kippers	20mg/kg
E 161g Canthaxanthin	Saucisses de Strasbourg	15mg/kg
E 173 Aluminium	External coating of sugar confectionery for the decoration of cakes and pastries	*quantum satis*
E 174 Silver	External coating of confectionery Decoration of chocolates Liqueurs	*quantum satis*
E 175 Gold	External coating of confectionery Decoration of chocolates Liqueurs	*quantum satis*
E 180 Litholrubine BK	Edible cheese rind	*quantum satis*
E 160b Annatto, Bixin, Norbixin	Margarine, minarine, other fat emulsions, and fats essentially free from water Decorations and coatings Fine bakery wares Edible ices Liqueurs, including fortified beverages with less than 15% alcohol by volume Flavoured processed cheese Ripened Orange, Yellow and broken-white cheese	10 mg/kg 20 mg/kg 10 mg/kg 20 mg/kg 10 mg/l 15 mg/kg 15 mg/kg

Colour	*Foodstuff*	*Maximum Level*
	Unflavoured processed cheese	15mg/kg
	Desserts	10 mg/kg
	"Snacks": dry, savoury potato, cereal or starch-based snack products:	
	— extruded or expanded savoury snack products	20 mg/kg
	— other savoury snack products and savoury coated nuts	10 mg/kg
	Smoked fish	10mg/kg
	Edible cheese rind and edible casings	20 mg/kg
	Red Leicester cheese	50 mg/kg
	Mimolette cheese	35 mg/kg
	Extruded, puffed and/or fruit-flavoured breakfast cereals	25 mg/kg

FIFTH SCHEDULE

Colours permitted in foodstuffs other than those mentioned in the Second and Third Schedules

Part 1

The following colours may be used in foodstuffs mentioned in the Fifth Schedule Part 2 and in all other foodstuffs other than those listed in the Second and Third Schedules at *quantum satis*.

E 101	(i) Riboflavin (ii) Riboflavin-5′-phosphate
E 140	Chlorophylls and chlorophyllins
E 141	Copper complexes of chlorophylls and chlorophyllins
E 150a	Plain caramel
E 150b	Caustic sulphite caramel
E 150c	Ammonia caramel
E 150d	Sulphite ammonia caramel
E 153	Vegetable carbon
E 160a	Carotenes
E 160c	Paprika extract, capsanthin, capsorubin
E 162	Beetroot red, betanin
E 163	Anthocyanins
E 170	Calcium carbonate
E 171	Titanium dioxide
E 172	Iron oxides and hydroxides

Part 2

The following colours may be used singly or in combination in the following foods up to the maximum level specified in the table. However, for non-alcoholic flavoured drinks, edible ices, desserts, fine bakery wares and confectionery, colours may be used up to the limit indicated in the appropriate table but the quantities of each of the colours E 110, E 122, E 124 and E 155 may not exceed 50mg/kg or mg/l.

E 100	Curcumin
E 102	Tartrazine
E 104	Quinoline Yellow
E 110	Sunset Yellow FCF/Orange Yellow S
E 120	Cochineal, Carminic acid, Carmines
E 122	Azorubine, Carmoisine
E 124	Ponceau 4R, Cochineal Red A
E 129	Allura Red AC
E 131	Patent Blue V
E 132	Indigotine, Indigo Carmine
E 133	Brilliant Blue FCF
E 142	Green S
E 151	Brilliant Black BN, Black PN
E 155	Brown HT
E 160d	Lycopene
E 160e	Beta-apo-8'-carotenal (C 30)
E 160f	Ethyl ester of Beta-apo-8'-carotenic acid (C 30)
E 161b	Lutein

Foodstuffs	*Maximum Level*
Non-alcoholic flavoured drinks	100mg/l
Candied fruits and vegetables, Mostarda di Frutta	200mg/kg
Preserves of red fruits	200mg/kg
Confectionery	300mg/kg
Decorations and coatings	500mg/kg
Fine bakery wares (e.g. viennoiserie, biscuits, cakes and wafers)	200mg/kg
Edible ices	150mg/kg
Flavoured processed cheese	100mg/kg
Desserts including flavoured milk products	150mg/kg

Foodstuffs	*Maximum Level*
Sauces, seasonings (for example, curry powder, Tandoori), pickles, relishes, Chutney and Piccalili	500mg/kg
Mustard	300mg/kg
Fish paste and crustacean paste	100mg/kg
Pre-cooked crustaceans	250mg/kg
Salmon substitutes	500mg/kg
Surimi	500mg/kg
Fish roe	300mg/kg
Smoked Fish	100mg/kg
"Snacks": dry, savoury potato, cereal or starch-based snack products	
– extruded or expanded savoury snack products	200mg/kg
– other savoury snack products and savoury coated nuts	100mg/kg
Edible cheese rind and edible casings	*quantum satis*
Complete formulae for weight control intended to replace total daily food intake or an individual meal	50mg/kg
Complete formulae and nutritional supplements for use under medical supervision	50mg/kg
Liquid food supplements/dietary integrators	100mg/l
Solid food supplements/dietary integrators	300mg/kg
Soups	50mg/kg
Meat and fish analogues based on vegetables proteins	100mg/kg
Spirituous beverages (including products less than 15% alcohol by volume), except those mentioned in the Second or Third Schedule	200mg/l
Aromatised wines, aromatised wine-based drinks and aromatised wine-products cocktails as mentioned in Regulation (EEC) No. 1601/91 except those mentioned in the Second or Third Schedule	200mg/l
Fruit wines (still or sparkling) Cider (except cidre bouche) and perry Aromatised fruit wines, cider and perry	200mg/l

