



DEPARTMENT OF HEALTH & HUMAN SERVICES
FOOD AND DRUG ADMINISTRATION

Public Health Service

Memorandum


JAN 15 1999

2892 '99 JAN 19 P1:58

Date
From Senior Regulatory Scientist, Regulatory Branch, Division of Programs & Enforcement Policy (DPEP), Office of Special Nutritionals, HFS-456
Subject 75-day Premarket Notification for New Dietary Ingredient
To Dockets Management Branch, HFA-305

New Dietary Ingredient: (-)-hydroxycitric acid
Firm: HIOB Ireland, Ltd. for Penby Ltd.
Date Received by FDA: November 3, 1998
90-day Date: January 31, 1999

In accordance with the requirements of section 413(a)(2) of the Federal Food, Drug, and Cosmetic Act, the attached 75-day premarket notification for the aforementioned new dietary ingredient should be placed on public display in docket number 95S-0316 after January 31, 1999.


Robert J. Moore, Ph.D.

95S-0316

RPT35



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
Washington, DC 20204

JAN 15 1999 2 8 9 3 '99 JAN 19 11 58

Mr. Kevin D. Haig
HOB Ireland Ltd.
26, Upper Pembroke Street
Dublin 2, Ireland

Dear Mr. Haig:

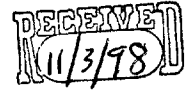
This is to notify you that your submission pursuant to 21 U.S.C. 350b(a)(2) (section 413(a)(2) of the Federal Food, Drug, and Cosmetic Act (the Act)) dated October 28, 1998, concerning the marketing of a substance that you assert is a new dietary ingredient (i.e., (-)-hydroxycitric acid) was received by the Food and Drug Administration (FDA) on November 3, 1998. Your submission will be kept confidential for 90 days from the date of receipt, and after January 31, 1999, your submission will be placed on public display at Dockets Management Branch (Docket No. 95S-0316). Commercial and confidential information in the notification will not be made available to the public.

Please contact us if you have questions concerning this matter.

Sincerely,

Robert J. Moore, Ph.D.
Senior Regulatory Scientist
Division of Programs and Enforcement Policy
Office of Special Nutritionals

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PREMARKET NOTIFICATION

**SYNTHETICALLY PRODUCED HYDROXYCITRIC
ACID**

SUBMITTED BY

**HANS OLAV BJORNENAK
PEMBY LIMITED
C/o HOB IRELAND LIMITED
26 UPPER PEMBROKE STREET
DUBLIN 2
IRELAND**

OCTOBER 1988

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10. Additional material.

1. NAME AND ADDRESS OF DISTRIBUTOR AND CURRENT MANUFACTURER

Distributor:

Pemby Limited
C/o HOB Ireland Limited
26 Upper Pembroke Street
DUBLIN 2
IRELAND

Tel: ++353 1662 0555
Fax: ++353 1662 4840
E-mail: hob@indigo.ie

GMP Manufacturer:

C. B. Contract Chemicals Limited
Cod Beck Estate
Dalton
THIRSK
North Yorkshire
YO7 3HR
United Kingdom

GMP Capsuler/packager

Ryder Pharmaceuticals PLC
Taylors Lane Industrial Estate
Pilling
Near Preston
Lancashire
PR3 6AB
United Kingdom

Negotiations are also currently underway with 3 GMP manufacturers in the USA
– details available on signature of manufacturing contracts.

2. NAME AND IDENTITY OF NEW DIETARY INGREDIENT

Chemical Name: (2S,3S) – 2 – Hydroxycitric Acid

Other Name: (-) – Hydroxycitric Acid

Common Name: (-) HCA

(See also (-) – Hydroxycitric Acid – The Principal Acid in the fruits of *Garcinia Cambogia* Desr., Lewis and Neelakantan, Central food Technological research Institute, Mysore, India, March 1964)–(**Appendix A**)

3. DESCRIPTION OF THE PRODUCTS CONTAINING SYNTHETICALLY PRODUCED HCA

A) Tablets

500mg pressed tablets, containing 500mg (-)HCA. To be sold in containers of 90 capsules.

To be branded as REGULATOR (-)HCA TABLETS

Conditions of use: (See **Appendix B** for toxicology research)

As a food supplement for adults, 1 tablet ½ - 1 hour before meals to a maximum of three tablets per day. Do not use if you are pregnant or breastfeeding. Not suitable for use by children under the age of 15.

B) Powder

(-)HCA powder, containing 100% (-)HCA. To be sold in "shaker" containers holding 50g of (-)HCA powder.

To be branded as REGULATOR (-)HCA

Conditions of use:

As a food supplement for adults, sprinkle a small quantity (1/2 tsp.) of Regulator HCA over food. May also be used directly in cooking. Do not use if you are pregnant or breastfeeding. Do not use in food to be consumed by children.

4. HISTORY OF USE / SAFETY EVIDENCE

(See also appendices A and B)

Garcinia Cambogia is one of several closely related *Garcinia* species from the plant family known as Guttiferae. With a thin skin and deep vertical lobes, the fruit of *Garcinia Cambogia* is about the size of an orange, but looks more like a small yellowish or reddish pumpkin. When the rinds are dried and cured in preparation for storage and extraction, they are dark brown in colour. Another member of the family, *Garcinia mangostana*, is cultivated specifically for its fruit and is not a source of HCA. These *Garcinia* species are native to Southeast Asia and are usually wild-crafted, although they are cultivated in some areas.

