ESSENTIAL OILS

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WHAT IS AN ESSENTIAL OIL?

An essential oil is an aromatic fluid, more or less thick, and with a variable colour depending on the plants which it is extracted from. It is produced by specialized cells found in leaves (peppermint, large leaved basil), flowers (lavender, ylang ylang), wood (Atlas cedar, white sandalwood), roots (ginger, valerian, vetiver), seeds (coriander, green anise, carrot). The droplets size is of about few microns which explains why we cannot see them. However, when we crease the aromatic plant the droplets of essential oil are released into the atmosphere and we can smell them. Our nasal smell receptors are activated: they send sensory stimuli to different areas of the brain.

WHY DO AROMATIC PLANTS PRODUCE ESSENTIAL OILS?

Essential oils are the chemical messengers used by aromatic plants to interact with their environment. Essential oils help to keep diseases and parasites at bay, but they also play a protective role against sun's rays. Essential oils play an important part in the reproduction of plants and seed dispersal since they help to attract pollinating insects.

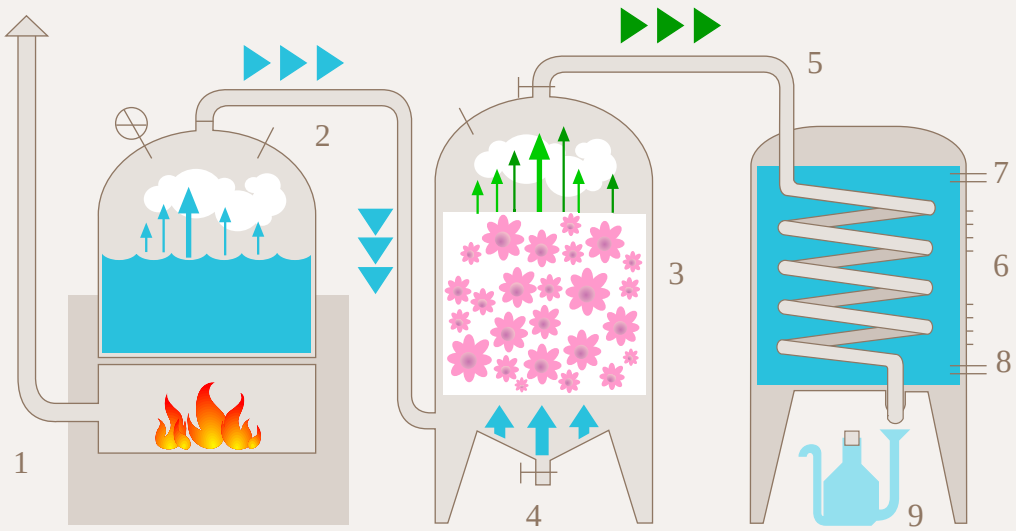
HOW DO WE OBTAIN ESSENTIAL OILS?

There are different techniques which are used depending on the part of the plant to be treated, its fragility and its botanical characteristics:

STEAM DISTILLATION

Steam distillation is the technique most commonly used to obtain essential oils. It is the only cold expression technique used for the zests of citrus fruits authorized by the European Pharmacopeia.

The invention of the alembic dates back to the time of the Pharaohs and it was improved by the Arabs. Generally it consists of a stainless steel or copper alembic with a sieve on the bottom which prevents that the plants are in contact with the water. The steam generated goes inside the plant and the essential oil is extracted through the droplets. This steam is cooled inside a cooling coil through a cooling water circuit. At the end of the cooling coil there is a mixture of aromatic water and essential oils. The essential oil floats since it has a lower density than the water: then the essential oil will be retrieved due to the density difference with the help of a Florentin vase or an “Essencier”. The essential oil will be separated from the water of distillation, the hydrolat (also known as floral water in the case of flowers).



1 Heat
2 Boiler
3 Pot with flowers
4 Steam coil
5 Swan neck
6 Cooling coil
7 Hot water outlet
8 Cold water inlet
9 Essencier (Florentin vase) where hydrolat is separated from the essential oils

COLD EXPRESSION

The cold expression technique is used for the zests of citrus fruits (lemon, lime, sweet orange, bitter orange). The essential oil is contained in minuscule pockets on the fruit's skin (peel, pericarp). Hydraulic presses are used. The pulp and the essential oil are then separated with the help of a centrifuge.

ENFLEURAGE

The enfleurage (a maceration which produces saturation) is an ancient technique which is hardly used nowadays. It is used with plants or parts of the plants whose scent is too fragile to withstand the heat of a distillation. This technique consists of spreading a layer of these delicate vegetable substances between two thick layers of fat. We replace the fresh vegetable materials with new ones until saturated greased is obtained. Then we clear the perfume from the saturated greased and we obtain an essential oil of the highest olfactory quality. Our laboratory produces an Damask rose enfleurage using the traditional technique with saturated greased in the Valley of Roses of El Kelaa M'Gouna. This technique is the only one which allows to closely match the scent of the fresh plant.

SOLVENT EXTRACTION

The technique of solvent extraction replaces nowadays the enfleurage technique. This technique also gives as a result the absolute which is in great demand by perfumers for the purity of their intense scent.

