

Safety issues page posted on August 5, 2013 by Lea Harris from <http://www.learningabouteos.com>

Below is the information provided on the above site. It is typical of the incorrect and misleading pseudo science which originated about 20 years ago from 2 or 3 people in France. That wrong information has been parroted ad infinitum by other teachers. Their claimed therapeutic uses and safety are based on organic chemistry not phytochemistry (which these people knew nothing about). Their invented data is endemic in aromatherapy courses. The trade associations who approve teachers do not want it known that they are peddling garbage, but would rather students heads are filled with the fairy tales which most therapists seem to desire.

#### **KEY:**

**Claims made on the above site are marked in black with "..."**

**My comments on the incorrect and misleading information are in brown.**

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#### "Monoterpenes

This chemical family is made up of components which evaporate quickly and are considered 'top notes' as they are the first aromas to hit your nose in a blend.

Monoterpenes generally are:

antiseptic ' great for cuts

analgesic ' relieves pain

rubifacient ' increases blood circulation

decongestant ' relieves respiratory congestion

antibacterial (some also antiviral)

excellent for diffusing ' they kill airborne germs

skin penetration-enhancers ' great for getting deep into sore muscles, tendons, and ligaments".

Ludicrous, there are at least 600 monoterpenes of vastly varying properties, thus no reliable general properties can be attributed to them.

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"Essential oils with more than 60% monoterpenes include: Bergamot, Black Pepper, Cypress, Frankincense, Grapefruit, Juniper Berry, Lemon, Opopanax, Sweet Orange, Ravintsara, Rosemary, and Siberian Fir".

So what, that tells you nothing, look at how different these oils are: bergamot & black pepper.

"Safety Considerations: Monoterpenes are prone to oxidation and have a shelf life of only 1-3 years. Once oxidized, they can cause skin irritation, and are best discarded (or diffused)".  
This is dangerous advice as a & b pinene and d-limonene (common in many essential oils) can oxidise and develop sensitising chemicals **within months**; advising 1-3 years is hazardous.

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#### "Sesquiterpenes

This chemical family's therapeutic properties are difficult to generalize. **So don't generalise!!**  
Here are some therapeutic actions and the Sesquiterpene-family essential oils associated with them:

Anti-fungal: Myrrh, Patchouli, Spikenard

Analgesic: Black Pepper, German Chamomile, Ginger, Myrrh, Ylang Ylang" **Analgesic means to relieve pain, but no indication is given on mode of use.**

"Antiseptic: Cedarwood, Ginger, Myrrh, Vetiver".

Antiseptic is usually associated with a substance that kills most organisms capable of causing ill health. That is not something which most essential oils are capable of. Some are antibacterial, some anti fungal, some both but with the oils mentioned they are not the best for such purposes.

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"Anti-inflammatory: Cedarwood, German Chamomile, **-Ginger-**, Myrrh, Patchouli, Spikenard, Ylang Ylang". **Ginger is a rubefacient not anti-inflammatory, you can't have it both ways, it has to be one or the other.**

"Antispasmodic: German Chamomile, Ginger, **-Opopanax-**, Spikenard".  
**Opopanax is a skin sensitiser.**

"Sedative: German Chamomile, Myrrh, Patchouli, Spikenard, Ylang Ylang".  
**Relaxant maybe but not sedative.**

"There are really no safety concerns with Sesquiterpenes other than they can be irritating if oxidized."

It is 100 percent wrong to make such generalisations based on broad chemical groups. That is not the way essential oils work. Each oil is a chemically complex individual substance and making such sweeping generalisations is not only stupid it can be dangerous.

"They have a long shelf life of 6-8 years".

An incorrect generalisation, for example, black pepper can contain a lot of a & b pinene which degrade into skin sensitising agents. delta 3 carene is also a skin sensitiser. Ylang oil is well recognised for its fast oxidation rate and loss of fragrance.

