

## Estimating the Adverse Dermal Effects of Essential Oils by Examining their Chemical Composition

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**Yes this is a very old article, but I am putting it here to show how long ago that I was writing about issues covered in newer articles on this site.**

### **Start:**

This is an extremely arbitrary and unreliable method of ascertaining the potential of any essential oil to cause skin problems, and yet it is increasingly being used within the aromatherapy trade.

Sesquiterpene lactones that occur in *Inula helenium* and other essential oils can cause adverse skin reactions at levels as low as 0.00001%, amounts that will not be recorded with routine commercial analysis of essential oils. *'The role of sesquiterpene lactones in contact hypersensitivity'* E. Rodriguez et al 1977. *Com. Derm* 3,155-162.

The I.F.R.A. recommend to members that oils derived from the Pinaceae family should only be used if the level of peroxides is less than 10 millimoles per litre. This is because of the many reports indicating that oils containing high levels of peroxides can cause sensitisation.

It is not uncommon to find known or suspected sensitising agents occurring in essential oils at very low levels. As some of these compounds can initiate severe dermal reactions, it is playing with fire to attempt to judge the potential adverse effects of an essential oil from a quick examination of the oils' major components. If judging the **potential** for adverse effects were really that easy, then the R.I.F.M. and other organisations could have saved a fortune over the years. They and other testing organisations, would not have invested so much time and effort on checking for adverse dermal effects on humans if all they had to do was look at the chemical composition. **Real experts** on fragrance materials know that the only way of telling if a material is safe is to thoroughly test it.

In aromatherapy we are increasingly being introduced to new chemical variants or 'chemotypes' of known oils. Just because one or two of the variants major chemicals occur in other known and tested oils, it is then **assumed** the whole oil must be safe. Additionally we have an increasing number of oils that have never been submitted to any form of safety evaluation.

It simply is not acceptable for a tiny number of practitioners to say as they often do, 'we have been using it for years and never seen an adverse reaction'. The numbers of people exposed to these untested materials is tiny in comparison to the numbers exposed to the well tried and tested essential oils.

If a fragrance material is only being used by aromatherapists then there are a number of reasons that they may not detect adverse skin reactions:

- (1) A client may not report a transitory inflammation or itchiness following a massage thinking it normal 'warming up' of the skin caused by the massage.
- (2) If a client gets a moderate skin reaction then they may simply not return for further treatment. The reaction therefore goes unreported.
- (3) Due to the appallingly poor training standards on some aromatherapy courses, such a reaction on a client may not be recognised for what it is, but rather be dismissed by the therapist as 'a healing crisis' or the clients 'hypersensitive skin'.
- (4) Unlike the wider fragrance trade, aromatherapy has no effective method of recording and collating information on adverse skin reactions.

This position of using untested aromatic materials for applications to peoples' skin has been made far worse in recent years. With the push towards increasing scientific input into aromatherapy, we have had several scientific researchers as well as certain essential oil suppliers, giving talks at conferences around the world about 'new' aromatic substances. While there is absolutely nothing wrong with investigating **potential** uses of new aromatic extracts, unfortunately, because of lack of knowledge, or to be one up on the opposition, aromatherapists start using these materials long before anyone has determined if they are safe or not.

This introduction of untested fragrances to the skin is often compounded by reports of the oils concerned being used 'by doctors in France'. It is completely overlooked that the internal use of an essential oil may not elicit the same adverse reaction as occurs when it is applied to the skin, or that doctors are free to use almost anything they please **whether it be safe or not**.

As a herbalist, I am well aware that many herbs have not been fully evaluated for safety but we often do have thousands of years of practical use from which a certain amount of safety can be judged. In the case of essential oils it is an entirely different ball-game. These substances are frequently concentrated to more than 100 times that which occurs in the plant. **The extraction process can also concentrate levels of undesirable substances** which, if the whole herb is used, the body can tolerate perfectly well, but not when they become highly concentrated. With certain essential oils it is not uncommon to find they have absolutely no traditional medicinal use and this, of course, makes safety even more difficult to judge.

**In conclusion:** It is my opinion that no untested 'chemotypes' or other untested oils should be applied to the skin other than as an emergency treatment. They most certainly should never be used in small scale cosmetic production such as in 'aromatherapy type' skin creams, bath and hair care preparations.

Aromatherapists should stop pestering their suppliers for these untested extracts, just so they can be seen to be using 'something new'. Unfortunately some suppliers will sell you anything if it makes them money. Haven't we got enough effective and wonderful essential oils and absolutes which have been thoroughly tried and tested? I am certain many of our tried and tested aromatics still have many therapeutic properties left to be found, so why not stick to them rather than risk the health of clients and particularly yourself by using aromatics with unknown effects.

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