

PATENT FILE

Czech Republic (19) INDUSTRIAL PROPERTY OFFICE

(21) Application number: 2511-93

(22) Filed: 23 Nov 1993

(40) Published: 14 June 1995

(47) Patent awarded: 11 Sept 1996

(24) Patent award announced in Bulletin: 13 Nov 1996

(11) File No.: **281 571**

(13) Int. Cl.⁶:

A 23 L 1/29

A 23 L 1/302

A 23 L 1/304

A 61 K 31/685

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(54) Invention title:

Lecithin-based dietetic and preventative preparation

(57) Remark:

The lecithin-based dietetic and preventative preparation contains 75.05 percent by weight of powdered lecithin or equivalent quantity of raw liquid lecithin, 16.81 percent by weight of alkaline magnesium carbonate, 7.49 percent by weight of calcium carbonate, 0.65 percent by weight of zinc sulphate heptahydrate. The enriched packaging of the product also contains 0.015 to 0.030 percent by weight of vitamin A, 0.075 to 0.15 percent by weight of vitamin B6, 6 to 12 percent by weight of vitamin C, and 1.1 to 2.2 percent by weight of vitamin E. The vitamins can be replaced with 7.07 to 14.23 percent by weight of wheat germs and/or 7.1 to 14.37 percent by weight of crushed dried apples.

Lecithin-based dietetic and preventative preparation

Technique

The invention regards a lecithin-based dietetic and preventative preparation, whose acting on the organism is a result of a synergy between lecithin and biogenic elements.

Technique Development

The first attempts to treat sclerotic damage to the brain with lecithin appeared in 1980s. Scientific studies had been conducted both in the Czech Republic and abroad. The results of such studies indicated that advanced sclerosis of brain tissue required considerably high doses of lecithin of 20 to 50 g a day in order to achieve a therapeutic effect. Lecithin is broken down in the body by the enzyme cholinesterase. Therefore, various combinations of lecithin with cholinesterase inhibitors appeared (7-methoxyakrin, physostigmine).

In recent years, the gravity of brain tissue sclerosis increases significantly. Majority of these disorders is diagnosed as the Alzheimer's disease. It is the most common form of social dementia, affecting population above 60 years of age. The disease initially manifests by memory lapses, followed by gradual deterioration of mental powers and emotional disorders, and often culminated in death of the patient. The disease remains incurable, and prevention has been the only available approach.

Preventive treatment is a long-term affair and requires the patient to take high doses of 30 to 50 g of lecithin per day, making such treatment expensive. Low doses, as present in common nutritional supplements, as a mere dietetic and emulsifying effects. The effects of such supplements in the prevention of sclerotic damage to the brain in general, and the Alzheimer's disease in particular, are limited.

The above shortcomings are significantly reduced by the addition of biogenic elements calcium, magnesium, zinc, and vitamins A, B6, C and E to pure lecithin.

The above compound acts in synergy, increases the efficacy of lecithin and extends the period of acting on the organism. It is therefore not only a preventative measure, but acts positively on changes in the brain tissue suffering advanced damage, such as in the case of the Alzheimer's disease.

Acting Principle of Invention

The invention constitutes a lecithin-based dietetic and preventative preparation, containing 75.05 percent by weight of powdered lecithin or equivalent quantity of raw liquid lecithin, 16.81 percent by weight of alkaline magnesium carbonate, 7.49 percent by weight of calcium carbonate, 0.65 percent by weight of zinc sulphate heptahydrate. The above combination of components and ratios achieves a synergic effect. The enriched packaging of the product also contains 0.015 to 0.030 percent by weight of vitamin A, 0.075 to 0.15 percent by weight of vitamin B6, 6 to 12 percent by weight of vitamin C, and 1.1 to 2.2 percent by weight of

vitamin E. The vitamins can be replaced with 7.07 to 14.23 percent by weight of wheat germs and/or 7.1 to 14.37 percent by weight of crushed dried apples.

The preparation can be used in many other food products, such as biscuits, chocolate, various pastries, dairy products (cheeses, yoghurts) as well as meat products. For purely medicinal use, the preparation is best modified into granular form. Sensory qualities can be improved by addition of common food additives, such as aromas, sweeteners, etc., in particular chocolate, dried milk, cocoa, sorbitol, hardened fats.

Processing Examples

Example 1

A mixer was progressively filled with 189.12 kg pure powdered lecithin or 378.24 kg raw liquid lecithin, 42.38 kg of alkaline magnesium carbonate (CSL 4), 18.80 kg of calcium carbonate, and 1.63 kg of zinc sulphate heptahydrate (CSL 4). The resulting compound was mixed thoroughly.

Example 2

A mixer was filled with 94.006 kg pure powdered lecithin or 189.12 kg raw liquid lecithin, 21.18 kg of alkaline magnesium carbonate, 9.4 kg of calcium carbonate, and 0.81 kg of zinc sulphate heptahydrate. Subsequent procedure was same as in Example 1 above.

Example 3

The procedure is the same as for Example 1, with extra supplementation of 0.038 kg of vitamin A, 0.19 kg of vitamin B6, 15.13 kg of vitamin C, and 2.77 kg of vitamin E. alternatively, the vitamins may be replaced with 17.83 kg of wheat germs or 18 kg of dried crushed apples.

Example 4

The procedure is the same as for Example 2, with extra supplementation of 0.038 kg of vitamin A, 0.19 kg of vitamin B6, 15.13 kg of vitamin C, and 2.7 kg of vitamin E. alternatively, the vitamins may be replaced with 17.83 kg of wheat germs or 18 kg of dried crushed apples.

Example 5

A mixture of 15.01 kg of pure powdered lecithin, 3.36 kg alkaline magnesium carbonate, 1.49 kg of calcium carbonate, 0.13 kg zinc sulphate heptahydrate, 5 kg of dried crushed apples, and 2.5 litres of water are mixed into a homogenous substance that is pressed through a power mincer. The resulting bars are dried at 60 °C and passed through a 2 mm sieve to create the desired granules.

PATENT CLAIMS

1. Lecithin-based dietetic and preventative preparation containing 75.05 percent by weight of powdered lecithin or equivalent quantity of raw liquid lecithin, 16.81 percent by weight of alkaline magnesium carbonate, 7.49 percent by weight of calcium carbonate, 0.65 percent by weight of zinc sulphate heptahydrate.
2. Dietetic and preventative preparation as per claim 1 above, enriched with 0.015 to 0.030 percent by weight of vitamin A, 0.075 to 0.15 percent by weight of vitamin B6, 6 to 12 percent by weight of vitamin C, and 1.1 to 2.2 percent by weight of vitamin E.
3. Dietetic and preventative preparation as per claim 1 above, enriched with 7.07 to 14.23 percent by weight of wheat germs.
4. Dietetic and preventative preparation as per claim 1 or 3 above, enriched with 7.1 to 14.37 percent by weight of crushed dried apples.

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