

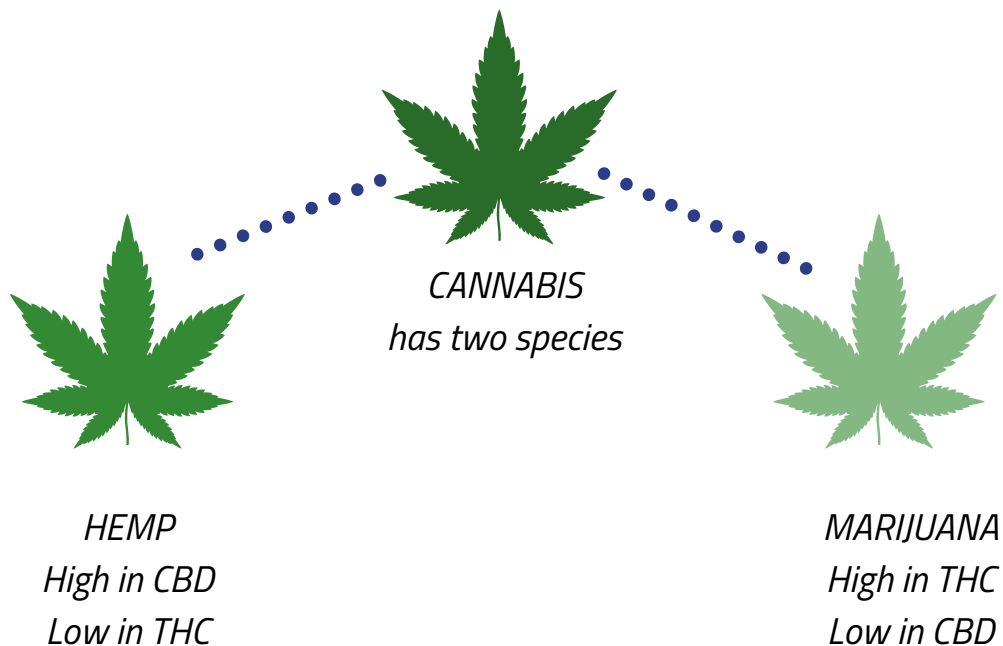
LIGHT CANNABIS: WHY THIRD-PARTY TESTING IS IMPORTANT

The countless applications of Cannabis have been known to man since ancient times, with the first documented use as a piece of cloth dating back to 8,000 BC. After long periods in history, during which its use was drastically reduced or even banned, the plant is now making a comeback as a very interesting global business, thanks to its wide range of applications, from construction to cosmetics, and from culinary to medicinal use.

The two main varieties of Cannabis can be distinguished by their concentration of **THC** (tetrahydrocannabinol), an active ingredient that has an effect on the central nervous system, and **CBD** (cannabidiol), a metabolite with relaxing and anti-inflammatory effects. Industrial hemp or Cannabis light, used to produce food (seeds, oil, flour), bio-fuel, paper, textiles, cosmetics and bio-building materials, is characterised by a low concentration of THC, while recreational Cannabis or Marijuana has a high concentration of THC and therefore induces those psychotic effects that make it prohibited in most countries of the world. Unlike THC, CBD does not produce psychotropic effects and has several therapeutic applications due to its sedative, analgesic and anti-inflammatory properties.

According to Prohibition Partners, a London-based consultancy and data collection company on legal Cannabis markets, the market for medical Cannabis in Italy will grow by 30% in 2020. But the boom is not confined to Italy, since it will affect the whole Europe in the coming years, with Germany in the lead, taking the European Cannabis market from **EUR 403 million** in 2021 to **EUR 3.2 billion** in 2025.

These are impressive statistics, mirroring the latest ruling of the European Court of Justice, dated November 2020, which established that CBD is not a narcotic substance.



In Italy, Law 242 of 2016 made it legal to sell hemp with THC content <0.2% with a tolerance of up to 0.6%. Since then, many chemical testing laboratories have expanded their services to offer certifications on Cannabis light. How are these analyses performed and what parameters do they take into account?

When you start growing industrial hemp and want to sell your product, you must first have it tested by laboratories that can verify the actual concentration of active ingredients. This is because even if you buy certified seed, you can often obtain plants with higher THC concentrations than the standard: the growing conditions, heat and humidity can affect the actual THC concentration. It is also necessary to display the analyses carried out on your Cannabis on the product packaging, so that consumers are fully informed of what they are buying.

To be valid, chemical analyses must be performed by [an ISO 9001-certified laboratory](#) and must provide data for THC and CBD, the two main cannabinoids in Cannabis light.

The most common technique for measuring THC and CBD levels in industrial hemp is high-performance liquid chromatography (also called HPLC). This is an analysis that separates and quantifies a mixture of chemicals in a liquid solution. When performing an HPLC test, a sample of Cannabis is taken and mixed with a solvent such as ethanol. The resulting solution is then passed through a tube coated with a material that can react with the molecules in the sample in different ways. The Cannabis molecules will thus have different reaction times in the tube, depending on their chemical characteristics.

At the end of the pathway, a detector is inserted that identifies the molecules based on their transit times and is able to measure their relative abundance. In this way, very precise values of THC and CBD can be obtained, and thus certify the actual legality of the sample analysed.

In addition to cannabinoid levels, there are other types of chemical analysis that Cannabis can undergo, such as analysis of terpenes, pathogens, pesticides and heavy metals, which help to determine the quality of the product.

Cannabis testing laboratories therefore enable manufacturers to have products that comply with current regulations. In order to do so, they have to [operate according to the required standards](#). This is why it is essential for these laboratories to automate their workflows through the introduction of a LIMS that allows at the same time to ensure the traceability of samples, documenting all stages of the analytical process.



[Eusoft.Lab LIMS](#) allows laboratories to work in compliance with ISO standards, and thanks to Cloud technology, it ensures access to lab data in real time, from anywhere. Its high configurability makes it suitable to meet the needs of laboratories of any size and industry and allows customisation of masks, test reports and management flow.

Contact us for a free demo and learn how Eusoft.Lab LIMS can support Cannabis testing laboratories.

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