This 'health' supplement contains no less than eight E numbers and added sucrose.

E460 and **E464** are cellulose.

E1202 is Polyvinylpolypyrrolidone. It is a disintegrant. Disintegrants expand and dissolve when wet causing the tablet to break apart in the digestive tract releasing the active ingredients for absorption.

E570 is stearic acid and can be animal or vegetable derived.

E470 is calcium stearate, a white waxy powder and lubricant often used to help release tablets from the tablet mould.

E433 is Polyoxyethylene sorbitan mono-oleate; Polysorbate 80. An emulsifier that helps binds water to fats. It is thought that a small number of people may be sensitive to this ingredient, and it may be detrimental to those suffering with Crohn's Disease.

E551 is silicon dioxide. It is used as an anti-caking / flowing agent to prevent the formation of lumps, easing packaging, transport, and consumption.

E110 is Sunset Yellow. This colourant is an azo dye, derived from aromatic hydrocarbons from petroleum. Sunset Yellow may be responsible for causing allergic reactions and hyperactivity in young children. This colour is banned in Norway and Finland and numerous calls have been made to EFSA (European Food Safety Agency) and the FDA (US Food and Drug Administration) to ban it in the Europe and the USA.

E171 is titanium dioxide. Titanium dioxide is a colourant used to give a consistent bright white to the tablet or capsule. Titanium dioxide is the white powder used to make the lines of a tennis court, such as Wimbledon.

URGENT

Check your vitamin label today

We have taken this ingredient list from a top-selling UK multivitamin, widely available in supermarkets. It is typical of the kind of multivitamin many people are spending around £5 to buy. <u>This is the actual label.</u>

INGREDIENTS per tablet:
Dicalcium Phosphate; Magnesium Oxide; Bulking agents E460, E464; Vitamin C; Potassium Chloride; Gelatin; Stabiliser E1202; Niacinamide; Vitamin E; Starch; Ferrous Fumarate; Calcium-D-Pantothenate; Sucrose; Zinc Oxide; Manganese Sulfate; Vitamin B6; Vitamin B1; Vitamin B2; Beta-Carotene; Cupric Sulfate; Vitamin A; Emulsifiers E570, E470, E433; Lutein; Modified starch; Lactose (from milk); Folic acid; Chromium Chloride; Sodium Molybdate; Potassium Iodide; Anti caking agent E551; Sodium Selenate; Biotin; Vitamin K; Vitamin D; Vitamin B12; Colourants E110, E171.

Levels/dosage of nutrients
This is an actual multivitamin picked at random from a supermarket shelf. Most of the ingredients are at, or around, 100% of the European recommended daily allowance (EU RDA). The RDAs were established to define the minimum amount of any nutrient required to prevent deficiency symptoms. The RDAs do not set the level for an optimum intake to ensure wellness and vitality. For instance, the B vitamins in this formula are set close to the RDA requirement and so will likely prevent beri beri (an ailment of the nervous system caused by Vitamin B1 deficiency), but will not be of much assistance to someone who is under stress, suffers with PMS or is low in energy / fatigued.

Vitamin A (RE) : 800µg
Lutein : 500µg
Vitamin E (α-TE) : 15mg. *Note that the Vitamin E is not described as natural (d-alpha-tocopherol), therefore it is likely to be synthetically derived and not as well utilised by the body compared to the natural form.*
Vitamin C : 100mg. *This is an unbuffered form of vitamin C and may cause stomach discomfort, though at this low dosage will have little effect at all.*
Vitamin K : 30µg
Vitamin B1 : 1.4mg
Vitamin B2 : 1.75mg
Vitamin B6 : 2mg
Vitamin B12 : 2.5mg
Vitamin D : 5µg
Biotin : 62.5µg
Folic Acid : 200µg
Niacin (NE) : 20mg
Pantothenic Acid : 7.5mg
*Calcium : 162mg
Phosphorus : 125mg. *Having too much phosphorus in the body is actually more common and worrisome than having too little. Too much phosphorus is generally caused by kidney disease or by consuming too much dietary phosphorus and not enough dietary calcium. Several studies suggest that higher intakes of phosphorus are associated with an increased risk of cardiovascular disease. As the amount of phosphorus you eat rises, so does the need for calcium. The delicate balance between calcium and phosphorus is necessary for proper bone density and prevention of osteoporosis.*
*Magnesium : 100mg
*Potassium : 40mg
Chloride : 36.3mg
*Iron : 5mg
Iodine : 100µg
*Copper : 500µg
*Manganese : 2mg
*Chromium : 40µg
*Molybdenum : 50µg
*Selenium : 30µg
*Zinc : 5mg

Presentation of minerals (chelation)
*Note that the presentation of the minerals is unclear and therefore they are unlikely to be the best absorbed or bioavailable forms. In order for minerals to be used by the body most efficiently, each mineral needs to be chelated *(key-late-ed)* or bonded to a transportation factor. Excellent transporters include citric acid, malic acid, and various amino acids. These literally bond with the mineral and allow for speedy and efficient transportation, uptake and utilisation. The word chelation is derived from the Greek word 'chele' meaning 'to claw'. An example of good chelation is iron bisglycinate, where the iron is bonded with the amino acid glycine. This bonding is thought to be five time more efficient at delivering iron to the body than iron sulphate.

WARNING
This is a genuine vitamin product currently on sale in the UK

Note that this supplement contains hidden gelatin, an animal ingredient that may be unwanted by vegetarians and vegans, or due to a religious belief. Gelatin is regularly used in tablets to help bind the tablet together.

By law, ingredients lists must be arranged by weight so the two largest ingredients in this supplement are Dicalcium phosphate and Magnesium oxide. Dicalcium phosphate is a low price form of calcium presented with phosphorus often used in cheaper supplements and in prescribed drugs as it also works to help create the tablet.

Magnesium oxide is not a well-utilised form of magnesium compared to magnesium citrate. A study in the *Journal of the American College of Nutrition* reported on a direct comparison between the two forms of magnesium and found that magnesium oxide was less absorbed and had low bioavailability by a significant factor.

EXPERT VIEW
"None of the additives in this supplement are necessary for the manufacture of multivitamins and minerals. They are used to speed up and cut the manufacturing cost. A number of these additives are unhealthy. Additionally, the dosages in this supplement are insufficient to meet optimum needs. Overall, this supplement is, in our view, a waste of money."

Experts provided by Viridian Nutrition, the leading name in ethical nutrition.