SIXTH SCHEDULE

Criteria of Purity

PART 1 — GENERAL CRITERIA OF PURITY

Unless otherwise provided in the specific criteria in Part 2 of this Schedule, the colours referred to in the First Schedule are required to satisfy the following criteria of purity:

1. *Inorganic impurities*

(a) They should contain not more than 5mg/kg of arsenic and not more than 20mg/kg of lead;

(b) They should contain not more than 100mg/kg of the following substances, taken separately: antimony, copper, chromium, zinc, barium sulphate; and not more than 200mg/kg of these products taken together;

(c) They should not contain cadmium, mercury, selenium, tellurium, thallium, uranium or chromates, or soluble combinations of barium in detectable quantities.

2. *Organic impurities*

(a) They should not contain 2-naphthylamine, benzidine, amino-4-diphenyl (or xenylamine) or their derivatives;

(b) They should not contain polycyclic aromatic hydrocarbons;

(c) Synthetic organic colour should contain not more than 0.01% of free aromatic amines;

(d) Synthetic organic colour should contain not more than 0.5% of intermediate synthetic products other than free aromatic amines;

(e) Synthetic organic colour should contain not more than 4% of accessory colouring matters (isomers, homologues etc.);

(f) Sulphonated organic colour should contain not more than 0.2% of substances extractable by diethyl ether.

PART 2 — SPECIFIC CRITERIA OF PURITY

E 101 — *Riboflavin*

Lumiflavin: prepare ethanol-free chloroform as follows: Shake 20ml of chloroform with 20ml water gently but carefully for three minutes and allow time to separate. Draw off the chloroform layer and repeat the operation twice using 20ml each time. Finally, filter the chloroform through dry filter paper; shake the filtrate well for five minutes with 5g of powdered anhydrous sodium sulphate, leave the mixture to settle for two hours, then decant or filter the clear chloroform. Shake 25mg of riboflavin with 10ml of ethanol-free chloroform for five minutes, then filter; the colour of the filtrate should not be more intense than that of an aqueous solution obtained by diluting 3ml of 0.1 N potassium dichromate to 1000ml.

E 102 — *Tartrazine*

Products insoluble in water: not more than 0.2%.
Accessory colours: not more than 1%.

E 104 — *Quinoline Yellow*

Products insoluble in water: not more than 0.2%.

E 110 — *Sunset Yellow FCF, Orange Yellow S*

Products insoluble in water: not more than 0.2%.

E 120 — *Cochineal, carminic acid*

Paper chromatography: with a solution of 2g of trisodium citrate in 100ml 5% ammonium hydroxide, cochineal gives only a single stain in the alkaline zone.

E 122 — *Azorubine, Carmoisine*

Products insoluble in water: not more than 0.2%.
Accessory colours: not more than 1%.

E 123 — *Amaranth*

Products insoluble in water: not more than 0.2%.

E 124 — *Ponceau 4R, Cochineal Red A*

Products insoluble in water: not more than 0.2%.

E 127 — *Erythrosine*

Products insoluble in water: not more than 0.2%.
Mineral iodides: not more than 1,000mg/kg (assessed as sodium iodide).
Accessory colours: not more than 3%.
Fluorescein: no detectable trace.

E 131 — *Patent Blue V*

Products insoluble in water: not more than 0.5%.
Chromium (estimated as Cr): not more than 20mg/kg.
Accessory colours: not more than 1%.

E 132 — *Indigotin, Indigo Carmine*

Products insoluble in water: not more than 0.2%.
Accessory colours: not more than 1%.
Isatinsulphonic acid: not more than 1%.

E 141 — *Copper complexes of chlorophylls and chlorophyllins*

A 1% solution of copper chlorophyll complex in turpentine should not be turbid and should not form a sediment.
Copper (free ionisable Cu): not more than 200mg/kg.

E 142 — *Green S*

Products insoluble in water: not more than 0.2%.
Accessory colours: not more than 1%.

E 150 — *Plain caramel, caustic sulphite caramel, ammonia caramel, sulphite ammonia caramel.*

Ammonia-nitrogen: not more than 0.5% determined according to the Tillmans-Mildner method, as follows:

Mix 5-10g of the colouring matter with 300ml of water and 1-2g 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 0.1 N sulphuric acid. After back titration of the excess, the amount of nitrogen can be calculated using the following formula:—

1ml 0.1 N sulphuric acid = 1.4mg nitrogen.

