# Treemoss Extracts

**CAS N°:** 90028-67-4 = Evernia furfuracea
68648-41-9 = oils, Treemoss
68917-40-8 = oils, Treemoss resinoid

**Empirical formula:** N/A

**Synonyms:** Treemoss absolute (*Pseudevernia furfuracea*)
Treemoss (*Usnea furfuracea*)
Treemoss Colourless
*Pseudevernia furfuracea* extract
Cedar moss

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**History:**

| | | |
|---|---|---|
| Initial reviews: | 1991, 2001 | |
| Current revision date: | 2008 | |
| Implementation date: | For new submissions*: | January 16, 2009 |
| | For existing fragrance compounds*: | January 16, 2011 |
| Next review date: | 2013 | |

* This date applies to the supply of fragrance compounds (formulas) only, not to the finished products in the marketplace.

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**Standard: RESTRICTED / SPECIFICATION**

**RESTRICTIONS:**

**Limits in the finished product:**
For a description of the categories, refer to the QRA Informational Booklet.

| | | | |
|---|---|---|---|
| Category 1: See Note box (1) | 0.02 % | Category 7: | 0.1 % |
| Category 2: | 0.03 % | Category 8: | 0.1 % |
| Category 3: | 0.1 % | Category 9: | 0.1 % |
| Category 4: | 0.1 % | Category 10: | 0.1 % |
| Category 5: | 0.1 % | Category 11: Not Restricted (2) | |
| Category 6: See Note box (1) | 0.5 % | | |

**Note box:**
For this material, for pragmatic reasons, restrictive levels allowed by the QRA for certain categories but actually being higher than those already in place before applying the QRA, will temporarily not be implemented until the end of a 5 year monitoring phase. At the end of the 5 years the position will be reevaluated again.

In the presence of oak moss extracts, the level of tree moss in the respective category has to be reduced accordingly such that the total amount of both extracts does not exceed the maximum permitted level in each category as listed in the table above.

If the same compound is intended for more than one IFRA QRA category, then the most restrictive limitation (based on foreseen use concentrations and maximum permitted level) will apply.

(1) IFRA would recommend that any material used to impart perfume or flavour in products intended for human ingestion should consist of ingredients that are in compliance with appropriate regulations for foods and food flavourings in the countries of planned distribution and, where these are lacking, with the recommendations laid down in the Code of Practice of IOFI (International Organisation of the Flavor Industry)

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http://www.iofiorg.org/.

(2) Category 11 includes all non-skin contact or incidental skin contact products. Due to the negligible skin contact from these types of products there is no justification for a restriction of the concentration of this fragrance ingredient in the finished product.

**Fragrance material specification:** Tree moss extracts shall not contain more than 0.8% of dehydroabietic acid (DHA) as a marker of 2% of total resin acids. The concentration of DHA (about 40% of the total resin acids) in tree moss can be measured with an HPLC reverse Phase - spectrofluorometry method.

Further, levels of atranol and chloroatranol should each be below **100 ppm** in tree moss extracts.

**Contribution from other sources:** None to consider (see also the note on contributions from other sources in the Introduction to the IFRA Standards).

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## Critical effect: Sensitization

## RIFM Summaries:

| $EC_3$ value from one LLNA (not the mean) ($\mu g/cm^2$) | Potency Classification Based on Animal Data[1] | Human Data | | | WoE NESIL[3] ($\mu g/cm^2$) |
|---|---|---|---|---|---|
| | | NOEL – HRIPT (induction) ($\mu g/cm^2$) | NOEL – HMT (induction) ($\mu g/cm^2$) | LOEL[2] (induction) ($\mu g/cm^2$) | |
| > 5000 | Moderate | 700 [4] | 6896 [4] | 1417 | 700 |

NOEL = No observed effect level; HRIPT = Human Repeat Insult Patch Test; HMT = Human Maximization Test;

LOEL = lowest observed effect level; NA = Not Available

[1] Based on animal data using classification defined in ECETOC, Technical Report No. 87, 2003

[2] Data derived from HRIPT or HMT

[3] WoE NESIL limited to three significant figures

[4] MT-NOEL = Maximum Tested No Effect Level. No sensitization was observed in human predictive studies. Doses reported reflect the highest concentration tested, not necessarily the highest achievable NOEL

## REXPAN Rationale / Conclusion:

The RIFM Expert Panel reviewed the critical effect data for Treemoss extracts and, based on the weight of evidence, established the No Expected Sensitization Induction Level (NESIL) as 700 µg/cm². They recommend the limits for the 11 different product categories, which are the acceptable use levels of Treemoss extracts in the various product categories. These were derived from the application of the exposure-based quantitative risk assessment approach for fragrance ingredients, which is detailed in the QRA Expert Group Technical Dossier of June 22, 2006.

## References:

RIFM (Research Institute for Fragrance Materials, Inc.), 1974. Human Maximization Test. RIFM report number 1779, September 12 (RIFM, Woodcliff Lake, NJ, USA).

RIFM (Research Institute for Fragrance Materials, Inc.), 1990a. Human Repeated Insult Patch Test. RIFM report number 12382, March 1 (RIFM, Woodcliff Lake, NJ, USA).

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RIFM (Research Institute for Fragrance Materials, Inc.), 1990b. Human Repeated Insult Patch Test. RIFM report number 14120, November 26 (RIFM, Woodcliff Lake, NJ, USA).

RIFM (Research Institute for Fragrance Materials, Inc.), 1990c. Human Repeated Insult Patch Test. RIFM report number 14118, November 26 (RIFM, Woodcliff Lake, NJ, USA).

RIFM (Research Institute for Fragrance Materials, Inc.), 2004. Local Lymph Node Assay. RIFM report number 44368, March 25 (RIFM, Woodcliff Lake, NJ, USA).