

# YOUNG LIVING INDEPENDENT DISTRIBUTOR #23048

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## What Makes Essential Oils Therapeutic-Grade?

Essential oils come from various parts of plants - the seeds, bark, leaves, stems, roots, flowers, and fruit. The oils can be distilled from the plant material or extracted. The majority are distilled.

The key to producing a therapeutic-grade essential oil is to preserve as many of the delicate aromatic compounds within the essential oil as possible - elements that are very fragile and destroyed by high temperature and high-pressure. Contact with chemically reactive metals (i.e., copper or aluminum) is another danger to the fragile aromatic compounds in oils.

To insure a high grade of essential oil, it is imperative to use stainless steel cooking equipment at low pressure and low temperature for long periods of time.

The purity of an essential oil is also determined by its chemical constituents. There are many variables that can affect these constituents. These can include:

· Soil conditions · Quality of fertilizer and whether it was organic or chemical · Region · Climate · Altitude · Harvest season · Harvest methods · Distillation process · The part or parts of the plant used for distillation

One plant can produce several different chemotypes (biochemical variations). The chemotypes vary according to climate, altitude and growing conditions. For example, the later thyme is distilled in the growing season (i.e., late summer or fall), the more thymol the oil will contain. If it is distilled in the early summer, thymol levels will be very low; hence, the oil will be less effective, if at all.

A toxic oil is worse than an ineffective oil, however. Essential oils grown with agrochemicals can be dangerous. Pesticides, herbicides and chemical fertilizers can react with the essential oil during distillation, producing toxic compounds. And synthetic oils not only lack therapeutic benefits, but also carry risks.

Natural essential oils contain hundreds of different chemical compounds, many of which have not been identified yet, but which bring important therapeutic properties to the oil. Although chemists have managed to recreate some of the constituents and fragrances of oils, there are many molecules and isomers that are impossible to manufacture in the laboratory. There simply are no substitutes for the purest essential oils.

While there are no regulations in America, a set of standards has been established in Europe that outlines the chemical profile and principal constituents that quality essential oils should have. These standards are known as AFNOR and ISO

(Association French Normalization Organization Regulation and International Standards Organization). They are guidelines that help buyers differentiate between a therapeutic-grade essential oil and lower grade oils with similar chemical makeup and fragrance. The only company with AFNOR certification in America, to date, is Young Living Essential Oils, whose oils are constantly being analyzed and graded according to the AFNOR standards.

The AFNOR certification is one of the most reliable indicators of essential oil quality. It is a stringent standard that differentiates true therapeutic-grade essential oils from similar (but inferior) Grade A essential oils. It was developed in France by chemist Hervi Casabianca, Ph.D., who recognized that the constituents within an essential oil had to occur in certain percentages in order for the oil to be considered therapeutic. He and other scientists and doctors combined their research to create the AFNOR standards.

With this indicator, oils can be checked to see if they meet AFNOR standards. If some constituents are too high or too low, the oils cannot be AFNOR or ISO certified. For example, if two or more marker compounds in an essential oil fall below the allowable range, the oil cannot meet the AFNOR standard. It cannot be called therapeutic-grade essential oil, even though it is still Grade A quality.

Without AFNOR standards, it is difficult to tell a therapeutic-grade essential oil from a Grade A essential oil. As an example, Lavender oil is frequently produced from hybrids, yet claimed to be genuine. AFNOR standards help distinguish true lavender from various species of hybrid lavender (actually lavandin). Tasmania produces a lavandin that mimics the chemistry of true lavender. The only way to determine its origin is by analyzing the chemical fingerprint using high-resolution gas chromatography and comparing it with the AFNOR standard for genuine lavender.

Analyzing an essential oil by gas chromatography is complex and highly technical. The injection mixture, film thickness, column diameter and length, and oven temperature must fall within certain parameters. Most labs in the United States use equipment that is only adequate for analyzing synthetic chemicals and marker compounds in vitamins, minerals and herbal extracts, but cannot properly analyze the complexity of natural chemicals found in essential oils.

At the present time, there are only two companies that use the proper machinery and test standards for AFNOR essential oils analysis (considered the gold standard) - Flora Research and Young Living Essential Oils.

But even gas chromatography (GC) has limitations. It is very difficult to distinguish between natural and synthetic compounds using GC analysis. This is why oils must be analyzed by a technician specially trained in the interpretation of a gas chromatograph chart. He/she can examine the entire chemical fingerprint of the oil, and all the important clues, to determine if the oil is adulterated or pure.