Approved additives and E numbers

Additives and E numbers for colours, preservatives, antioxidants, sweeteners, emulsifiers, stabilisers, thickeners and other types of additives.

Most additives are only permitted to be used in certain foods and are subject to specific quantitative limits, so it is important to note this list should be used in conjunction with the appropriate legislation:

- assimilated Regulation (EU) 1333/2008 on food additives in England and Wales
- Regulation (EU) 1333/2008 on food additives and Commission Regulation (EU) 2022/63, amending Annexes II and III to Regulation 1333/2008 in Northern Ireland

Glycerol (E 422)

Glycerol (E 422) is authorised as a food additive in accordance with Annex II of the assimilated Regulation (EU) 1333/2008 on food additives (Commission Regulation 1333/2008 in Northern Ireland).

It is permitted for use at quantum satis in flavoured drinks. Quantum satis means no maximum numerical level is specified and substances must be used in accordance with good manufacturing practice, at a level not higher than is necessary to achieve the intended purpose and provided the consumer is not misled.

Glycerol (E 422) is a key ingredient used in the production of slush ice drinks. It maintains the slush properties, preventing the liquid from freezing solid. However, there have been cases of children becoming unwell following excessive consumption.

We have been working with industry on voluntary guidance to protect vulnerable consumers and have agreed the following four principles. These are not a legal requirement but are considered best practice.

Industry guidelines for glycerol in Slush ice drinks

1. Brand owners will ensure that their customers are fully aware of the FSA's risk assessment of the use of glycerol in slush ice drinks.
2. Brand owners will formulate products to contain glycerol at the minimum quantity technically necessary to achieve the required 'slush' drink effect.
3. Brand owners will advise their customers that sales of slush ice drinks containing glycerol should be accompanied by a written warning visible at point of sale – "Product contains glycerol. Not recommended for children 4 years of age and under'".
4. The business model of free refills is not recommended in venues where children under 10 years of age will consume them.

These industry guidelines are based on a worst-case scenario of a slush ice drink containing the top level of 50,000 mg/L glycerol as potential exposure. If in the future, collectively, industry decide to drop the glycerol levels, these guidelines can be reassessed.

Explanatory text to consumers about glycerol

We have added the following advice to our consumer page on food additives.

'Slush ice drinks can contain the ingredient glycerol as a substitute for sugar, at a level required to create the ‘slush’ effect. At this level, we recommend that children four years of age and under should not consume these drinks, due to their potential to cause side-effects such as headaches and sickness, particularly when consumed in excess.'

Northern Ireland

Titanium dioxide

From 7 February 2022 the use of titanium dioxide (TiO2 - E171) as a food additive is no longer permitted in the EU and in Northern Ireland, due to the application of the Northern Ireland Protocol, following the publication of Commission Regulation (EU) 2022/63, amending Annexes II and III to Regulation (EC) No 1333/2008.

This regulation was published with a 6-month transition period which ends on 7 August 2022. Until the end of this transition period foods produced in accordance with the rules applicable before 7 February 2022 may continue to be placed on the market. After 7 August 2022, food products containing TiO2 will no longer be able to be placed on the EU/NI market, however, foods already on the market will be able to remain on the market until they reach their date of minimum durability or ‘use by’ date.

Colours

E numbers	Additives
E100	Curcumin
E101	(i) Riboflavin
	(ii) Riboflavin-5'-phosphate
E102	Tartrazine
E104	Quinoline yellow
E110	Sunset Yellow FCF; Orange Yellow S
E120	Cochineal; Carminic acid; Carmines
E122	Azorubine; Carmoisine
E123	Amaranth
E124	Ponceau 4R; Cochineal Red A
E127	Erythrosine
E129	Allura Red AC
E131	Patent Blue V
E132	Indigotine; Indigo Carmine
E133	Brilliant Blue FCF
E140	Chlorophylls and chlorophyllins
E141	Copper complexes of chlorophyll and chlorophyllins
E142	Green S
E150a	Plain caramel
E150b	Caustic sulphite caramel
E150c	Ammonia caramel
E150d	Sulphite ammonia caramel

