

All About Essential Oils



Come one and all, welcome to essential oils 101. This is going to be an all-natural and fun ride. So, let's start off simple.

Our sense of smell can be one of the most powerful senses we have. The olfactory nerve located in the brain is vital to the sense of smell. Together smell and olfactory work simultaneously to do amazing things for our bodies. Some examples of this powerhouse combo are: heal our illnesses, set an atmosphere or mood; and even bring back floods of memories that have been buried for years. The possibilities of use of scent can be quite a distinctive and long list.

Aromatherapy has been in practice for Years!



When essential oils are used in situations where healing, whether it is mental or physical, is an end result, the term is called aromatherapy. Aromatherapy has been in practice for many years, and aromatherapy's popularity is definitely picking up followers. In fact, essential oils used in aromatherapy are readily accepted by the human body. This is due to the chemical structure of essential oil. It so closely resembles that of a human protein, that the human body does not notice the difference. This can all be justified by exactly what the essential oil is. **Essential oils are derived or made from the essence of flowers, spices, woods, and even herbs.** The term essence refers to the essential oils' distinct scent. Speaking metaphorically, the essence of a fragrant item is its soul. Taking out all of the scientific aspects of photosynthesis, the essence of a plant or flower is what keeps it healthy and alive. It is due to this train of thought as to why since the times of early Egyptians, essential oils have been used for healing powers, and even today with holistic health. Essential oils are also used for other things besides aromatherapy. They can be used in perfumes, cosmetics, disinfectants, candles, soaps, bath and body products, and even flavorings for food, just to name a few.

Essential oils are limited. The items used for making essential oils contain such small amounts of essence; it can take up to a hundred pounds in some instances to create a single ounce of one particular essential oil. This is one of the factors into why some essential oils are considered precious. Essence amounts rendered also has a massive part in the cost on the market for essential oils, as does whether the essential oil is in season or not.

How are Essential Oils Made?



Now that you have a simple understanding of what an essential oil is, let's discuss how essential oils are made. There are several techniques used when making essential oils. **The most common is one called steam distillation.** It is also believed that this method produces the best quality essential oil. This technique was invented in the 11th century by a Persian chemist who created this method to extract essential oils. His name was Ibn al-Baitar. Yeah Ibn!!! Ibn's invention of steam distillation can be accredited with the transformation of revolutionizing the perfume industry. In fact, the process of steam distillation was so perfect; it was almost 200 years before improvements were made.

The steam distillation method involves placing the flower, plant, or herb (which can be either fresh or dried) into a still. Then, pressurized steam is concentrated in the area where the items are placed. The item becomes saturated. Once the item is saturated, the cell walls of the item burst, allowing the molecules that contain the essence out. This occurs until the essence of the item is "sweated out". The essence is actually volatile aroma compounds that are unbelievably potent. The sweat or vapor that is left (a combination of essence and water) passes through a spiral tube and is then "shocked" with cold water. What it left is a mixture of essence and water. This essence oil, is just that, an oil, it is a naturally hydrophobic liquid- meaning essential oils do not blend with water. This is a key element to remember when selecting your carrier for essential oils.

Steam distillation can be a very tricky process, especially when you consider that the steam has to be at the proper temperature to extract what is needed without permanently destroying the source. Once this has occurred, the steam and the highly scented molecules are then circulated into another area where it is immediately cooled. Naturally when using some temperature extremes, condensation occurs. This duo of water and essence oil is the first actual liquid state of an essential oil. However, you must remember that essential oils are hydrophobic, therefore before the essential oil is in its true state (the physicality that we know them in) there is a period of patience needed. During this wait time, the water and oil completely separates. This is due to the fact that oil is lighter than water, so naturally the oil will float to the surface. The next step involves a skimmer that is lightly moved over the top of the liquid. This separation of the oil film is removed. This is your essential oil. **The liquid (or byproduct) that is left is known by three names: floral water, distillate, or hydrosol.**

It is due to the floral water being such a vital component of the steam distillation process that it too retains many of the same therapeutic properties in that of essential oils. This is why it is considered to be very valuable in skin care products. As well, floral water may be selected over essential oils depending on the situation. This would especially ring true in cases involving small children, and individuals with extremely sensitive skin. Simply broken down, floral water is a very, very diluted form of an essential oil.

