US005221545A

United States Patent [19]

Borschel et al.

[11] Patent Number: 5,221,545

[45] Date of Patent: Jun. 22, 1993

[54] METHOD OF PROVIDING SELENIUM IN A NUTRITIONAL PRODUCT

[75] Inventors: **Marlene W. Borschel**, Worthington; **Helen R. Churella; Benita C. Yao**, both of Columbus; **Bogdan K. Kedzierski**, Upper Arlington, all of Ohio

[73] Assignee: **Abbott Laboratories**, Abbott Park, Ill.

[21] Appl. No.: **848,639**

[22] Filed: **Mar. 9, 1992**

[51] **Int. Cl.**[5] **A23L 1/304**

[52] **U.S. Cl.** **426/74**; 426/806

[58] **Field of Search** 426/74, 806

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,454,162	6/1984	Schanze	426/807
4,737,364	4/1988	Kalogris	426/804
4,871,550	10/1989	Millman	426/74
4,915,962	4/1990	Howard	426/74
4,990,344	2/1991	Euber	426/801
5,013,569	5/1991	Rubin	426/801
5,030,657	7/1991	Burtle	426/805
5,079,018	1/1992	Ecanow	426/385
5,085,883	2/1992	Garleb	426/573
5,104,676	4/1992	Mahmoud	426/482

OTHER PUBLICATIONS

"Possible Stability Problem with Selenium Premixes", Groce, et al., *Journal of Animal Science,* 33, 1149 (1971).

"The Stability of Inorganic Selenium in Premixes", Olson, et al. *Poultry Science,* 53, 403 (1973).

"Selenium Stability in TPN Solutions", Shils, et al. *The American Journal of Clinical Nurtrition,* 35, 829 (1982).

"The Importance of Selenium in Total Parenteral Nutrition", Levander, *Bulletin New York Academy of Medicine,* 50, 144 (1984).

"Comparative Effect of Selenate and Selenite on Serum Selenium Concentration and Glutathione Peroxidase Activity in Selenium—Depleted Rats" Korpela, *Annals of Nutrition & Metabolism,* 32, 347 (1988).

Postaire, et al., *International Journal of Pharmaceuticals,* 55, 99 (1989).

"Chemical Stability of Selenious Acid in Total Parenteral Nutrition Solutions Containing Ascorbic Acid", Ganther, et al., *Journal of Parenteral and Enteral Nutrition, 13, 185 (1989).*

Primary Examiner—Carolyn Paden

Attorney, Agent, or Firm—Lonnie R. Drayer; Donald O. Nickey

[57] **ABSTRACT**

Selenium is provided in a nutritional product by incorporating selenate into a premix with an zinc and/or copper (II) salt which is water soluble and then combining the premix with a source of nutrition to form a nutritional product.

10 Claims, No Drawings