

Essential Oils

Essential Oils are highly concentrated substances derived from a plant that usually bears the aroma or flavor of that plant. The Greek alchemist Paracelsus coined the term ‘essential oil’ because he believed these oils were the most concentrated form of a plant’s essence—the quintessence of the plant.¹ Even though modern essential oil extraction methods weren’t developed until the late 16th century, the use of plant aromatics dates back to ancient times when they were used in rituals, food preservation and preparation, as perfumes and fragrances, and, of course, as medicines.² Today essential oils are used in body care products for their scent as well as therapeutic benefits, in the creation of perfume, and certain essential oils are used by the food industry as preservatives and for flavoring. Essential oils are also readily available for home use and aromatherapy.

Not all plants produce aromatic substances that can be extracted and used as essential oils, but, in the plants that do, these substances are produced because they are important for the plant’s defense and survival. Plants use aromatic substances to discourage herbivores, prevent the growth of pathogens, repel pests, encourage pollination, and compete with other plants for resources, such as space and nutrients.² On average, essential oils contain 100 different naturally occurring chemical compounds.³ The two main categories of compounds are terpenes (which include mono- and sesquiterpenes, aldehydes, ketones, esters, and oxides) and phenylpropanoids (which include phenols, aromatic alcohols, aromatic aldehydes and ethers). These compounds are responsible for the smell as well as the medicinal qualities of the oil.

How Are Essential Oils Made

Essential oils can be extracted from nearly every part of a plant, including leaves, stems, flowers, peels, seeds, wood, bark, roots, needles, twigs, and resin. Some plants can yield more than one essential oil; for instance, neroli comes from the flowers of bitter orange, petitgrain from the leaves, and orange oil from the peels.¹

Distillation is the most common method used to extract essential oils from their plant matter. This method exposes the plant matter to concentrated steam, which releases the aromatic molecules into vapor and then condenses them into a liquid form, the essential oil. Distillation also yields hydrosols, which contain the water-soluble constituents of the plant and a small amount of the essential oil. Hydrosols (a.k.a. floral waters) can be used in place of water in a body care recipe, as a toner, any time an essential oil would be too strong, and some can even be used in cooking. Citrus essential oils are extracted by cold-press extraction, which squeezes the oils out of the peel. For some plants that contain only small amounts of aromatic compounds or are too fragile to be distilled, solvent extraction is used, producing an “absolute”. The finished absolute contains little to no solvent residue and is highly concentrated in aromatic compounds. In recent years Supercritical CO₂ Extraction has been used for some essential oils (technically, “absolutes” when produced with this method). Using carbon dioxide as a non-toxic solvent, this method allows for a wide range of aromatic compounds to be extracted at low heat.

How Are Essential Oils Used/What Can You Do with Essential Oils?

Essential oils can be used in a variety of ways and for a variety of purposes. Aromatherapy is the term generally used to describe the therapeutic use of essential oils for addressing physical as well as psychological and emotional concerns. When essential oils are applied to the skin, not only do they work on the skin they come in contact with, but they are also absorbed and enter into the body where they can exert their effects. When applied topically, between 4% and 25% of an essential oil is absorbed, depending on the chemical composition of the oil.⁴ This allows essential oils to enter directly into the bloodstream without having to go through the digestive tract. Essential oils also work through inhalation. The aromatic molecules are carried via the nose to the respiratory tract, where they can work directly or be absorbed through the alveoli into the bloodstream. Once essential oils enter the bloodstream the liver

will eventually metabolize them and they will be excreted via the kidneys. When essential oils are inhaled, they also interact with cells at the back of the nose where the aromatic molecules can stimulate changes in the brain, such as alter production of neurotransmitters like dopamine, endorphins and serotonin.^{4 5 6} You've likely experienced this phenomenon before when a smell triggers a memory or brings up a certain emotion. Different essential oils have been shown to possess qualities that modulate inflammation, create an inhospitable environment for bacteria, fungi and viruses, support liver detoxification, and influence mood and brain function.^{4 7} Despite all their wonderful attributes, essential oils can be used just for the smell of it too.