CHEMICAL COMPOSITION OF AN ESSENTIAL OIL

Essential oils are aromatic plant extracts very complex and highly concentrated. They can contain over one hundred aromatic molecules in different proportions. These different combinations of molecules provide these essential oils with special properties and give them their characteristic scent.

QUALITATIVE CRITERIA OF ESSENTIAL OILS

Many parameters are taken into account with regards essential oils quality. First of all, the selection of the plant and the harvesting time are paramount: the plants must be identified and must come from wild, organic or traditional farming where there is no use of pesticide or any other chemical substances. The plants must be grown in their original biotopes. The extraction must be made under well controlled laboratory conditions with the monitoring of parameters such as temperature and pressure. Storage must be carried out in suitable containers for essential oils and kept away from light and in temperatures not exceeding 25º Celsius. Essential oils are very fragile.

ANALYTICAL METHOD

Gas chromatography is the most reliable and comprehensive analytical method for essential oils. This method of analysis is particularly suitable for volatile substances such as aromatic molecules. It allows to identify and monitor all aromatic molecules and thus to identify the chemotype of the essential oil. This technique provides an in-depth identification of the essential oil and makes it possible to detect possible frauds or produce evidence of qualitative problems due to poor manufacturing processes or storage conditions. This advanced technology is nowadays an indispensable tool for ensuring the quality control of essential oils. Physico-chemical parameters such as peroxide value, acid level, polarity and so on are also established.

HOW SHOULD WE USE ESSENTIAL OILS?

- As aerosol spray, by means of an electronic or a candle diffuser. This method allows to spread in the air very fine particles of essential oils, thus benefiting from their properties through the airways. Used in this way, the essential oils perfume the atmosphere and purify and clean up the air. The dose must be very low so it is not unpleasant.

- By dermal route, the essential oils penetrate easily in the skin and then the rest of the body tissues. That is why the essential oils must be carefully chosen to avoid undesired effects on the skin. The dose and the diluent must be carefully chosen according to the effect that we desire to obtain.

- By oral administration, this should be used only under the direct supervision of your therapist. Essential oils are very concentrated and their potential misuse can provoke acute poisoning.

ESSENTIAL OILS INSTRUCTIONS OF USE

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- Main uses of Essential Oils: medical treatment (oral, transcutaneous, cutaneous, pulmonary application), therapeutic massage, cosmetic skin and hair care, balneotherapy, perfumes and cosmetics and gastronomy.
- Essential Oils are highly concentrated vegetable extracts. For all methods of adsorption and in particular oral application, use the appropriate excipients.
- Essential Oils are not water-soluble: do not use water as an excipient, use vegetable oils, a cleansing base (shampoo, shower gel), alcohol or a neutral cream base.
- For oral application: dilute Essential Oil in a vegetable oil, honey or sugar (sugar cane syrup).

WARNINGS

- Keep out of the reach of children.
- Never pour pure Essential Oils into water, if used in this way they may cause skin irritation.
- Not suitable for children under the age of 3.
- Some Essential Oils may be dangerous for pregnant and breast-feeding women. Avoid self-medication. Seek advice from your aromatherapy doctor.
- Special attention should always be given to patients with a known allergy; a certain number of potentially allergenic molecules may be present in Essential Oils (cinnemaldehyde, citral, citronella oil, eugenol, geraniol, d-limonene, linalol, coumarin etc.).
- Some Essential Oils irritate the skin and mucous membranes; bear in mind the aggressiveness of phenols and aldehydes to the skin and mucous membranes. Select suitable excipients and appropriate concentrations.
- A skin test is recommended prior to use for checking tolerance of Essential Oils (apply to inside of the wrist).
- If oils are splashed into the eyes, wipe the affected eye immediately with a cotton wool pad soaked in pure vegetable oil or place a few drops of pure vegetable oil into the eye.
- Never apply pure Essential Oils to the anogenital region, aural or nasal passages or administer intravenously.
- In the event of accidental swallowing ingest vegetable oil (1 to 3 tablespoons), do not induce vomiting. Never drink water.
- All citrus essential oils are photosensitive. Do not expose yourself to the sun within 12 hours of application or ingestion.
- Peppermint essential oil should never be applied over an extensive cutaneous area (freezing reaction).
- Medical supervision is essential for all pathologies with a lengthy duration and for the elderly since it is advisable to check the absence of an interaction between Essential Oils and on-going treatments.

In the event of the accidental ingestion of a large quantity of Essential Oil contact your nearest anti-poisons centre.

STORAGE

Keep out of light and away from heat.
Associated products

HOW SHOULD ESSENTIAL OILS BE STOREDS?

Keep always away from light and in the original glass packaging. They should be protected from any source of heat. Essential oils are very fragile and their properties may be altered due to poor storage conditions.
Keep away from children (use a locked cabinet). Keep a legible label in order to avoid any confusion.

WHICH ARE THE PROPERTIES OF ESSENTIAL OILS?

Essential oils have numerous medicinal properties and they are effective against many germs and viruses as well as fungus. Each essential oil has its therapeutic uniqueness. It is essential to follow the instructions of the manufacturer's specifications sheet or to read specialized literature prepared by doctors or pharmacists preferably.