We acknowledge that there might be slight differences in the safety data of the BCAOA recognized courses due to personal experiences using the essential oils.

Common Safety Factors

Safety of essential oils is dose dependent. An analogy that Robert Tisserand uses is “you can probably safely drink 1 – 2 cups of coffee a day without any ill effects, however if you were to drink 100 – 200 cups of coffee in a day you would become very ill.”

Because essential oils are measured in drops, there is a greater risk of overuse – intended or otherwise. In most cases, essential oils work better in lower dilutions however some companies might promote the use of a much higher dosage.

Chemical Makeup

Safety is dependent upon the chemical makeup of the essential oil. For instance,
Cinnamon Bark Essential Oil is high in a constituent called cinnamaldehyde. Cinnamaldehyde can be a dermal irritant or sensitizer (dose dependent). It can also cause toxicity in the kidneys and liver with chronic use.

Some citrus essential oils such as bergamot, grapefruit, lemon and lime contain a chemical constituent called furanocoumarin which can be phototoxic. This means that when these essential oils are applied to the skin which is then exposed to UV Rays, the skin will burn more quickly.

Essential oils high in terpenes tend to oxidize more quickly than others which can cause skin irritation.

Application

Safety is dependent upon the mode of application used. Oral use poses the highest risk and is not recommended except under the care of a qualified health practitioner trained in aromatherapy or a Certified Clinical Aromatherapist who has been trained in the safe use of ingestion.

*It is important to note that oral application is not approved in North America and most aromatherapy associations have come out strongly against oral dosing.* Additionally, oral use is *not*
Irritation

While some essential oils are classified as potential skin irritants they may not provoke a reaction in everyone.

Conversely, a person may have an idiosyncratic reaction to an essential oil that is considered safe for the skin. It is recommended that a person with sensitive skin do a patch test on a small area of skin before using the essential oil(s).

This can be done by applying the essential oil(s) at double the concentration they would normally be used to the inside of the forearm (place drops on a bandage and then apply bandage to the skin). Leave for 24 - 48 hours. If there was irritation, it will present as redness, itchiness, swelling or blistering. Essential oils with high proportions of either aldehydes or phenols are often the culprits in provoking irritation.

Moderate Irritants

We recommend using these essential oils in a lower dilution or in cases of sensitive skin, perhaps avoiding them all together.

Damaged or diseased skin

Damaged or diseased skin is usually more permeable to essential oils and may be more sensitive to dermal reactions. This can include but is not limited to skin conditions such as eczema and psoriasis and thinning skin due to age or medications. It is always potentially dangerous to apply undiluted essential oils.
oils to the skin and in those with damaged or diseased skin, the skin condition can be worsened.

**Sensitization**

This is a systemic reaction and autoimmune response which usually manifests initially as a rash but can also cause headache, respiratory distress and in extreme cases anaphylactic shock.

Once a person has experienced sensitization to a particular essential oil, they will likely always have an adverse reaction to that essential oil.

**Toxicity**

**Acute** toxicity refers to poisoning by way of ingesting or the absorption of too much essential oil at one time.

**Chronic** toxicity occurs when a small amount of a potentially toxic essential oil is repeatedly applied over a period of time and is thus damaging the body in some way or when any essential oil is used in excess over a period of time. Toxicity can also occur if a person has either liver or kidney impairment or disease.

Toxicology also includes the study of hazards related to pregnancy and cancer, skin allergy and/or phototoxicity, liver and kidney dysfunction, effects on the CNS and the endocrine system and damage to the eyes.

Although some people may experience idiosyncratic reactions to particular essential oils, in general toxicity is dose dependant. However, there are some instances where even low amounts can produce severe reactions such as allergies and phototoxicity.

**Children and Poisoning**

**Ingestion**

Although we do not know the consequences of drinking large amounts of essential oils, there have been documented cases of poisoning with the essential oils of citronella, clove, eucalyptus, pennyroyal, sassafras, wintergreen and wormseed.

In most cases, the drops were given accidentally, by mistaking it for another, safer preparation.
Inhalation

Inhalation through the nose has been reported to have non-fatal but serious toxicity in children who had solutions containing either menthol (4 cases) or cineole (9 cases). The ages in these cases ranged from 1 month to 3 years.