To harness the power of essential oils consider using them in any of the following ways:

- Put them in a diffuser to release their compounds into the air. This method can help to clean and purify the air as well as allow for the inhalation of the oils from the air.
- Place a drop or two on a tissue and inhale from the tissue.
- Add them to your favorite unscented body care products (like lotions, liquid soap, etc.). A good rule of thumb is to add 10-20 drops per ounce.
- Make your own homemade body care products and use essential oils in them.
- Apply them to the skin either over the affected area (i.e. the stomach or a sore muscle) or to the soles of the feet, by first mixing with a carrier oil (such as jojoba, olive, almond, or coconut).
- Add a few drops to your bath water.
- Mix them with distilled water in a spray bottle. Depending on the essential oil used, this mixture can be used either topically on the body, for cleaning and disinfecting purposes, or as pest repellent.

Choosing and Using Essential Oils

Once you have decided on your desired oil(s) based on therapeutic benefit or simply on scent alone, you will want to do a little research on the oil's safety and how it is best used. The following information will help you choose a product that is right for your intended purpose and give you some guidelines for safely using essential oils.

Determining Quality

There are no standards established for grading the quality of essential oils. Terms like "therapeutic grade", "pharmaceutical grade" or "food grade" have no legal requirements for their use and do not necessarily ensure quality.⁸ In fact, any manufacturer can use these terms regardless of the quality of their oils, in short these are simply marketing terms. To ensure that you are getting high quality essential oils look for the following clues on the label:

1. The botanical or Latin name of the Plant in addition to the common name.
2. The country of origin
3. The part of the plant used (i.e. bark, leaves, root, etc.)
4. The extraction method (steam distilled, cold-pressed, etc.)
5. Most reputable companies will also be able to prove that the oil has been tested for identity and purity should you request such information.
6. At Natural Grocers we only carry essential oil lines that meet our strict quality standards. Every brand of essential oils we carry meets Current Good Manufacturing Practices (CGMP) standards (established by the FDA) and also verifies the identity and purity of each essential oil batch using the following tests: gas chromatography, infrared spectroscopy, refractive index and specific gravity.

Other things you may want to consider when purchasing an essential oil are:

Is the oil 100% pure or is it combined with extenders (such as jojoba oil) or added fragrances?

Combining an essential oil with a carrier oil or fragrances does dilute the effect, however it offers the advantage of making expensive oils (such as jasmine or rose) more cost effective and in some

cases extending the life of the scent. Oils that have been diluted or have added fragrances are probably best used in applications where scent is most important. For more therapeutic applications, pure essential oils are usually preferable. The information on the label should help to verify a 100% pure claim.

Is the essential oil derived from an organic plant?

Organic essential oils have been derived from plants that have been grown without the use of chemical pesticides, fertilizers or herbicides. Organic may be especially important in the case of Supercritical CO₂ Extraction, which appears to concentrate more pesticide residues than other extraction methods.⁹ Organic essential oils should bear the USDA Organic Seal



Cautions for Use

Bear in mind that essential oils are highly concentrated and thus can be very powerful. The following suggestions will help you to harness their benefit safely.

1. In general, never apply an essential oil straight to the skin; instead add it to a carrier oil, water or similar vehicle.
2. Always test a small patch of skin for sensitivity before applying an essential oil over a large part of the body.
3. Essential oils should be used sparingly, if at all, with babies and very young children. Even a small amount of some oils may be too much for small, delicate bodies. Please be absolutely certain an oil is appropriate for use with children before using.
4. Extra caution should be used by pregnant and lactating women, the elderly, and the frail when using essential oils.
5. The internal use of essential oils or use in mouthwash is highly debated among professionals, but is generally not advisable. Even though the FDA has acknowledged some essential oils as Generally Recognized As Safe (GRAS), it has not determined any safe dosages. Bear in mind that the oils the FDA has granted GRAS status to are intended for use in the food industry where a drop or two may flavor an entire batch, this is very different than a drop or two straight out of the essential oil bottle onto the tongue.¹⁰ This is true for all essential oils, regardless of their claim of purity. Besides the very real danger ingesting essential oils can pose (in some cases 1-3 drops can be toxic when taken internally), most professionally trained aromatherapists feel that internal use of essential oils is actually inferior to topical use or inhalation. The reason being that oils taken internally, not only are more likely to cause mucous membrane irritation and other side effects, but they will be delivered to the liver first where they are metabolized and readied for elimination before having a chance to enter the blood stream.
6. Some essential oils may cause phototoxicity, meaning they make the skin more sensitive to sunlight, resulting in increased risk of burn and damage. Some known phototoxic essential oils are angelica, bergamot, grapefruit, lemon, lime, mandarin and orange. Avoid applying these oils to the skin before heading out into the sun.¹¹