Although steam distillation is used for the vast majority of extracting essence, there are other processes in existence. Generally any citrus essential oils are expressed from the item. This process is called cold pressing, and is done by pressing the fruit peelings until the essence is drawn out.

The Enfleurage Process



Two other common extraction methods used for capturing essence for essential oils are enfleurage and solvent extraction. **Enfleurage is a process of pressing an item into either a wax or oil until the essence is removed from the item completely, and the carrier now contains the essential oil. This method is often used in situations involving flower petals.**

When certain items are too delicate for steam distillation solvent extraction is the method used. Solvent extraction can be a very expensive way to create an essential oil. With this method the item being used for its essence is mixed with other components; solvents like benzene, hexane, or petroleum. This mixture keeps continuing until the solvent contains the essence of the item. This mixture is called concretes. Concretes are the mixture of essential oils, waxes, resins, and plant materials that are lipophilic (oil soluble). From this mixture, the now fragrant solvent is then mixed with an ethyl alcohol solvent which breaks down the non fragrant elements. When that process is completed, the mixture is distilled and filtered so the essence is separated from the solution. The essential oil at this state is called an absolute.

As mentioned earlier, there are many benefits of using essential oils, but as with anything, there are always drawbacks that need to be noted. Obviously when dealing with essential oils, you have very highly concentrated oil, and in most instances, the essential oil should never be applied in this state directly on the skin. Essential oils in their undiluted form are termed “neat”. The neat form of an essential oil can cause severe skin irritations and even allergic reactions. If a neat essential oil is used directly on the skin, it can become hepatotoxic. This hepatotoxicity is one reason why one should be well educated about specific essential oils before deciding to use them on pets. Animals have higher sensitivity to dermal toxicity than do humans; especially feline species.

The Difference between an Essential Oil and Fragrance Oil?



Although both essential oils and fragrance oils can be used to scent products there are some differences between the two that should be noted.

First, essential oils are pure extracts from plants in general where as fragrance oils are synthetically created from perfumists in labs, however, some fragrance oils do contain essential oil components.

Essential oils are known for having a very strong scent, but unlike their counterpart fragrance oils, the scent variety is very limited. Cost is yet another difference to be noted. Essential oils are very costly, fragrance oils are very economical. And, on a final note, essential oils can be limited, and may vary based on the weather, the crop itself, and even the temperatures used in distillation, where as fragrance oils are widely available and do not deviate in formula since they are synthetically produced.

The carrier or base that you are putting your essential oil into has to be oil friendly and neutral. This is known as diluting your essential oil. This is a necessary step. What carrier oils do on a molecular scale is the breaking down of the concentrated molecules of an essential oil. This also helps to spread them evenly throughout the product and concurrently makes the product safe for body use; in fact, your carrier oil actually helps the body absorb the essential oil through the skin. In other words, extending the wonderfully therapeutic benefit of the essential oil and also adding additional benefits from the carrier oil to the product, such as extra nutrients.

Natural Ingredients



The Vegetable based carrier oils prove to be very popular. Carrier selections vary including oils like almond, grape seed, olive, aloe vera, apricot kernel, calendula, wheat germ, coconut, and hazelnut to name a few. However, please do note that some carrier oils like almond for example have their own “scent”, as well as a therapeutic benefit. Also, yet another thing to consider is what the origins of your carrier or base oil are. Considering that Almond oil is derived from almonds, anyone with an allergy to nuts may have an allergic reaction to your product.

What to do when using Citrus Essential Oils?



When using citrus essential oils, it should be stated that applying your essential oil and carrier to the skin can make your skin increasingly more sensitive to sunlight. This is because citrus essential oils are photosensitizers, which makes the skin more vulnerable to the sun's rays, but not necessarily in a positive way. One of the procedures that can be done to the essential oils to minimize this reaction is to rectify the oil. To rectify an essential oil means to alter it in a positive way. For example,

Bergamot essential oil may alter the potassium levels of muscle groups resulting in twitching or cramps of said muscles. By rectifying the bergamot essential oil, it is purified again, leaving an essential oil that has all or most of the furo coumarins or bergaptenes removed. These are the elements that cause photosensitivity to our bodies.