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"Monoterpenols

The chemical structure of Monoterpenols are similar to that of Monoterpenes. The difference? A hydroxyl molecule. The location of this molecule determines the therapeutic property of the oil (isn't that fascinating?)." **This is not correct. No single molecule can be held to determine the properties of an essential oil which can contain hundreds of different molecules. It is fundamentally unsound pseudo science.**

"Monoterpenols have a wide variety of therapeutic properties. Some of these often include:

strong anti-infectious agents, such as terpinene-4-ol, a chemical component found in Tea Tree".  
**What the heck does anti-infectious mean?**

"antibacterial, antifungal, and even antiviral, thanks to linalol, a chemical component found in Lavender and Rosewood". **Linalool anti viral, I think not.**

"anti-spasmodic effects thanks to menthol, a primary component found in Peppermint

anti-fungal action found in Geranium" **Comments as for monoterpenols above.**

"Some of the essential oils highest in Monoterpenols are: Rose Absolute (93%), Rosewood (91%), Palmarosa (80%), Thyme ct linalol (61%), and Basil (56%)".

"The only safety consideration in this chemical family is menthol, which can irritate the skin. Menthol should be avoided on children under 5 years of age. Shelf life is 3-5 years".

**Incorrect. both tea tree oil and lavender (mentioned above) are known to degrade and it can be less than one year. By the time tea tree is 3-5 years old it is likely to be a major skin sensitiser.**

**There are dozens of oils containing this chemical family and it is preposterous to generalise on the activity of any of those.**

## "Sesquiterpenols

The oils in this chemical family are considered 'base' notes, as they are physically heavier on a molecular level, and are the last notes to float out of a bottle when you are sniffing a blend. Sandalwood is 85% sesquiterpenols.

General therapeutic properties of Sesquiterpenols are:

anti-inflammatory  
immune supporting  
sedative  
skin healing  
antibacterial  
antispasmodic  
excellent tonic for lymph system as well as veins" **Classic beauty therapy hype.**

"There are no safety concerns with these oils. Shelf life is 6-8 years".

**The question of safety depends on what other molecules occur in a specific oil that contains sesquiterpenols, the volumes of those other constituents, and how easily they oxidise.**

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## "Esters

This chemical family is not only highly antispasmodic, but are also often:

sedative  
soothing  
analgesic  
anti-inflammatory  
and helps the body deal with stress

Some of the essential oils with the highest percentages of esters are Roman Chamomile (80%), Jasmine Absolute (52%), and Helichrysum (49%)".

"Esters are generally free from concern, with proper dilution".

**Incorrect, many essential oils contain esters. Some of those oils are known to be sensitizers such as peru balsam and tolu balsam. The longer they are stored the more they degrade.**

"There are only two components that are best avoided: methyl salicylate present in Birch, and sabinyl acetate present in Juniper oil. Methyl salicylate can be poisonous if used long-term on the skin, and sabinyl acetate can cause liver toxicity. Shelf life is 3-5 years". **See above.**

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## "Phenols

Phenols are very active and stimulating ' an excellent choice when you want to nip an aggressive infection in the bud.

Clove Bud essential oil is 67% Phenols and is the 'poster child' of Phenols. Excellent for combating infections, but should be avoided by people on blood thinners due to its high eugenol content.

Base notes, Phenols sticking around longer and making them more apt to irritate the skin. When using high-Phenol oils, dilute well. Use no more than 5 drops per ounce of carrier oil (1% dilution), to prevent irritation on mucous membranes and skin.

Shelf life is 3 years". **???**

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## "Aldehydes

Aldehydes are excellent for fungal issues. Melissa, and its near-twin, Lemongrass, are two oils right around 80% Aldehydes. Neral and geranial are two specific Aldehydes that Melissa and Lemongrass share".

Genuine Melissa oil is hugely variable in composition and you can't possibly generalise on aldehyde content, it depends on which variety and from where in the world.

Aldehydes usually have the following therapeutic properties:

anti-fungal

antibacterial

anti-inflammatory

antispasmodic

sedative

and can even reduce fever". That is total fabrication based on herbal medicine!!!

"This is another chemical family where low dilution and short-term use is strongly recommended. Dilutions over 1% can result in skin irritation. Aldehydes are most definitely not recommended for internal use ever, even at low doses. People suffering with glaucoma or estrogen-related cancers should be particularly cautious".

