ESSENTIAL OIL



An essential oil is a concentrated hydrophobic liquid containing volatile aroma compounds from plants. Essential oils are also known as volatile oils, ethereal oils or aetherolea, or simply as the "oil of" the plant from which they were extracted, such as oil of clove. An oil is "essential" in the sense that it carries a distinctive scent, or essence, of the plant.

While the unique chemical and molecular properties of essential oils are a topic of study, they are commonly defined by the fact that they convey characteristic fragrances. It follows that the common tendency to speak of essential oils as a category, as if that implied anything in particular about their medical, pharmacological, or culinary properties, is highly unreliable and often actually dangerous.

Essential oils are generally extracted by distillation. Other processes include expression, or solvent extraction. They are used in perfumes, cosmetics, soaps and other products, for flavoring food and drink, and for adding scents to incense and household cleaning products.

Various essential oils have been used medicinally at different periods in history. Medical application proposed by those who sell medicinal oils range from skin treatments to remedies for cancer, and often are based on nothing better than historical accounts of use of essential oils for these purposes. Claims for the efficacy of medical treatments and treatment of cancers in particular, are now subject to regulation in most countries, and to avoid criminal liability, suppliers of fringe remedies are becoming increasingly vague in what they promise.

As the use of essential oils has declined in evidence-based medicine, one must consult older textbooks for much information on their use. Modern works are less inclined to generalize; rather than refer to "essential oils" as a class at all, they prefer to discuss specific compounds, such as methyl salicylate, rather than "oil of wintergreen".

Interest in essential oils has revived in recent decades with the popularity of aromatherapy, a branch of alternative medicine that claims that essential oils and other aromatic compounds have curative effects. Oils are volatilized or diluted in a carrier oil and used in massage, diffused in the air by a nebulizer, heated over a candle flame, or burned as incense.

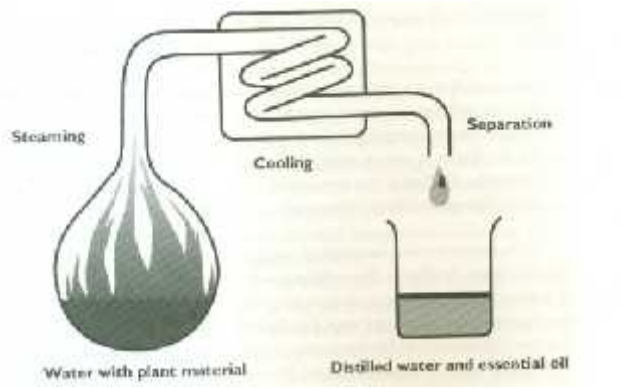
The techniques and methods first used to produce essential oils was first mentioned by Ibn al-Baitar (1188–1248), an Andalusian physician, pharmacist and chemist.

Distillation

Today, most common essential oils, such as lavender, peppermint, and eucalyptus, are distilled. Raw plant material, consisting of the flowers, leaves, wood, bark, roots, seeds, or peel, is put into an alembic (distillation apparatus) over water. As the water is heated, the steam passes through the plant material, vaporizing the volatile compounds. The vapors flow through a coil, where they condense back to liquid, which is then collected in the receiving vessel.

Most oils are distilled in a single process. One exception is ylang-ylang (Cananga odorata), which takes 22 hours to complete through a fractional distillation.

The recondensed water is referred to as a hydrosol, hydrolat, herbal distillate or plant water essence, which may be sold as another fragrant product. Popular hydrosols include rose water, lavender water, lemon balm, clary sage and orange blossom water. The use of herbal distillates in cosmetics is increasing. Some plant hydrosols have unpleasant smells and are therefore not sold.



Pharmacology

Although there is currently something of a dismissive attitude concerning essential oils in pharmacology, various essential oils retain considerable popular use, partly in fringe medicine and partly in popular remedies. Unfortunately, this makes it difficult to obtain reliable references concerning their pharmacological merits. Publications recommending alternative remedies are prone to making vague and wildly ambitious claims.

In some applications, there is no doubt particular essential oils have considerable advantages over many over-the-counter drugs and for clinically minor, but nonetheless troublesome, conditions that do not respond decisively to prescription drugs. For example, congestion and persistent coughs, particularly dry coughs, often respond well, economically and safely to direct inhalation of vapours. The vapours may be administered by inhalers, steam kettles, fragrant ointments, lozenges to be sucked, or strongly aromatic sugarless chewing gum.

Typical ingredients for such applications include eucalyptus oils, menthol, capsaicin, anise and camphor. Other essential oils work well in these applications, but it is notable that yet others offer no significant benefit. This illustrates the fact that different essential oils may have drastically different pharmacology. Those that do work well for upper respiratory tract and bronchial problems act variously as mild expectorants and decongestants. Some act as locally anaesthetic counterirritants, and thereby exert an antitussive effect.

Some essential oils, such as those of juniper and agathosma are valued for their diuretic effects.

Many essential oils affect the skin and mucous membranes in ways that variously are valuable or harmful. They are used in antiseptics and liniments in particular. Typically, they produce rubefacient

irritation at first, and then counterirritant numbness. Turpentine oil and camphor are two typical examples of oils that cause such effects. Menthol and some others produce a feeling of cold followed by a sense of burning. This is caused by its effect on heat-sensing nerve endings. Some essential oils, such as clove oil or eugenol, were popular for many years in dentistry as antiseptics and local anaesthetics. Thymol also is well-known for its antiseptic effects. Taken by mouth, many essential oils can be dangerous in high concentrations. Typical effects begin with a burning feeling, followed by salivation. In the stomach, the effect is carminative, relaxing the gastric sphincter and encouraging eructation (belching). Further down the gut, the effect typically is antispasmodic.

Use in aromatherapy

Aromatherapy is a form of alternative medicine in which healing effects are ascribed to the aromatic compounds in essential oils and other plant extracts. Many common essential oils have medicinal properties that have been applied in folk medicine since ancient times and are still widely used today. For example, many essential oils have antiseptic properties. Many are also claimed to have an uplifting effect on the mind. Such claims, if meaningful, are not necessarily false, but are too vague to be taken seriously in the light of the many abuses and controversies that repeatedly come to light, and the sheer variability of the materials used in the practice.