When dealing with essential oils you also may run into ones that have numbers after them. Two common examples of this are Lavender and Eucalyptus essential oils. Often times, lavender essential oil labels state "Lavender 40/42". What this means is that the lavender essential oils has linalyl acetate content present, specifically 40%-42% of it. In this instance, a blend of various lavenders were used to create this essential oil and the linalyl acetate was used to cover many of the camphorous and borneolous (or woody smells) of the straight lavender smell to give the essential oil the scent that is commonly assigned to what the mass population conceives that lavender should smell like. Linalyl acetate is a natural chemical found in lavender. Lavender 40/42 essential oil is one of the most popular essential oils. With eucalyptus essential oil, the label may say "Eucalyptus 80/82" what this means is that the Eucalyptus oil contains 80% to 82% cineole. Cineole is present in eucalyptus especially, but the oil needs to be rectified by isolating the oil, distilling it, and freezing it before it can be used. The cineole is a very popular component in medicines since it is perfect for antiseptics.

When in doubt, check it out. Any reputable company that sells essential oils will post the essential oils specification sheet. This sheet for most is downloadable from the company's website and contains various detailed information on the essential oil itself. Here is a quick overview of what some of this information means:

CAS#: this is a group of numbers that are assigned to the essential oil that are useful for shipping information

FEMA#: this is a number that is assigned to an essential oil by the Flavor & Extract Manufacturers Association. The essential oils are assigned this number as a result of being tested for food safety.

Botanical Name: the Latin name of the essential oil

Appearance and odor: this information will give you a quick note of the color and smell of an essential oil

Assay: when this information is given, it means that physicochemical tests were performed on the essential oil. What these tests determine are things such as alcohols, esters, aldehydes, phenols, and ketones present in the essential oil.

Optical Rotation: These numbers are actually measurements of the degrees (right and left) that the light bends (or rotates) through the essential oil.

Refractive Index: These numbers reflect the speed that light is refracted through the essential oils.

Specific Gravity: These numbers are the weight that an essential oil is at a specific degree (either Fahrenheit or Celsius)

Flashpoint: This degree is the temperature that when reached will ignite and continuously burn the essential oil off.

UV Spectra: This is information (when given) that determines the absorption of light through the essential oils at varying wavelengths

Solubility: This information will let you know in which mediums the essential oils will combine

Here is more information that should be known prior to working with essential oils:

- Never ingest essential oils while pregnant. Some essential oils are termed as abortifacients, meaning that use of that specific oil may cause an abortion in pregnant women. In fact, precautions should be taken before ingesting any essential oil.
- Also, some essential oil can be deadly.

- Before using a body product made with essential oils, it is extremely important that you do a patch test on a small area of the body. This is especially advised if you suspect that you may be sensitive to that particular essential oil.
- When dealing with a neat essential oil, it is imperative that you wash your hands after diluting it in its carrier. Better yet, wear latex gloves when dealing with essential oils.
- You should always avoid putting essential oil products on your mucous membranes such as your eyes and ears.
- Finally, **ALWAYS** keep essential oils out of the reach of children and pets!

Essential Oils with dual purpose



Okay, now that you have a little bit of important background knowledge on essential oils, it is time to discuss how to select the right oils for purchasing. The first step in choosing the right essential oil is to know what the end product that you are producing is. If you are focusing on the aromatherapy aspect, then you need to know what the main categories are that you are looking to hit. Some examples of these categories are: **Relaxation, Passion, Energizing**. Once you know that, then the next goal is to research which essential oils work best for that category. The majority of essential oils cross over and have many different “healing aspects”, so it is best to know all of the multiple functions that your oils have. As well, it is also important to know how you are going to deliver the oil; basically what carrier are you going to put the essential oil in. As with fragrance oils, you have a very extensive list of possibilities for use.

Many of the essential oils have multiple uses. For example, the essential oil of lavender works successfully in relaxation- just by breathing it in, but also is known for having excellent topical healing powers as well as scar reducing aspects.

So, it is safe to say that when it comes to essential oils, the more you know, the more multiple uses you will have for your essential oil.