E numbers	Additives
E151	Brilliant Black BN; Black PN
E153	Vegetable carbon
E155	Brown HT
E160a	Carotenes
E160b(i)	Annatto, bixin
E160b(ii)	Annatto, norbixin
E160c	Paprika extract; Capsanthian; Capsorubin
E160d	Lycopene
E160e	Beta-apo-8'-carotenal (C30)
E161b	Lutein
E161g	Canthaxanthin
E162	Beetroot Red; Betanin
E163	Anthocyanins
E170	Calcium carbonate
E171	Titanium dioxide; not permitted for use in Northern Ireland
E172	Iron oxides and hydroxides
E173	Aluminium
E174	Silver
E175	Gold
E180	Litholrubine BK

Preservatives

E numbers	Additives
E200	Sorbic acid
E202	Potassium sorbate
E210	Benzoic acid
E211	Sodium benzoate
E212	Potassium benzoate
E213	Calcium benzoate
E214	Ethyl p-hydroxybenzoate
E215	Sodium ethyl p-hydroxybenzoate
E218	Methyl p-hydroxybenzoate
E219	Sodium methyl p-hydroxybenzoate
E220	Sulphur dioxide
E221	Sodium sulphite
E222	Sodium hydrogen sulphite
E223	Sodium metabisulphite
E224	Potassium metabisulphite
E226	Calcium sulphite
E227	Calcium hydrogen sulphite
E228	Potassium hydrogen sulphite
E234	Nisin
E235	Natamycin
E239	Hexamethylene tetramine
E242	Dimethyl dicarbonate
E243	Ethyl lauroyl arginate

E numbers	Additives
E249	Potassium nitrite
E250	Sodium nitrite
E251	Sodium nitrate
E252	Potassium nitrate
E280	Propionic acid
E281	Sodium propionate
E282	Calcium propionate
E283	Potassium propionate
E284	Boric acid
E285	Sodium tetraborate; borax
E1105	Lysozyme

Antioxidants

E numbers	Additives
E300	Ascorbic acid
E301	Sodium ascorbate
E302	Calcium ascorbate
E304	Fatty acid esters of ascorbic acid
E306	Tocopherols
E307	Alpha-tocopherol
E308	Gamma-tocopherol
E309	Delta-tocopherol
E310	Propyl gallate
E315	Erythorbic acid
E316	Sodium erythorbate
E319	Tertiary-butyl hydroquinone (TBHQ)
E320	Butylated hydroxyanisole (BHA)
E321	Butylated hydroxytoluene (BHT)
E392	Extracts of rosemary
E586	4-Hexylresorcinol

Sweeteners

Northern Ireland

E960d glucosylated steviol glycosides

The European Commission have authorised an additional steviol glycoside, E 960d glucosylated steviol glycosides, Commission Regulation (EU) No 2023/447 was published on 1 March 2023 and came into force on 20 March 2023. This regulation applies in Northern Ireland but not GB.

E numbers	Additives

E420	(i) Sorbitol
	(ii) Sorbitol syrup
E421	Mannitol
E950	Acesulfame K
E951	Aspartame
E952	Cyclamic acid and its Na and Ca salts
E953	Isomalt
E954	Saccharin and its Na, K and Ca salts
E955	Sucralose
E957	Thaumatin
E959	Neohesperidine DC
E960a	Steviol glycosides from stevia
E960b	Steviol glycosides from fermentation
E960c	Enzymatically produced steviol glycosides
E961	Neotame
E962	Salt of aspartame-acesulfame
E964	Polyglycitol syrup
E965	(i) Maltitol
	(ii) Maltitol syrup
E966	Lactitol
E967	Xylitol
E968	Erythritol
E969	Advantame

Emulsifiers, stabilisers, thickeners and gelling agents

E numbers	Additives
E322	Lecithins
E400	Alginic acid
E401	Sodium alginate
E402	Potassium alginate
E403	Ammonium alginate
E404	Calcium alginate
E405	Propane-1,2-diol alginate
E406	Agar
E407	Carrageenan
E407a	Processed eucheuma seaweed
E410	Locust bean gum; carob gum
E412	Guar gum
E413	Tragacanth
E414	Acacia gum; gum arabic
E415	Xanthan gum
E416	Karaya gum
E417	Tara gum
E418	Gellan gum
E425	Konjac
E426	Soybean hemicellulose
E427	Cassia gum