Proper Storage of Essential Oils

Store essential oil bottles sealed and in a dark, cool spot, and avoid touching the spout; rather allow the oil to drip out. Stored this way, most essential oils have a very long shelf life.

For more information on specific essential oils and how to use them, check out the following books:

The Complete Book of Essential Oils & Aromatherapy by Valerie Ann Worwood

Encyclopedia of Essential Oils by Julia Lawless

Essential Oils Complete Reference Guide by KG Stiles

Essential Oils for Healing by Vannoy Gentles Fite

References Available Upon Request

Building Your Basic Essential Oil Kit

Lavender (*Lavandula angustifolia*)

Aroma: sweet, fresh, floral

Uses/Properties: Appropriate for most skin types and many skin concerns, deodorizing, supports healthy mood, calming, relaxing, discourages microbes (bacteria). Commonly used to soothe minor burns.

Safety: One of the most widely used essential oils and generally considered safe

Tea Tree (*Melaleuca alternifolia*)

Aroma: Warm, spicy, medicinal and volatile

Uses/Properties: Discourages microbes (bacteria, fungi, and viruses), modulates inflammation, supports skin health.

Safety: May cause minor skin irritation in some people, patch test skin before using.

Eucalyptus (*Eucalyptus globules*)

Aroma: Fresh, penetrating and woody, camphoraceous

Uses/Properties: Modulates pain and inflammation, cooling, discourages microbes (bacteria, viruses), deodorizing, supports respiratory health.

Safety: Generally considered safe

Peppermint (*Mentha x piperita*)

Aroma: Fresh, minty, sweet

Uses/Properties: stimulating, modulates pain and inflammation, discourages microbes (bacterial and viral), supports digestive function (carminative/dispels gas).

Safety: Do not use with young children or babies or during pregnancy

Cinnamon (*Cinnamomum zeylanicum*)

Aroma: Sweet, spicy, warm

Uses/Properties: Warming, stimulates circulation, supports digestive health, supports immune function.

Safety: Can be irritating to the skin and mucous membranes (especially cinnamon bark).

Avoid during pregnancy

Rosemary (*Rosmarinus officinalis*)

Aroma: Fresh, herbal, resinous, woody undertone

Uses/Properties: Stimulating, energizing, modulates pain, supports respiratory health, supports hair health.

Safety: Avoid during pregnancy or in epilepsy or hypertension

Lemon (*Citrus limon*)

Aroma: Fresh, citrus, reminiscent of the peel

Uses/Properties: Uplifting, discourages microbes (bacteria, viruses, fungi), supports digestive function.

Safety: May increase photosensitivity when applied topically

Sweet Orange (*Citrus sinensis*)

Aroma: Fresh, fruity, sweet, similar to the peel

Uses/Properties: Uplifting, supports proper circulation and lymphatic function, purifying, discourages microbes (bacteria). Commonly used in household cleaners.

Safety: May increase photosensitivity when applied topically

Chamomile, German (*Matricaria recutita*)

Aroma: Rich, floral.

Uses/Properties: Calming, appropriate for all skin types and many skin conditions, modulates inflammation and pain, supports digestion.

Safety: Generally safe, although it may cause skin irritation in a small percentage of users.

Compiled from the following resources: *The Encyclopedia of Aromatherapy* by Chrissie Wildwood, *Essential Oils: A Handbook for Aromatherapy Practice* by Jennifer Peace Rhind, www.auracacia.com, www.mountainroseherbs.com