Now that the bulk of your research is completed, it is time to introduce the different grades that you can purchase your essential oils in. Obviously, the price that you pay will reflect based on the grade that you select. When you are finally ready to purchase your essential oils, it is extremely important to know which grade of essential oils that you are looking to buy. The grade of an essential oil refers to the purity or quality of the oil, but there are no regulated classifications for these.

There are 3 major grades of essential oils.

1. Grade A (or therapeutic): This grade is the highest quality essential oil. These oils contain only pure chemical essence of the item without any impurities- such as carrier oils or solvents. These oils are key for use in aromatherapy. Natures Garden's essential oils are all Grade A.

2. Grade B (or food grade): These oils may contain other components in the essential oil such as solvents, synthetics, pesticides, fertilizers, and even chemical extenders.

3. Grade C (cosmetic grade): In this group of essential oils, there is a high percentage of solvents use. There may also be synthetics, pesticides, and chemical extenders.

4. There is a 4th group of essential oils, these are called Natural or conventional oils: There are no chemical additives in these essential oils; however, they may contain agricultural residues in tiny amounts.

It is also possible to purchase organic essential oils. These essential oils are certified as organic and these essential oils are regulated. This means that an accredited organization (through the USDA) has found the essential oils to meet all standards of the National Organic Program or the NOP for short. Having essential oils certified as organic guarantees that the oils contain no synthetic ingredients, no pesticides were used while growing the plant, and the distilleries have passed certification inspections. According to the USDA and the NOP, in order to label an essential oil organic, it must contain at least 95% organic ingredients.

Now, because essential oils are not regulated officially by any governing agency, it is very important to know that you are purchasing your essential oils from a reputable company. Do not rush the research process. Ensuring that you are purchasing exactly what you need should not be taken lightly. Getting to know your essential oils inside and out can be a tedious task, but done correctly, the benefits far surpass the disadvantages.

Testing Essential Oils



Do not feel limited or intimidated by essential oils. There are a plethora of products that you can create. Some ideas are: Liquid potpourri, air fresheners, household cleaners, dryer sheets, linen sprays, carpet deodorizer, candles, incense, bath and body products, shampoos, the list can go on and on. Basically if you can scent it, you can use essential oils.

The next step in the using essential oils process is testing. As with anything that you are initiating for the first time into your repertoire of creativity, you must test. For the first purchase of essential oils, you always want to purchase the smallest size, or tester size. Although this may not be the best bargain for the buck, it is the smartest move that you can make. Purchasing the sample size allows you to test an essential oil out before committing to a large bottle. This way you can get a feel for the essential oil, see how it works, and even test the product out that you are going to make. Once you have found the essential oil or oils to complete your task; that is when you can purchase the larger bottles without hesitation.

So, now we are at the point where you know about essential oils, you have tested and committed to the essential oils that work for you, so naturally the next question is how do I store the leftover essential oil? The shelf life of an essential oil varies dependent upon which essential oil you are using, and how you store it. In fact, if properly stored, with some essential oils, you can actually extend the shelf life. Essential oils should always be stored in a tightly sealed, dark glass bottles. These bottles are also known as amber bottles. The essential oils can also be stored in aluminum or double lined containers. It is also important to store the oils in a cool area away from direct heat or sunlight.

Essential Oils FAQ



Q: What is the correct ratio for use of essential oils in my products?

A: Since essential oils are very concentrated, you do not need to use much at all. In fact, the common statement less is more is true within the realm of essential oils. Some common guidelines for products are:

Diffusers to scent a room: 3-8 drops of essential oil

Body lotion or massage oil: 10-25 drops of essential oil for every 100mL of base

For body compresses: 1-2 drops of essential oil for every 2 liters of water

Foot bath: 5-6 drops of essential oil directly to the water

Home cleaning products: 5-10 drops of essential oil for every 5 liters of water

Dehumidifiers or vaporizers: 10 drops of essential oil

Facial oil, cream, or lotion: 5-10 drops of essential oil for every 100mL of base

Q: Is it true that some essential oils can be toxic?

A: Yes, with some essential oils if too much is used, it can have adverse effects, as well as cause death. That is why it is extremely important that a neat essential oil is never applied topically. Also, never ingest an essential oil unless prescribed by a trusted licensed practitioner of aromatherapy. Although, essential oils applied topically are absorbed to the body at a slower rate than ingestion, overexposure can still result in death.