E numbers	Additives
E432	Polyoxyethylene sorbitan monolaurate; Polysorbate 20
E433	Polyoxyethylene sorbitan mono-oleate; Polysorbate 80
E434	Polyoxyethylene sorbitan monopalmitate; Polysorbate 40
E435	Polyoxyethylene sorbitan monostearate; Polysorbate 60
E436	Polyoxyethylene sorbitan tristearate; Polysorbate 65
E440	Pectins
E442	Ammonium phosphatides
E444	Sucrose acetate isobutyrate
E445	Glycerol esters of wood rosins
E460	Cellulose
E461	Methyl cellulose
E462	Ethyl cellulose
E463	Hydroxypropyl cellulose
E464	Hydroxypropyl methyl cellulose
E465	Ethyl methyl cellulose
E466	Carboxy methyl cellulose
E468	Crosslinked sodium carboxy methyl cellulose
E469	Enzymatically hydrolysed carboxy methyl cellulose
E470a	Sodium, potassium and calcium salts of fatty acids
E470b	Magnesium salts of fatty acids
E471	Mono- and diglycerides of fatty acids
E472a	Acetic acid esters of mono- and diglycerides of fatty acids
E472b	Lactic acid esters of mono- and diglycerides of fatty acids
E472c	Citric acid esters of mono- and diglycerides of fatty acids
E472d	Tartaric acid esters of mono- and diglycerides of fatty acids
E472e	Mono- and diacetyltartaric acid esters of mono- and diglycerides of fatty acids
E472f	Mixed acetic and tartaric acid esters of mono- and diglycerides of fatty acids
E473	Sucrose esters of fatty acids
E474	Sucroglycerides
E475	Polyglycerol esters of fatty acids
E476	Polyglycerol polyricinoleate
E477	Propane-1,2-diol esters of fatty acids
E479b	Thermally oxidised soya bean oil interacted with mono and diglycerides of fatty acids
E481	Sodium stearoyl-2-lactylate
E482	Calcium stearoyl-2-lactylate
E483	Stearyl tartrate
E491	Sorbitan monostearate
E492	Sorbitan tristearate
E493	Sorbitan monolaurate
E494	Sorbitan monooleate
E495	Sorbitan monopalmitate
E1103	Invertase

Others

Acid, acidity regulators, anti-caking agents, anti-foaming agents, bulking agents, carriers and carrier solvents, emulsifying salts, firming agents, flavour enhancers, flour treatment agents, foaming agents, glazing agents, humectants, modified starches, packaging gases, propellants, raising agents and sequestrants.

E numbers	Additives
E260	Acetic acid
E261	Potassium acetate
E262	Sodium acetate
E263	Calcium acetate
E270	Lactic acid
E290	Carbon dioxide
E296	Malic acid
E297	Fumaric acid
E325	Sodium lactate
E326	Potassium lactate
E327	Calcium lactate
E330	Citric acid
E331	Sodium citrates
E332	Potassium citrates
E333	Calcium citrates
E334	Tartaric acid (L-(+))
E335	Sodium tartrates
E336	Potassium tartrates
E337	Sodium potassium tartrate
E338	Phosphoric acid
E339	Sodium phosphates
E340	Potassium phosphates
E341	Calcium phosphates
E343	Magnesium phosphates
E350	Sodium malates
E351	Potassium malate
E352	Calcium malates
E353	Metatartaric acid
E354	Calcium tartrate
E355	Adipic acid
E356	Sodium adipate
E357	Potassium adipate
E363	Succinic acid
E380	Triammonium citrate
E385	Calcium disodium ethylene diamine tetra-acetate; calcium disodium EDTA
E422	Glycerol
E423	Octenyl succinic acid modified gum Arabic
E450	Diphosphates
E451	Triphosphates
E452	Polyphosphates
E459	Beta-cyclodextrin
E499	Stigmasterol-rich plant sterols
E500	Sodium carbonates
E501	Potassium carbonates

