

Old lavender oil may be a problem.

By Martin Watt.

In Sept 2003 I obtained some papers on aged linalool and lavender oil which are rather alarming. For years I have been advising therapists not to use old citrus peel or pine family oils on the skin. This is because as those oils age with oxygen exposure, they form chemicals which can initiate sensitisation. It now seems that lavender oil and any oils high in linalool need to be treated with similar caution.

There was an alarming increase in the incidence of sensitisation reactions to lavender products in Japan. While in 1990 the reaction rate was 1.1%, in 1998 this had climbed to 13.9% of skin patch tested patients. I hasten to add here that they used a 20% solution of lavender oil to ascertain results - high compared with normal aromatherapy use. The authors of this report also found a high reaction rate to dried lavender flowers. They attributed the rise in reaction rates to the increasing popular use of aromatherapy and related products in Japan. They did not think the use of fragrances in regular cosmetic products was the cause. *Mariko Suugiura et al. 2000. Contact Dermatitis, 43, 157-160.*

The next two reports - giving credibility to the above - are on the chemicals created as linalool ages. It has been found that **linalool hydroperoxide** increases as the linalool decays. This is important because the rate of chemical decay is rapid compared to the potential shelf life and age of oils used in aromatherapy.

1) When linalool was oxidised for just 10 weeks the linalool content fell to 80% and the remaining 20% consisted of a range of breakdown chemicals. These were isolated and tested and linalool hydroperoxide was confirmed to be a sensitising agent. Interestingly, the fresh linalool was not a sensitiser which kind of blows a hole in our crazy European labelling regulations. *Maria Skold et al. 2002. Contact Dermatitis, 46, 267-272.*

2) In this separate research they investigated the sensitising activity of linalool. This was a commercial grade of 97% purity (see other articles on this site over that). Included in the impurities was linalool hydroperoxide. The sample of commercial linalool was then purified and tested. The only reaction from the purified linalool was when it was used at 100%. They found a dramatic reduction in sensitisation occurred when the linalool was 98.6% pure and the dihydrolinalool was below 1.4%. In this paper it was considered that some of the other oxidation chemicals may also have sensitisation potential but the finger of suspicion points to **linalool hydroperoxide** as the main culprit. Finally, this paper reports that this work has implications on the storage and shelf life of fragrance ingredients such as linalool. *Basketter D. Et al. 2002. Contact Dermatitis, 46, 161-164.*

So to practicalities, what can we do about this?

1. Beware of buying oils that may be months old or badly stored before you get them. Obviously the further back you can get in the chain of supply the better, although that is not easy in aromatherapy.
2. The big oil traders say they are experimenting with lab test strips which will detect if an oil has a lot of peroxides in it. That should prevent an oil which is already badly oxidised from reaching aromatherapy suppliers.
3. Add lavender; petitgrain; neroli; rosewood; ho leaf; mentha citrata and any other high linalool content oils to those **not to be used on the skin** once they are over about 6 months old and/or have had a lot of air in the bottle.
4. Store all your oils that are not in daily use in your refrigerator in an airtight box. That alone will considerably delay oxidation.

Another important issue related to the above:

This research found that vegetable fats/oils seem to prevent irritant contact dermatitis. *Schliemann-Willers S. Et al. 2002. Contact Dermatitis, 46, 6-12.* They found that a range of vegetable oils such as palm; coconut; sunflower; rape seed, etc. provided significant protection to the skin from irritating substances. Most people who know me will acknowledge that I think fractionated coconut oil is the best thing since sliced bread, but this report confirms how good it really is. Their research was targeted at finding suitable barrier creams for protecting workers in the food handling trade, but this has implications for aromatherapists and masseurs.

A cream made using these fixed oils may help protect therapists hands from the essential oils you use. Such vital investigations on the protection of therapists should be undertaken by the aromatherapy associations. However, as their leaders are only interested in meetings with incompetent Government officials, setting phoney trade standards, validating crap courses and organising joke conferences, such important safety issues are left out in the cold.

For another view on this important issue go to: <http://www.users.globalnet.co.uk/>

The need for antioxidants.

The above information on the dangers posed by oxidised oils, is more evidence that the use of antioxidants in essential oils is critical to making them safe over protracted time periods. Personally I am in favour of this as in my opinion these chemicals are not going to cause many problems, but will prevent skin reactions from oxidised oils. Of course added antioxidants should be declared by the producers/suppliers, but as the aromatherapy distribution trade has always operated on hype and lies I know they will not be declared.

I am aware that there has been some heated discussion on some aromatherapy newsgroups about the issue of adding anything to pure essential oils. However, what has not been touched on is that some producers and large distributors have been adding antioxidants to certain oils for years. So there is nothing new in this practice, but since most aromatherapy distributors are so remote from the *real* essential oil trade, they are simply not aware of such common trade practises.

People must understand that aromatherapy suppliers are NOT the big traders in essential oils and never have been. They are tiny fish in a huge International trade. This is even more reason to add antioxidants to oils. I have personally witnessed cottage industry aromatherapy suppliers who have had old oils in stock way beyond their use by date. Their small scale financial turnover does not allow them to throw these oils out. Yet it is in America (where small kitchen sink suppliers are more common) that they are kicking against the preservation of oils.

The whole concept of their arguments is fundamentally flawed. "I do not want to add anything to a pure oil" is the commonest heard. Yet these people do not even understand what the criteria is of determining the purity of an essential oil. The fact is that as soon as an essential oil is distilled it is no longer "pure". Distillation creates chemicals not occurring in the plant and destroys others. All essential oils (except perhaps those that have been rectified) will contain traces of the natural contaminants in the plants surrounding. So a local lizard has peed on the rosemary; insects have nibbled it and left behind their dung; the donkey carrying the bales has peed on the materials; some pesticides from the local farmer spraying his wheat have drifted onto the field of "OG" lavender; the soil has had sewerage sludge added as a fertiliser; radiation from Chernobyl has fallen on the area; the groundwater is contaminated with a variety of chemicals as is common. So what the heck is a "pure essential oil"?

So rather than have food grade antioxidants added to ensure the safety of certain oils, these people would rather risk their customers health on the basis of some uninformed philosophies.

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