HCA is primarily found in the rind of *Garcinia Cambogia*, where 10 to (rarely) 30% of the weight of the dried rind is HCA. This acid occurs in nature almost entirely in the form of its lactone, which has a chemical structure and physiologic effects which are different from those of the free acid.

Along the West coast of Southern India *Garcinia Cambogia* is known as "Goroka" or "Kattcha puli" (souring fruit). It is employed commercially in fish curing, especially in Sri Lanka (Colombo curing), and various species of *Garcinia* are used similarly in food preparation in Thailand, Malaysia and Burma. *Garcinia Cambogia* is used primarily in cooking, including in the preparation of curries. The fruit rind and extracts of the *Garcinia* species are called for in many traditional recipes. In the Indian Ayurvedic healing system, "sour" flavours are said to activate digestion. In the areas in which it is consumed, *Garcinia Cambogia* is considered to be effective in making meals "more filling". Aside from its use in food preparation and preservation, extracts of *Garcinia Cambogia* are sometimes used as purgatives in the treatment of intestinal worms and other parasites, for tumours, for dysentery and in the treatment of bilious digestive conditions.

Cloutare, Dallas and Michael E. Rosenbaum (1994) **The Diet and Health Benefits of HCA (Hydroxycitric Acid)** (New Canaan, CT: Keats Publishing Inc., 1994).

i) GARCINIA CAMBOGIA HAS A HISTORY OF COMMON USE AS A FOOD

Observational Study:

"The acid rinds of the ripe fruit are eaten, and in Ceylon are dried, and eaten as a condiment in curries."

Drury, Heber (1873) **The Useful Plants of India**, second edition (London: William H. Allen & Co., 1873) 220

Observational Study:

"Fruits are edible, but too acidic, also pickled; rind used as a condiment. Seeds yield an edible fat...A decoction of rind is given in rheumatism and bowel complaints."

Publications and Information Directorate, Council of scientific and Industrial Research (1986) **The Useful Plants of India** (New Delhi: Publications and Information Directorate, 1986) 229.

Observational Study:

"Fruit yellowish or reddish, size of an orange having six or eight deep longitudinal grooves in its fleshy pericarp. Pulp acid is of a pleasant flavour. It is dried among the Singalese who use it in curries."

Uphof, J.C. Th. (1968) *Garcinia Cambogia* Desrouss. **Dictionary of Economic Plants**, second edition. (New York: Verlag von J. Kramer, 1968) 237.

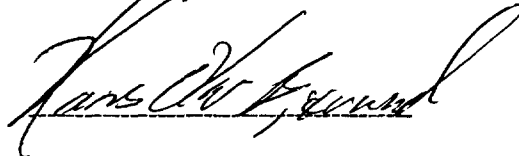
ii) SYNTHETICALLY PRODUCED HCA

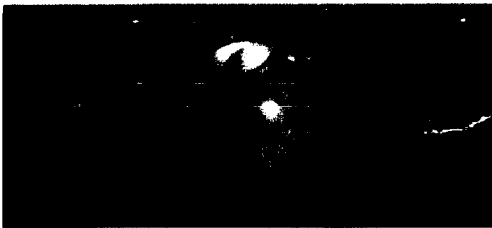
The similarities between the synthetic development of citric acid and hydroxycitric acid are striking, with citric acid now being almost exclusively produced synthetically. Synthetically produced HCA gives a product that is chemically and structurally identical to the substance found in nature, although contrary to the "natural" product, synthetically produced HCA contains only 100% HCA. All manufacturers involved in the process are manufacturing the product to GMP standards, and this is also a requirement for any prospective manufacturers.

Since the synthetically produced product is chemically and structurally identical to its naturally occurring counterpart, and since the GMP standards for manufacture are enforced, it is fair to assume that the synthetic product will perform in exactly the same way as the naturally-occurring substance. For detailed information on the basic mechanisms of action, including appetite suppression, **please see Appendix C**. For further information on Quality control methodology **please see Appendix D**.

5. DESIGNATED SIGNATORY

Hans Olay Bjornenak

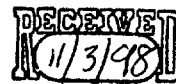
A handwritten signature in black ink, appearing to read "Hans Olay Bjornenak", written over a horizontal dashed line.



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Business Reg. No: 239913

11/3/98 11:28 62083

Office of Special Nutritionals (HFS-450)
Center for Food Safety and applied Nutrition
Food and Drug Administration
200 C St. SW.
Washington
DC 20204



28 October 1998

**RE: PREMARKET NOTIFICATION OF SYNTHETICALLY MADE
HYDROXYCITRIC ACID.**

To whom it may concern,

We hereby enclose documentation concerning the premarket notification of synthetically made Hydroxycitric Acid. We have arranged the information as required, and also included a number of appendices containing more detailed Information and research articles. We hope that this meets your requirements and look forward to receiving notification of receipt.

Yours faithfully,

Kevin D. Haig
For HOB Ireland Limited