E numbers	Additives
E503	Ammonium carbonates
E504	Magnesium carbonates
E507	Hydrochloric acid
E508	Potassium chloride
E509	Calcium chloride
E511	Magnesium chloride
E512	Stannous chloride
E513	Sulphuric acid
E514	Sodium sulphates
E515	Potassium sulphates
E516	Calcium sulphate
E517	Ammonium sulphate
E520	Aluminium sulphate
E521	Aluminium sodium sulphate
E522	Aluminium potassium sulphate
E523	Aluminium ammonium sulphate
E524	Sodium hydroxide
E525	Potassium hydroxide
E526	Calcium hydroxide
E527	Ammonium hydroxide
E528	Magnesium hydroxide
E529	Calcium oxide
E530	Magnesium oxide
E535	Sodium ferrocyanide
E536	Potassium ferrocyanide
E538	Calcium ferrocyanide
E541	Sodium aluminium phosphate
E551	Silicon dioxide
E552	Calcium silicate
E553a	(i) Magnesium silicate
	(ii) Magnesium trisilicate
E553b	Talc
E554	Sodium aluminium silicate
E555	Potassium aluminium silicate
E570	Fatty acids
E574	Gluconic acid
E575	Glucono delta-lactone
E576	Sodium gluconate
E577	Potassium gluconate
E578	Calcium gluconate
E579	Ferrous gluconate
E585	Ferrous lactate
E620	Glutamic acid
E621	Monosodium glutamate
E622	Monopotassium glutamate
E623	Calcium diglutamate
E624	Monoammonium glutamate
E625	Magnesium diglutamate
E626	Guanylic acid
E627	Disodium guanylate

E numbers	Additives
E628	Dipotassium guanylate
E629	Calcium guanylate
E630	Inosinic acid
E631	Disodium inosinate
E632	Dipotassium inosinate
E633	Calcium inosinate
E634	Calcium 5'-ribonucleotides
E635	Disodium 5'-ribonucleotides
E640	Glycine and its sodium salt
E641	L-leucine
E650	Zinc acetate
E900	Dimethylpolysiloxane
E901	Beeswax, white and yellow
E902	Candelilla wax
E903	Carnauba wax
E904	Shellac
E905	Microcrystalline wax
E907	Hydrogenated Poly-1-Decene
E914	Oxidised Polyethylene wax
E920	L-Cysteine
E927b	Carbamide
E938	Argon
E939	Helium
E941	Nitrogen
E942	Nitrous oxide
E943a	Butane
E943b	Iso-butane
E944	Propane
E948	Oxygen
E949	Hydrogen
E999	Quillaia extract
E1200	Polydextrose
E1201	Polyvinylpyrrolidone
E1202	Polyvinylpolypyrrolidone
E1203	Polyvinyl alcohol
E1204	Pullulan
E1205	Basic methacrylate copolymer
E1206	Neutral methacrylate copolymer
E1207	Anionic methacrylate copolymer
E1208	Polyvinylpyrrolidone-vinyl acetate copolymer
E1209	Polyvinyl alcohol-polyethylene glycol-graft- co-polymer
E1404	Oxidised starch
E1410	Monostarch phosphate
E1412	Distarch phosphate
E1413	Phosphated distarch phosphate
E1414	Acetylated distarch phosphate
E1420	Acetylated starch
E1422	Acetylated distarch adipate
E1440	Hydroxyl propyl starch

E numbers	Additives
E1442	Hydroxy propyl distarch phosphate
E1450	Starch sodium octenyl succinate
E1451	Acetylated oxidised starch
E1452	Starch aluminium Octenyl succinate
E1505	Triethyl citrate
E1517	Glyceryl diacetate (diacetin)
E1518	Glyceryl triacetate; triacetin
E1519	Benzyl alcohol
E1520	Propan-1,2-diol; propylene glycol
E1521	Polyethylene glycol