The effects of poisoning included irritated mucous membranes, tachycardia, dyspnoea, nausea, vomiting, vertigo, muscular weakness, drowsiness and coma. The most serious case was that of a child under 2 months of age who had 1ml of a menthol solution introduced into his nose.

Essential oils used in humidifiers or diffusers are usually safe for children – taking into consideration dosage/age amounts and avoiding essential oils listed above.

Dermal

Avoid the use of essential oil listed above.

Do not use essential oils high in 1,8-cineole on our near the face of children under the age of 5 years (this applies to dermal and inhalation methods). Also, follow the recommended dilutions listed above).

✘ Essential oils should be labeled clearly to indicate the contents and concentration of the essential oil.

✘ Essential oils should be sold in bottles which are fitted with a drop dispenser.

✘ Essential oils should be kept out of reach of children. If a child is suspected of ingesting an essential oil, the local poison control center should be called.

✘ In case of accidental ingestion – to dilute the essential oil, any dairy product, ideally one high in fat, can be given to the child (or adult for that matter) immediately after ingestion – this does not take the place of seeking medical attention.

Adulteration

Adulteration of essential oils is more common than ever before. This is partially due to demand outweighing supply. In the past 10 years, usage of essential oil has multiplied by the thousands. To give an example,
company which launched in 2008 had 3,000,000 independent distributors by the end of 2016. Such massive use of essential oils has placed a strain on essential oil and carrier oil bearing plants as well as causing a sustainability issue.

**Adulterated essential oils pose a higher risk of adverse reaction.**

**Statement on Raindrop Technique (RDT) and Aroma Touch**

Raindrop Technique (RDT), Aroma Touch and similar techniques do not meet the criteria for safe practice, as defined by the BCAOA Standards of Practice. There have been reported adverse effects regarding RDT, in particular.

**Resources for Safety Information**

- Essential Oil Safety 2nd Edition – Robert Tisserand and Rodney Young
- Atlantic Institute Safety Information and Adverse Reaction Reports.

**Questions You Can Ask:**

- Is the person who is recommending an essential oil or blend of essential oils to you a Registered or Professional Aromatherapist, and do they carry liability insurance?
- How long have they been practicing aromatherapy?

**Essential oils and medication**

Some essential oils are contraindicated with specific medications. For instance, some essential oils should not be used if a person is on blood thinners.

Essential oils high in a chemical constituent called eugenol can be contraindicated when taking Tylenol or Anacin.
Precautions and Contraindications of Essential Oils

Aniseed (Pimpinella anisum/Anisum vulgare) – May be carcinogenic due to its estragole content. May cause hormonal fluctuation and may inhibit blood clotting. Avoid use with pregnancy, while breastfeeding, those with endometriosis and estrogen dependent cancers. Do not use with children under the age of five.

Basil ct. estragole (Ocimum basilicum) – May be carcinogenic due to its estragole and methyleugenol content. May inhibit blood clotting. Do not use with pregnancy, while breastfeeding or with small children for extended periods of time (Blumenthal, 1998), Linalool ct. is recommended as safe to use.

Benzoin (Styrax benzoin) – Is a low risk for skin sensitization, but caution is advised with hypersensitive, diseased and damaged skin and also with children under the age of two.

Bergamot (Citrus bergamia) (Expressed) – Moderate risk of photo-toxicity. Avoid going into the sun or using a sunbed after applied topically for up to 12 hours. Do not use old or oxidized oil as it may cause skin sensitization.

Bergamot FCF (Citrus bergamia) (Expressed) – No known precautions or indications. Avoid old or oxidized oils.

Black Pepper (Piper nigrum) – May cause skin sensitization if old or oxidized essential oil is used.

Camphor, White (Cinnamomum camphora) – May cause skin sensitization if old or oxidized essential oil is used.

Carrot Seed (Daucus carota) – Do not use while pregnant or breastfeeding.

Cedarwood, Atlas (Cedrus atlantica) – No known precautions or contra-indications. We do advise to avoid use with those who may have Cedarwood allergies.

