

CLEAN living' is a questionable trend sweeping the beauty, food and drink industries based on the idea that products should be as 'natural' as possible.

And, despite concerns that it could be potentially harmful both physically (as some people cut out whole food groups, for instance) and psychologically (setting up unattainable ideas of perfection), it has now reached the lucrative supplements market.

More and more companies are launching so-called 'clean' vitamins, manufactured without any artificial additives, sugar or sweeteners, colourings or preservatives.

These ranges are sold on the promise they contain natural, minimally processed and transparently-labelled ingredients, without burdening the body with potentially toxic extras. The makers claim they rely instead on natural preservatives and organic ingredients.

Inevitably, this comes at a price. For example, a Clean Multi-Vitamin Stack (four capsules a day) from *british-supplements.net* costs £48.60 for a month's supply, a simple 'clean' multivitamin costs £22 from *ethical-nutrition.com* and £18.99 from *cleansupplements.uk* for the same amount — compared to 89p for 30 multivitamin tablets from Boots.

But do 'clean vitamins' offer a genuine advantage?

As well as their active ingredients, most mainstream supplements contain 'excipients' — such as anti-caking agents (silicon dioxide, magnesium stearate or stearic acid). These help sticky or porous ingredients slide over each other more easily during production to avoid clogging the manufacturing machinery.

They'll also contain binders

Is it worth paying £48 a month for 'clean' vitamins?



By **LOUISE ATKINSON**

(which glue the ingredients together); fillers such as lactose (milk sugar) to create bulk in a tablet when the dose of the ingredient is particularly small; preservatives, a coating or casing to protect the tablet from moisture, light and oxygen; and colouring agents to make it appealing and help prevent deterioration caused by exposure to light.

Some, such as popular chewable 'gummy' versions, will also contain sugar and/or artificial sweeteners.

For a supplement to be sold in the UK, these excipients must be

approved for use and of pharmaceutical grade.

'Many of these inclusions do actually enhance the stability and effectiveness of a product,' says pharmacist Aidan Goggins, an independent adviser to the supplements industry.

And removing them could be a problem, he warns, citing the 'enteric coating' as an example.

This protects ingredients from dissolving in the acidic environment of the stomach, so they're released lower down the intestinal tract and absorbed properly.

Some 'clean' brands claim their natural formulations have superior absorption as they're closer to the nutrients found in 'real food'.

Certain 'clean' turmeric supplements, for example, contain piperine (extracted from black pepper) to enhance absorption.

But according to Goggins, this is 'first generation absorption technology', now largely eclipsed by high-tech chemical formulations in some modern 'un-clean' supplements. These include liposomal delivery systems, which use fatty compounds to protect nutrients from stomach acid.

In addition, he adds, preservatives protect consumers from ingesting something potentially harmful (such as rancid fish oils).

He also says that research doesn't support a long-held concern that a common excipient, magnesium stearate, (added as a 'flow agent') affects immunity and reduces nutrient absorption.

But with additives such as binders and fillers used in mainstream supplements, the picture is not clear, suggests Goggins. 'There are safe limits for daily intakes,' he

says. 'But long-term use is not something that's been adequately studied, so while we have no idea of effect, you might not want to risk cumulative exposure from ingestion long term.'

Meanwhile, phthalates — chemicals added to make tablet coatings durable — have been shown to interfere with the body's hormone regulation system.

But the quantities used in supplements are 'minuscule', according to Goggins.

So do we really need to switch to more expensive 'clean' vitamins instead?

According to Dr Alex Richardson, an Oxford University researcher who founded the charity FABresearch to investigate possible links between food and children's behaviour, 'the quantities of artificial additives anyone is likely to get from supplements is likely to be fairly small compared with what most people are already consuming from ultra-processed food (UPFs) and drinks.'

'But some individuals are more sensitive to their effects, so even the amounts found in supplements can cause problems for vulnerable individuals.'

She adds that evidence suggests those with behavioural or learning problems — such as attention deficit hyperactivity disorder — as well as 'many' people who have food allergies and intolerances, may be more sensitive to artificial additives.

Other studies show artificial food colourings can affect children's behaviour and attention.

Dr Richardson argues that real food is 'always' the best source of nutrients but adds: 'It makes sense for everyone to minimise their chemical load, and if you're one of the "super-sensitive" individuals (adult or child) the imperative becomes stronger.'