EUROPEAN COMMISSION
HEALTH & CONSUMER PROTECTION DIRECTORATE-GENERAL

Directorate C - Public Health and Risk Assessment
C7 - Risk assessment

SCIENTIFIC COMMITTEE ON CONSUMER PRODUCTS

SCCP

Opinion on

Sclareol

(sensitisation only)

Adopted by the SCCP
during the 7th plenary meeting of 28 March 2006

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1. BACKGROUND

During the 18th Plenary meeting of 25 September 2001, the Scientific Committee on Cosmetic Products and Non-Food Products intended for the Consumer (SCCNFP) adopted an opinion on an initial list of perfumery materials to be included in Annex III - List of substances which cosmetic products must not contain except subject to restrictions and conditions laid down - to Directive 76/768/EEC (doc. n° SCCNFP/0392/00 final).

The SCCNFP adopted its first update of the "Initial List of Perfumery Materials which must not form part of Cosmetic Products except subject to the restrictions and conditions laid down" during the 26th plenary meeting of 9 December 2003 (doc. N° SCCNFP/0770/03). For further evaluation of fragrance ingredients the SCCNFP asked for additional information.

The European Flavour & Fragrance Association informed the Commission of the recently submitted information on Sclareol.

2. TERMS OF REFERENCE

1. *On the basis of currently available information, the SCCP is asked to assess the risk to consumers when sclareol is present in cosmetic products, and if necessary, to revise the maximum concentration in fragrances used in cosmetic products considering the concentration limits or other restrictions suggested by industry.*

2. *And/or does the SCCP recommend any further restrictions with regard to the presence of sclareol as an ingredient of fragrances used in cosmetic products?*

3. OPINION

3.1. Chemical and Physical Specifications

3.1.1. Chemical identity

3.1.1.1. Primary name and/or INCI name

Sclareol

3.1.1.2. Chemical names

[1R-(1α)]-α-Ethenyldecahydro-2-hydroxy-a,2,5,5,8a-pentamethyl-1-naphthalenepropanol;
[1R-[1α(R*),2β,4aβ,8aα]]-2-hydroxy-α,2,5,5,8a-pentamethyl-α-vinyldecahydronaphthalene-1-propan-1-ol

3.1.1.3. Trade names and abbreviations

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3.1.1.4.	CAS / EINECS number

CAS : 515-03-7
EINECS : 208-194-0

3.1.1.5.	Structural formula

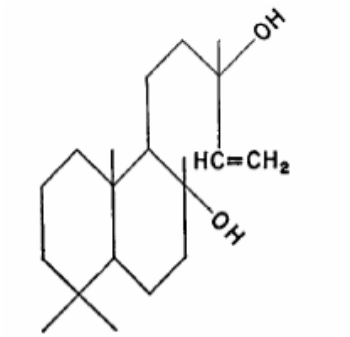

FIG. 1

3.1.1.6.	Empirical formula

Formula : $C_{20}H_{36}O_2$

3.1.2.	Physical form

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3.1.3.	Molecular weight

Molecular weight : 308.51

3.1.4.	Purity, composition and substance codes

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3.1.5.	Impurities / accompanying contaminants

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3.1.6.	Solubility

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3.1.7.	Partition coefficient (Log P_{ow})

Log P_{ow} : /

3.1.8.	Additional physical and chemical specifications

Organoleptic properties

Melting point	:	restriction: minimum melting point 96°C
Boiling point	:	/
Flash point	:	/
Vapour pressure	:	/
Density	:	/
Viscosity	:	/
pKa	:	/
Refractive index	:	/

3.2. Function and uses

Sclareol is the main component in the concrete, obtained by solvent extraction of *Salvia sclarea* L. Leaves (Clary Sage).

3.3. Toxicological Evaluation

3.3.1.	Acute toxicity

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3.3.2.	Irritation and corrosivity

3.3.2.1.	Skin irritation

See 3.3.11. Human data

3.3.2.2.	Mucous membrane irritation

See 3.3.11. Human data

3.3.3.	Skin sensitisation

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3.3.4.	Dermal / percutaneous absorption

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3.3.5. Repeated dose toxicity

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3.3.6. Mutagenicity / Genotoxicity

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3.3.7. Carcinogenicity

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3.3.8. Reproductive toxicity

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3.3.9. Toxicokinetics

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3.3.10. Photo-induced toxicity

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3.3.11. Human data

Several human maximisation procedures were performed in 1979, 1981 and 1986 on several batches of sclareol. The materials were pre-tested on five subjects in order to determine whether SLS pre-treatment was required; no subject had any irritation from sclareol and so SLS pre-treatment was used. Applications were made under occlusion to the same sites on volar forearms for five alternate days, 48 hours periods. Following a ten days rest period, challenge was applied under occlusion on a fresh site, preceded by one hour application of 10% SLS under occlusion. The challenge sites were read on removal of the patch and 24 hours thereafter. Various batches of sclareol were tested which are listed below with their RIFM number. In none of these papers, the concentration used is given but information from elsewhere (J. Environmental Pathology and Toxicology 3:235-245; 1980) suggests that the sensitisation and challenge concentrations were 20%.

RIFM N°	N° Subjects	N° positive	conclusion
78-10-97	37	1 dubious	to be retested
78-10-97-R	29	2 + 2 dubious	to be retested
80-10-91-R (2)	25	0	not sensitiser
1140-85-10	28	0	not sensitiser

Ref.: 1, 2, 3, 6

There are two "Repeated insult patch test" studies from 1975 exploring both irritation and sensitisation.

Study 1
Concentration tested 3% in alcohol; 44 panellists, 35 completed the study; there was no irritation and/or sensitisation.

Ref.: 4

Study 2
Concentration 3% in petrolatum; 45 panellists, 39 completed the study; there was no irritation and/or sensitisation

Ref.: 5

3.3.12.	Special investigations

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3.3.13.	Safety evaluation (including calculation of the MoS)

CALCULATION OF THE MARGIN OF SAFETY

Not applicable

3.3.14.	Discussion

The submitted information is old with studies being largely performed during the 1970s. The methods used to assess the sensitising potential of sclareol are unacceptable; human maximisation testing is considered unethical.

Several batches of sclareol of unknown purity were tested.

4. CONCLUSION

The SCCP is of the opinion that the information submitted is inadequate to assess the safe use of the substance.

Before any further consideration, the following information is required:

- Characterisation of the test substance; clarification on purity and impurities.
- Data on sensitisation conforming to modern standards and guidelines.
- Appropriate information on all relevant toxicological endpoints as required to assess the safe use of the substance when used in cosmetic products.

5. MINORITY OPINION

Not applicable

6. REFERENCES

1. Epstein W.L., to determine to sensitising potential of sclareol. 1979. Ref. 1697
2. Epstein W.L., to determine to sensitising potential of sclareol. 1981. Ref. 1792
3. Epstein W.L., to determine to sensitising potential of sclareol. 1986. Ref. 3100
4. Majors P.A., Ison A. repeated insult patch test. Project n° 75-036-72. Hill Top Research. 1975. Ref. 45024
5. Majors P.A., Ison A. repeated insult patch test. Project n° 75-037-70. Hill Top Research. 1975. Ref. 45025
6. Marzulli F.N., Maibach H.I. Contact allergy: predictive testing of fragrance ingredients in humans by Draize and maximisation methods. Journal of Environmental Pathology and Toxicology; 3:235-245. 1980. Ref. 2248

7. ACKNOWLEDGEMENTS

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