Chamomile, German (Matricaria recutita/M. chamomilla) – Is prone to oxidization so may be skin sensitizing. Caution is advised with individuals who are taking
medication that is metabolized by the enzyme CYP2D6 (Tisserand & Young). These medications include some analgesics, antiarrhythmics, antipsychotics, antidepressants, amphetamines, estrogen receptor antagonists, histamine receptor antagonists and serotonin receptor inhibitors and antagonists.

Chamomile, Roman (Anthemis nobilis/ Chamaemelum nobile) – Is prone to oxidization so may be skin sensitizing. No hazards or contraindications known.

Clary Sage (Salvia sclarea) – Moderate risk of skin sensitization.

Clove Bud (Syzgium aromaticum/Eugenia aromaticum/E. caryophyllata) – Moderate risk for skin sensitization. Mucous membrane irritant. Do not use on sensitive, diseased or damaged skin or with children under the age of two. May inhibit blood clotting. Considered to be embryo toxic. May cause drug interactions with topical application with drugs that are metabolized by the enzyme CYP2B6: this includes analgesics, anticonvulsants, antidepressants, chemotherapy medication, estrogen receptor antagonists and nervous system stimulants (Purchon and Cantele)

Coriander Seed (Coriandrum savitivum) – No known contraindications or precautions.

Cypress (Cupressus sempervirens) – Avoid old or oxidized essential oils as it may cause skin sensitization.

Eucalyptus, Lemon Scented (Eucalyptus citriodora) – No known contraindications or precautions.

Eucalyptus (E. globulus/E. radiata/ E. smithii) – Do not apply to or near the face of infants or children under the age of 6 as it may cause CNS and breathing problems in small children due to its high 1,8 cineole content. Avoid use with homeopathic remedies as it may act as an antidote to them (Purchon and Cantele). Low dosage advised for topical application with those who have dermatitis. (Purchon and Cantele).

Fennel, Sweet (Foeniculum vulgare var. dulce) – May be carcinogenic due to its estragole content. May cause hormonal fluctuation and may inhibit blood clotting, avoid use with haemophilia. Avoid use with pregnancy, while breastfeeding, those with endometriosis and estrogen dependent cancers. Do not use with children under the age of
five. Do not use with epilepsy (Purchon and Cantele).

**Fir, Silver (Abies alba)** – Avoid use of old or oxidized as it may cause skin sensitization.

**Frankincense (Boswellia carteri/B. sacra)** – Avoid use of old or oxidized as it may cause skin sensitization.

**Geranium (Pelargonium graveolens)** – Low risk of skin sensitization.

**Ginger (Zingiber officinale)** – No known contraindications or precautions.

**Grapefruit (Citrus paradisi) (Expressed)** – Low risk of photo-toxicity, although it is best to avoid going into the sun or using a sunbed after applied topically for up to 12 hours. Avoid use of old or oxidized as it may cause skin sensitization.

**Helichrysum/Immortelle/Everlasting (Helichrysum italicum/H. angustifolium)** – Moderate risk of skin sensitization.

**Hyssop (Hyssopus officinalis)** – Do not use with pregnancy, breastfeeding and with children under the age of ten. Considered to be a neurotoxic and carcinogenic essential oil because of the methyl eugenol content. Hyssop ct. pinocamphene is toxic in large doses; do not use with epilepsy or high blood pressure. Hyssop ct linalool is considered safe to use (Purchon and Cantele).

**Jasmine (Jasmine officinale/J. grandiflorum)** – May be skin sensitizing, avoid long term use, do not use while pregnant or breastfeeding or with children under three, overuse may cause nausea and headaches (Purchon and Cantele).

**Jasmine (Jasmine sambac)** – Low risk of skin sensitization. Caution is advised with individuals who are taking medication that is metabolized by the enzyme CYP2D6 (Tisserand & Young). These medications include some analgesics, antiarrhythmics, antipsychotics, antidepressants, amphetamines, estrogen receptor antagonists, histamine receptor antagonists and serotonin receptor inhibitors and antagonists.

