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## Expertise

Examination of the Product

"CHD-FA (Carbo Hydrate Derived Fulvic Acid)"

Concentration: 1,0% in water

by Human Patch Test (Cosmetic Trial)

*Sponsor*  
Secuvie AB  
Ljusteriigatan 14  
116 42 Stockholm  
Sweden

*Performing Laboratory*  
Derma Consult GmbH  
Brunnenstr. 61  
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### Study Details

*Type of study*.....: Determination of irritating effects to the skin with an occlusive patch test.  
*Study Period* .....: March 2008  
*Study Director* ....: Dr. med. H.Prieur  
*Test subjects* .....: 49 (19-62 years; sex distribution non-standardized)  
20 normal healthy, 14 eczema, 4 allergy and 11 subjects with sensitive skin  
*Test site*.....: Back  
*Concentration*.....: 1,0% in water  
*Controls*.....: SDS (1% in water), water

### Summary Results

All participants completed the study. Under the test conditions, SDS (1% in water) caused positive reactions in 13 subjects. The negative control water showed no reactions. None of the subjects showed any reaction to the test product. On the basis of the test results and under the test conditions, the product

"CHD-FA (Carbo Hydrate Derived Fulvic Acid)"

is to be classified as 'harmless' as regards the possibility of skin irritation.

Signature:

Dr. med. I.-I. Prieur  
Dermatologist - Allergist

Signature:

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Chemist - Ph.D.

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## **Methodology**

### ***Introduction***

The epicutaneous patch test allows us to assess the primary skin irritation potential of cosmetic-finished products and raw materials.

### ***Description***

All the work described in this expertise was conducted in accordance with the guidelines by COLIPA (Walker A.P. et al: Test Guidelines for Assessment of Skin Compatibility of Cosmetic Finished Products in Man. Food and Chemical Toxicology 34, 1996, 651-660). Because it was a study with humans, it was carried out in accordance with the Declaration of Helsinki (1964) and subsequent revisions.

Experiments were carried out on 49 volunteers (20 normal healthy subjects, 14 eczema patients, 4 allergy patients, 11 subjects with sensitive skin) between the ages of 19 to 62. Sex distribution was not standardized. The volunteers were clearly informed, verbally and in writing, regarding the nature of the study, the timetable, constraints and possible risks. They gave their written informed consent before participating in the study.

Participants could withdraw from the study at any time without giving reason. During the test period, the subjects refrained from using other substances on the test areas.

### ***Inclusion criteria***

- informed volunteers
- age ≥ 18 years

### ***Exclusion criteria***

- pregnant or lactating women
- blemishes or marks (tattoos, sunburn) which interfere with scoring
- any skin disease that may interfere with the aim of the study

### ***Procedure***

The product was applied in a concentration as outlined above in square test-chambers (Haye's Test Chambers; HAL Allergie GmbH, Düsseldorf) to the backs of the panellists for a period of 48 hours. Proper adherence of the test patches was assured by the inclusion of sodium dodecyl sulphate (SDS) in one concentration (1%) as positive control. Water was used as a negative control.

The treatment sites were assessed for the presence of irritation by a trained evaluator using a 5 point visual scoring scale at 48 h (30 min after patch removal) and 72 h after patch application.

### ***Scoring scale***

<u>Erythema</u>	0: no E., 1: slight E., 2: significant E., 3: pronounced E., 4: strong E.
<u>Fissure</u>	0: no F., 1: minimal F., 2: significantly perceptible F., 3: pronounced F., 4: ulceration
<u>Scaling</u>	0: no Sc., 1: minimal Sc., 2: moderate Sc., 3: significant Sc., 4: closed scale crust

### **Results**

The test results outlining the data for erythema, scaling and fissure formation on a per subject base for the test product are attached in tabulated form.

### **Literature**

*J.E. Wahlberg:*  
"Patch Testing" in  
R.J.G. Rycroft, T. Menne, P.J. Frosch und J.-P. Lepoittevin (eds.),  
Textbook of Contact Dermatitis  
Springer-Verlag, Berlin (2001), p. 435-468

***Appendix:*** test protocol

No.	Type	after 48 h			after 72 h		
		E	F	S	E	F	S
1	A	0	0	0	0	0	0
2	S	0	0	0	0	0	0
3		0	0	0	0	0	0
4	E	0	0	0	0	0	0
5	S	0	0	0	0	0	0
6	E	0	0	0	0	0	0
7		0	0	0	0	0	0
8		0	0	0	0	0	0
9	S	0	0	0	0	0	0
10	E	0	0	0	0	0	0
11		0	0	0	0	0	0
12		0	0	0	0	0	0
13	S	0	0	0	0	0	0
14		0	0	0	0	0	0
15		0	0	0	0	0	0
16	A	0	0	0	0	0	0
17	E	0	0	0	0	0	0
18		0	0	0	0	0	0
19		0	0	0	0	0	0
20	E	0	0	0	0	0	0
21		0	0	0	0	0	0
22		0	0	0	0	0	0
23	A	0	0	0	0	0	0
24	A	0	0	0	0	0	0
25		0	0	0	0	0	0
26	S	0	0	0	0	0	0
27	S	0	0	0	0	0	0
28	S	0	0	0	0	0	0
29		0	0	0	0	0	0
30	S	0	0	0	0	0	0
31	E	0	0	0	0	0	0
32	E	0	0	0	0	0	0
33		0	0	0	0	0	0
34	E	0	0	0	0	0	0
35		0	0	0	0	0	0
36	S	0	0	0	0	0	0
37	E	0	0	0	0	0	0
38		0	0	0	0	0	0
39	S	0	0	0	0	0	0
40		0	0	0	0	0	0
41		0	0	0	0	0	0
42	E	0	0	0	0	0	0
43	S	0	0	0	0	0	0
44		0	0	0	0	0	0
45	E	0	0	0	0	0	0
46	E	0	0	0	0	0	0
47	S	0	0	0	0	0	0
48	S	0	0	0	0	0	0
49	E	0	0	0	0	0	0
50	E	0	0	0	0	0	0
		0,0	0,0	0,0	0,0	0,0	0,0

Erythema (E): no E.: 0, slight E.: 1, clear E.: 2, severe E.: 3, very severe E.: 4  
 Fissures (F): no F.: 0, minimal F.: 1, clearly visible F.: 2, distinct F.: 3, ulceration: 4  
 Scales (S): no S.: 0, minimal S.: 1, clearly visible S.: 2, moderate S.: 3, distinct S.: 4

S: subjects with sensitive skin  
 E: patients with eczema  
 A: patients with allergy