Sulphur dioxide: not more than 0.1% determined according to the Monier-Williams method, as follows:

Transfer a suitable portion of the colour containing about 45mg SO_2, into the distillation flask of the Monier-Williams apparatus. Place 10ml of 3% H_2O into each of the two U-tubes. To the distillation flask, add about 400ml water and 90ml hydrochloric acid (1+2). Pass nitrogen gas at a slow steady rate and heat flask connected to a reflux condenser for about 2 hours. Turn off water in condenser and continue heating until inlet joint of first U-tube shows condensation and slight warming. Remove separator and turn off heat. Titrate contents of U-tube with 0.1 N NaOH using methyl red indicator.

1ml 0.1N NaOH = 3.203 mg SO_2.

pH: not less than 1.8.
Phosphates: not more than 0.5% expressed as P_2O_5.
Accessory colour: not more than 15% (The presence of accessory essential in order to obtain the precise shade).
Intermediate products: not more than 1%.

E 153 — *Vegetable carbon*

Higher aromatic hydrocarbons: Extract 1g of carbon black with 10g of pure cyclohexane for two hours. The extract should be colourless. It should have little or no fluorescence in ultra-violet light; on evaporation it should leave no residue.

Tarry products: boil 2g of carbon black with 20ml of N sodium hydroxide, then filter. The filtrate should be colourless.

E 160(a) — *Mixed carotenes, Beta-carotene*

Chromatography: By absorption on alumina or silica gel, pure Beta-carotene shows only one zone.

E 160 (b) — *Annatto, Bixin and Norbixin*

Chromatography:

(a) Annatto: Dissolve a sufficient quantity of Annatto in benzene or dilute a benzene solution of Annatto to obtain a solution of the same colour as a 1% solution of potassium dichromate. Pour 3ml of the solution on the top of an alumina column; elute slowly. Wash the column three times with benzene. The bixin is very heavily absorbed on the surface of the alumina and forms a brilliant orange-red zone (as distinct from crocetin saffron). A very pale yellow zone usually moves very rapidly across the column, even with crystallised pure bixin. The bixin cannot be eluted in benzene, light petroleum, ether, chloroform, acetone, ethanol or methanol. But the ethanol and methanol cause the orange tint to turn into an orange yellow.

Carr-Price reaction: Remove the benzene from the column by washing three times with chloroform previously dehydrated by means of potassium carbonate. After elution of the last chloroform wash, add 5ml of the Carr-Price reagent to the top of the column. The bixin zone immediately turns to blue-green (as distinct from crocetin).

(b) Bixin: Dissolve 1 to 2mg of crystallised bixin in 20ml of chloroform. Add 5ml of this solution to the top of the prepared column. Rinse the solution with chloroform previously dehydrated with sodium carbonate and proceed as for (a) (Carr-Price reaction).

(c) Alkaline solutions of norbixin: Place 2ml of an aqueous solution of Annatto in a 50ml separating funnel. Add sufficient 2 N sulphuric acid to obtain a highly acidic reaction. The norbixin will separate out as a red precipitate. Add 50ml of benzene, then shake vigourously. After separation discard the aqueous layer and wash the benzene solution with 100ml of water until the solution is no longer acid. Centrifuge the solution (usually emulsified) of norbixin in benzene for ten minutes at 2500 revolutions per minute. Decant the clear norbixin solution and dehydrate by means of anhydrous sodium sulphate. Pour 3-5 ml of this solution on the top of the alumina column. Norbixin like bixin will form an orange-red zone on the surface of the alumina. When eluted as in(a), it will behave like bixin and will also give the Carr-Price reaction.

E 162 — *Beetroot red, betanin*

Paper Chromatography: With butanol saturated with 2 N hydrochloric acid as a solvent (ascending chromatography), betanin gives a single red spot with a brownish trail and little migration.

E 171 — *Titanium dioxide*

Substances soluble in hydrochloric acid: Suspend 5g of titanium dioxide in 100ml of 0.5 N hydrochloric acid and heat for thirty minutes in a water bath. Stirring from time to time. Filter in a Gooch crucible on the bottom of which three layers have been placed, the first of coarse asbestos, the second of filter paper reduced to a pulp and the third of fine asbestos. Wash with three successive portions of 0.5 N hydrochloric acid each of 10ml. Evaporate the filtrate to dryness in a platinum evaporating dish, then heat to a dull red until the weight is constant. The weight of the residue should not exceed 0.0175g.

Antimony: not more than 100mg/kg.
Zinc: not more than 50mg/kg.
Soluble barium compounds: not more than 5mg/kg.

E 172 — *Iron oxides and hydroxides*

Selenium: not more than 1mg/kg.
Mercury: not more than 1mg/kg.

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