**Juniper Berry (Juniperus communis)** – Avoid use of old or oxidized as it may cause skin sensitization.
Laurel, Bay (Laurus nobilis) – May be carcinogenic based on the methyleugenol content. May cause breathing problems and CNS damage to young children, do not use with children under the age of two. Low risk of skin sensitization and mucous membrane irritant. Do not use with sensitive or damaged skin. Do not use with pregnancy or while breastfeeding, or in the bath (Purchon and Cantele).

Lavandin (Lavandula x intermedia/L. flagrans/L. burnotti) – Considered a safe essential oil to use.

Lavender (Lavandula vera/L. angustifola/L. officinalis) – Considered a safe essential oil to use, although overuse may cause sensitization.

Lavender, Spike (Lavendula spica/L. latifolia) – May be mildly neurotoxic depending on its camphor content.

Lemon (Citrus limon/C. limonum)(Expressed) – Low risk of photo-toxicity, although it is best to avoid going into the sun or using a sunbed after applied topically for up to 12 hours. Avoid use of old or oxidized as it may cause skin sensitization.

Lemongrass (Cymbopogon citratus/C. flexuosus) – May cause drug interactions with topical application with drugs that are metabolized by the enzyme CYP2B6 (Tisserand and Young): this includes analgesics, anticonvulsants, antidepressants, chemotherapy medication, estrogen receptor antagonists and nervous system stimulants (nicotine). May cause abnormalities in fetal development. Use with caution on hypersensitive, diseased or damaged skin. Use with caution with pregnancy and while breastfeeding. Do not use with children under the age of two. Slight risk of allergic reaction to some (Purchon and Cantele).

Lime (Citrus aurantifolia/C. medica) (Expressed) – Moderate risk of photo-toxicity. Avoid going into the sun or using a sunbed after applied topically for up to 12 hours. Avoid use of old or oxidized as it may cause skin sensitization. May be carcinogenic.

Linden Blossom (Tilia europea/T. cordata) – May cause skin sensitization. Do not use for extended periods of time.

Mandarin (Citrus reticulata) (Expressed) – Avoid use of old or oxidized as it may
cause skin sensitization.

**Manuka (Leptospermum scoparium)** – No known contraindications or precautions.

**Marjoram, Sweet (Origanum marjorana)** – No known contraindications or precautions.

**May Chang (Litsea cubeba)** – May cause drug interactions with topical application with drugs that are metabolized by the enzyme CYP2B6 (Tisserand and Young): this includes analgesics, anticonvulsants, antidepressants, chemotherapy medication, estrogen receptor antagonists and nervous system stimulants (nicotine). May cause abnormalities in fetal development. Use with caution on hypersensitive, diseased or damaged skin. Do not use with children under the age of two. Slight risk of allergic reaction to some (Purchon and Cantele). Do not use with estrogen or nicotine patches (Purchon and Cantele).

**Melissa, True (Melissa officinalis)** – May cause drug interactions with topical application with drugs that are metabolized by the enzyme CYP2B6 (Tisserand and Young): this includes analgesics, anticonvulsants, antidepressants, chemotherapy medication, estrogen receptor antagonists and nervous system stimulants (nicotine). May cause abnormalities in fetal development. Use with caution on hypersensitive, diseased or damaged skin. Do not use with children under the age of two. Slight risk of allergic reaction to some. Use low up to three drops in the bath (Purchon and Cantele).

**Myrrh (Commiphora myrrha)** – Do not use while pregnant or breast feeding. Due to the high content of β-elemene and furanodiene it may be fetotoxic. (Tisserand and Young).

**Myrtle, Green (Myrtus communis)** – No known contraindications or precautions.

**Neroli (Citrus x aurantium var.amara)** – No known contraindications or precautions.

**Orange, Bitter (Citrus aurantium var. amara/C. vulgaris)(Expressed)** – Phototoxic, avoid going into the sun or using a sunbed after applied topically for up to 12 hours. Avoid use of old or oxidized as it may cause skin sensitization.
**Orange, Sweet (Citrus sinensis)(Expressed)** – Avoid use of old or oxidized as it may cause skin sensitization.