Here is a list of potentially fatal essential oils. When using these oils, you need to be especially careful (they are listed in no particular order):

Wintergreen
Bitter Almond
Camphor
Arnica

Nutmeg
Parsley
Turmeric
Wormseed

Tansy
Mustard

Q: I heard that you can overdose on eucalyptus essential oil, is that true?

A: There are a few essential oils that rank high on the aromatherapy list because of the versatility of uses and healing powers. Eucalyptus essential oil is one of these. Never use eucalyptus essential oils with children, their skin is extremely sensitive. Also, pregnant women should not use this oil as well, it is a known abortifacient. Precautions must be taken when dealing with this oil. It is a common misconception that an overdose can only occur when all of the oil is absorbed (whether internally through ingestion or topically applied) at one time, however, an overdose can also occur through extended daily usage. That is why it is advisable to split up your interaction with essential oils. If you use them daily, take one day off a week. This will give your body a break. There are some symptoms that you can watch for when dealing with an overdose of eucalyptus:

- breathing differences either shallow or fast
- seizures
- weakened heart rate
- tiredness
- problems swallowing
- burning sensation in mouth

If any of these problems occur seek medical assistance immediately! Although overdose of eucalyptus essential oils are not common, it does exist, and can be fatal.

Yet another oil to have warranted precautions about is Bergamot essential oil. It is very similar to eucalyptus. Two key factors to consider in order to avoid an overdose are how much of the oil you are using, and the method of absorption for the product. The warning signs of an overdose with this oil are:

- blurred vision
- tingling or burning sensation
- muscle cramping

Q: Can every plant, herb, and flower be made into an essential oil?

A: No, they cannot. Of the possible 400,000 varieties of plant life available, only about 400 of them can be used to make a successful essential oil.

Q: What precautions need to be taken when dealing with essential oils that contain methyl salicylate?

A: The number one thing that you need to realize when dealing with Birch essential oil is that it does contain methyl salicylate. What methyl salicylate is actually a natural aspirin. Now considering that it is the active ingredient in birch essential oil, an overdose on this oil is completely feasible. It is extremely important when taking or using this oil that you do not take any other aspirins (whether over the counter or prescribed). This is where the overdose occurs. The combination of the two aspirins in your body can be hazardous to your health.

Q: So what do I do in case of an accidental overdose?

A: The key to answering this question is the more you know the better chances you have. The number one thing to do in any situation is first call 911. Let them know of the circumstance, and give them every bit of information you have. The more information that they have, the better the chances are that they will be completely aware of the medical steps they need to take. If the overdose deals with ingestion, NEVER EVER induce vomiting. This will make the issue worse, it is best to try to get the person to eat burnt toast, this will help absorb any extra fluids in the stomach, and the charcoal on the toast will help to neutralize the chemicals in the oil.

Q: I am breastfeeding, and I am hesitant to be around essential oils, is it valid, or am I crazy?

A: You are not crazy; women who are breastfeeding should take the same precautions as pregnant women. You never want to do anything that will put you or your baby in danger. Since essential oils are very similar to our human proteins, anything that may influence hormones should be avoided. Specifically you should avoid Aniseed, Basil, Camphor, Clary Sage, Hyssop, Pennyroyal, Sage, Savory, Thuja, Wintergreen, Juniper, Thyme, Bay Leaf, Rosemary and Tarragon. If you have questions, you can always check with your licensed aromatherapist.

Q: Aromatherapy works so well, I am considering doubling my dose in order to heal faster, what do you think?

A: Your body can only healthily absorb so much essential oil before problems can occur. Never double your dose, it will not heal you more quickly, in fact it can worsen your health.

Q: Is there a test I can do to find out if my essential oil is "pure"?

A: Yes, there is a fairly easy test that you can perform to see if your essential oil is pure. Drop 1 drop of your essential oil onto blotter paper or construction paper. If it evaporates quickly without leaving a noticeable ring or oily feel, then your essential oil is likely "pure". If the paper shows a ring, and takes a long time to evaporate, your essential oil is likely adulterated with carrier oils or solvents.

Note: It is said that this test may not work when testing essential oil of patchouli, myrrh, or absolutes.



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