There is not a shred of sound evidence for this warning, particularly as they say above "aldehydes are most definitely not recommended for internal use ever,". There is absolutely no evidence that sufficient essential oil can get into the body via external application in massage to have any effect on cancers. Lemongrass oil for example is a permitted food flavouring.

"Aldehydes oxidize easily and have a shelf life of only 1-3 years". More like 6 months; Lemongrass oil is notorious for its fast rate of polymerisation.

## "Ketones

The primary reason to choose oils from the Ketone chemical family would be for respiratory infections, as they are very effective expectorants and mycolytics. Peppermint has more ketones than most other essential oils, although Rosemary, Vetiver, and Spike Lavender have an effective amount as well.

Ketones are also generally:

analgesic

antispasmodic

rubifacient

cicatrisant

wound healing

Although Ketones do have components which are non-toxic, there are very real concerns with camphor in particular.

Pinocamphone and isopinocamphone are also neurotoxic, and these components are found in Hyssop (Hyssop officianalis).

Also found in Hyssop (Hyssop officianalis), as well as Sage, Mugwort, Thuja, and Pennyroyal are pulegone and thujone, potential abortifacients. Do not use if pregnant or around children".

See my article on Pennyroyal. Sage is another oil on which the aromatherapy trade still publish their nonsense about "thujone". I dismissed that years ago but it is still taught.

"Short-term use of low dilutions (1%) is considered safe. Shelf life is 3-5 years". Doubtful.

## "Oxides

The most important Oxide component is 1,8 cineole, which is wonderful for respiratory issues. 1,8 cineole stimulates mucous and activates the cilia found in the mucous membranes.

Other therapeutic properties of Oxides generally are:

antiviral  
anti-fungal  
antibacterial  
can stimulate blood flow to the brain when inhaled

Eucalyptus is your best choice for an Oxide high essential oil, as it contains around 80% Oxides. Rosemary and Laurel Leaf contain around 40% Oxides and are also good choices.

Although Oxides can provide relief to asthmatics, in some people it can set off an attack, and caution must be given. Other safety concerns are skin irritation due to oxidation of oils.

Oxides should be avoided on children under the age of 5. Shelf life is 1-3 years".

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## "Ethers

Ethers have very effective antispasmodic properties.

Some popular ethers are: Anise, Fennel, Nutmeg, and Tarragon".

"Safety considerations for the Ether chemical family are high, so these are to be used preferably only when Esters don't work. These safety considerations are: liver toxicity, estrogen-like activity, neurotoxic effects, are psychotropic (influences mood and behavior, as well as affects the brain), and genotoxicity (interferes with DNA)".

This is absolute garbage. Aniseed and Fennel oils are common food ingredients and permitted food flavourings. The mentioned effects are from cases where people have drunk the oil in excess, or from unreliable animal tests.

"Specific Ether components and the safety concerns they present are as follows:

Apiole oral doses are poisonous, and can cause an abortion in pregnant women. **Sure if anyone drunk it.**

Methyl chavicol (estragole) ' carcinogenic in rats, likely to cause cancer in humans. High percentages of estragole are found in Tarragon, Hervo Bark, and Tropical Basil. **Outdated garbage, these effects on humans were dismissed many years ago. Basil oil is a permitted food flavour.**

Methyl eugenol ' high doses are carcinogenic. **What does 'high doses' mean?**

Trans-anethole ' Avoid if pregnant or breastfeeding. This component is found in high concentrations in Anise and Fennel essential oils". **Both permitted food flavourings with no cautions during pregnancy or breast feeding. This is probably again based on pseudo chemistry. Indeed the hormonal effects of these oil are inconclusive and it is probably based on consumption of the seeds which might have a hormonal component not found in the oil.**

"Of all chemical families, Ethers present the most serious safety issues. This is concerning because many people see the names of herbs, such as Fennel, Basil, and Nutmeg and are less concerned with dosage due to their familiarity and often frequent use of these herbs.

*Excerpt taken from the e-report, Using Essential Oils Safely. FREE when you sign up for our newsletter here".*

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**Article End**

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