**Niaouli (Melaleuca quinquenervia/ M. viridiflora)** – The high 1,8 cineole content can cause CNS and breathing problems, do not apply near the face of infants or children under the age of six.

**Nutmeg (Myristica fragrans)** – May be carcinogenic based on its safrole and methyleugenol content. May be psychotropic in high doses. Do not use in high doses or for prolonged periods of time (Purchon and Cantele).

**Palmarosa (Cymbopogon martinii)** – Low risk for skin sensitization.

**Patchouli (Pogomostemon cablin)** – Is a known appetite suppressant therefore it is advised to avoid use with anorexics and the elderly who may suffer from reduced appetite (Purchon and Cantele).

**Peppermint (Mentha x piperitia)** – Avoid use with those who suffer from cardiac fibrillation (irregular heartbeat) and those who suffer from hemolytic anemia. Mucous membrane irritant. Considered to be neurotoxic, especially to young children. Do not use near the face of babies and young children under the age of six due to the high menthol content.

**Petitgrain (Citrus aurantium var.amara)** – No known contraindications or precautions.

**Pine Needle (Pinus sylvestris)** – Avoid use of old or oxidized as it may cause skin sensitization. Contraindicated with bronchial asthma and whooping cough (Blumenthal et al 2000).

**Plai (Zingiber cassumunar/Z. montanum)** – No known contraindications or precautions.

**Ravensara (Ravensara aromatica)** – May be carcinogenic. The bark oil may interfere with blood clotting (Purchon and Cantele). Avoid old or oxidized essential oils as they may be skin sensitizing.
Ravintsara/Ho Leaf (*Cinnamomum camphora*) – Avoid old or oxidized essential oils as they may be skin sensitizing. Avoid use with children under the age of six.

Rose (*Rosa damascena/R. centifolia*) – Rose Otto has no known contraindications or precautions however Rose Absolute may be skin sensitizing to some individuals.

Rosemary (*Rosmarinus officinalis*) – Camphor ct. may be neurotoxic. Do not apply ct. 1,8 cineole near the face of babies or children under the age of six. Do not use ct. bornyl acetate while pregnant (Purchon and Cantele).

Rosewood (*Aniba roseodora*) – No known contraindications or precautions.

Sage, Common (*Salvia officinalis*) – Considered to be neurotoxic. Do not use with pregnancy or while breastfeeding. May be skin sensitizing.

Sandalwood (*Santalum album*) – Although rare, adverse skin reactions have been reported (Purchon and Cantele).

Spikenard (*Nardostachys grandiflora/N. jatamansi*) – May be skin sensitizing and irritating to mucous membranes of some individuals (Purchon and Cantele). May antidote homeopathic remedies (Purchon and Cantele).

Tarragon (*Artemesia dracunculus*) – May be carcinogenic based on its estragole and methyleugenol content. Inhibits platelet aggregation (Tognolini et al 2006) which is necessary for blood clotting.

Tea Tree (*Melaleuca alternifolia*) – Avoid use of old or oxidized as it may cause skin sensitization. Undiluted essential oil should be avoided topically as it may increase the risk of skin sensitization.


Vetiver (*Vetiveria zizanoides*) – May be skin sensitizing if isoeugenol is present in the
essential oil (Purchon and Cantele).

**Yarrow (Achillea millefolium)** – Caution is advised with individuals who are taking medication that is metabolized by the enzyme CYP2D6 (Tisserand & Young). These medications include some analgesics, antiarrhythmics, antipsychotics, antidepressants, amphetamines, estrogen receptor antagonists, histamine receptor antagonists and serotonin receptor inhibitors and antagonists.

**Ylang Ylang (Canaga odorata)** – Use with caution with those who have diseased or damaged skin and with children under the age of two. May be skin sensitizing.

The contraindications and precautions above are attributed to the steam distillates and expressed (citrus) volatile compounds of various plant materials. We recognize that CO2 extracts are stable in nature and do not oxidize as readily as with the distillation method. We also acknowledge that distilled citrus essential oils are not photo toxic.
## Recommended Dilution Rates

When an essential oil blend is going to be applied fairly liberally to the body—such as by way of a lotion, carrier oil, gel, hydrosol or water, the following dilution rates are recommended.

<table>
<thead>
<tr>
<th>Location</th>
<th>Dilution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Body</td>
<td>1% – 4%</td>
</tr>
<tr>
<td>Adult Face</td>
<td>0.2% – 1.5%</td>
</tr>
<tr>
<td>Adult Body &amp; Face During Pregnancy</td>
<td>1%</td>
</tr>
<tr>
<td>Also, refer to CI’s during pregnancy and breastfeeding</td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>1%</td>
</tr>
<tr>
<td>Body Massage</td>
<td>1.5% – 3%</td>
</tr>
<tr>
<td>Specific Areas</td>
<td>4% – 10%</td>
</tr>
<tr>
<td>Pain/Wounds</td>
<td>5% – 20%</td>
</tr>
<tr>
<td>Elderly*</td>
<td>1% – 2%</td>
</tr>
<tr>
<td>Children: 10+ years</td>
<td>1% – 4%</td>
</tr>
<tr>
<td>Children: 5 – 10 years</td>
<td>1% – 2%</td>
</tr>
<tr>
<td>Children: 2 – 5 years</td>
<td>1%</td>
</tr>
<tr>
<td>Babies: 6 months – 24 months</td>
<td>.5%</td>
</tr>
<tr>
<td>Infants: birth – 6 months (Caution with eo’s used)</td>
<td>0.25%</td>
</tr>
</tbody>
</table>

* Elderly – when determining the dosage for the elderly, whose bodily systems have started to slow down, it is best to use ½ the regular concentration of essential oils normally used for an adult.
## Other Dilutions

<table>
<thead>
<tr>
<th>Application</th>
<th>Dilution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massage oil or lotion Full Body</td>
<td>3-4 drops into 15ml of lotion or carrier oil = 1%</td>
</tr>
<tr>
<td>Localized application</td>
<td>6 drops in 10ml of lotion or carrier oil = 3%</td>
</tr>
<tr>
<td>Compresses</td>
<td>2 – 4 drops of essential oil(s), diluted in a carrier oil, in water</td>
</tr>
<tr>
<td>Salves or ointments</td>
<td>3 – 4 drops of essential oil(s) per 5ml base = 3% – 4%</td>
</tr>
<tr>
<td>Facial creams</td>
<td>1 – 2 drops of essential oil in 10ml cream = 0.5% – 1%</td>
</tr>
<tr>
<td>Inhalations</td>
<td>3 – 5 drops in a diffuser, humidifier or vapourizer (usually in water). In a large room increase to 5 – 8 drops. Inhaler stick – up to 20 drops essential oil(s)</td>
</tr>
<tr>
<td>Shampoos, shower gels, bubble baths</td>
<td>12 – 50 drops per base = 0.25% – 1%</td>
</tr>
<tr>
<td>Salts</td>
<td>Generally, 10 drops per cup of salts but less if the essential oil is potentially irritating. Remember that essential oils are lipophobic and therefore will not blend well with the salts. You will need to add the essential oil to a carrier oil or an emulsifier prior to blending with the salts.</td>
</tr>
<tr>
<td>Sitz Bath</td>
<td>Add 5 drops of essential oil(s) to either a carrier oil or salts + a carrier oil and soak in the bath for 5 – 10 minutes.</td>
</tr>
</tbody>
</table>
Want to Learn more about Aromatherapy?

Our recognised schools and teachers offer professional level courses that give you the solid education to allow you to build a business, or just feel secure knowing you are using essential oils safely. The advantages of attending a recognized course and studying under a recognized teacher might include rapid membership processing; no cost for membership application review; and ensures students have access to teachers with a specific level of knowledge and practical experience who have agreed to teach to the BCAOA’s core curriculum.

To see a list of our recognised schools, courses, and teachers, please go to:
http://bcaoa.org/membership/education-membership/recognized-courses-teachers-and-schools/

If you would like to apply to have your school or course recognised, please contact us at secretary@bcaoa.org to request an application and the core curriculum.

To apply for membership in the BCAOA, please go to:
http://bcaoa.org/membership/