

## Decaf coffee: Is it safe? And does it taste any good?



Coffee is a very popular drink.

Every day the magic liquid kickstarts the morning for hundreds of millions of people all over the globe. In fact, it's estimated that [worldwide over 2 billion cups](#) of the stuff are consumed every day.

For many people, the day doesn't properly get underway before the morning brew. For some, the mere thought of walking out the door or even talking to someone else 'pre-coffee' is too horrendous to contemplate. First things first: a hit of caffeine.



## Coffee makes us hum on the inside

It's one of the most consumed drugs on the planet and it's not hard to see why. It's a stimulant. It makes us feel good. It sharpens our minds and gives us a sense of well-being. It turns a dead Monday into a day of possibilities.

It helps business people, creatives, philosophers and night owls needing a jolt to get their work moving or a deadline met. But more than that, it's the fuel for the everyday lives of ordinary people, and it has been for centuries.

However, despite loving the taste of coffee, many people can't tolerate the effects of caffeine. Just one cup is enough to turn them into human vibrators. For others, the hard-core coffee heads, the ill effects start to kick in later in the day, after the eighth or ninth cup.

But caffeine "issues" shouldn't prevent anyone from enjoying this exquisite drink.

Time to give decaf a try.



## Decaf's bad rep

Decaffeination allows people to enjoy the drink without the stimulant, whether that's from cup 1 or cup 10. But until fairly recently, decaf has had something of a bad reputation. It gets called the coffee for people who can't drink coffee. It lacks flavour, it's weak. It's just not the same! *What's the point in drinking it!*

These days things are different. With the explosion of good coffee options available, suppliers have responded to increased demand for a tasty cup without the hit. Now you don't have to track down a specialty or boutique café to get your hands on it. You can find it in most outlets that take their coffee seriously. And any half decent supermarket.

Yet for many people there's still something of a mystery surrounding it. Does it taste any good? Is it safe? And how's it made anyway?

The answer is yes! And yes! Read on!



## Is decaf totally decaffeinated?

Firstly, decaffeinated coffee isn't *totally* free of caffeine. After the decaffeination process, the amount of residual caffeine depends on the beans, the decaffeination method used, and the way the coffee is prepared.

A 450-gram decaffeinated coffee might contain about 9mg of caffeine while the caffeinated alternative has about 180mg.

However, regardless of how a cup of decaf eventually gets to your lips, only the most super-sensitive souls will feel any ill effects from decaf's low caffeine levels.

So how does the decaffeination process work?

## Solvent decaffeination processes

Back in the first decade of the 20th century the German coffee merchant [Ludwig Roselius](#) invented the first decaffeination process that was patented and made commercially successful.

Roselius soaked green coffee beans in brine and then used benzene to extract the caffeine. However, his process is no longer used as benzene was found to be carcinogenic to humans.

Today chemical solvent-based processes use one of two agents: methylene chloride (also known as dichloromethane), or ethyl acetate. The second of these is found in minute quantities in ripening fruit and is therefore considered a more natural option. But given the complexity and cost of gathering it, decaffeination processes use a synthetic version instead.

There are two decaffeination methods most commonly used with solvents:



### ***Direct solvent method***

With this method, the green beans are first steamed to open their pores, and then rinsed repeatedly in solvent to extract the caffeine. The extraction happens as the molecules of caffeine attach to the molecules of the solvent. After rinsing, the caffeine-laden solvent is drained and the beans are steamed again to remove the solvent residue.

### ***Indirect solvent method***

Here the beans are soaked in very hot water for several hours which extracts the caffeine as well as all the flavour oils and compounds. The beans and water are separated, then the solvent is added to the water where the same molecule-bonding occurs. The water is then heated to evaporate the solvent along with the “attached” caffeine. Finally, the beans are reintroduced to the caffeine-free liquid where they reabsorb the oils and flavour compounds that were left behind.

While this all sounds a bit chemical and somewhat toxic, the process is actually very safe. Although there is some solvent residue on the beans after decaffeination, the amounts are tiny – about a tenth of what is considered safe by the FDA. And in any case, since the solvents are highly volatile substances, they evaporate when the decaffeinated green beans are later roasted.



## Solvent-free decaffeination processes

For those still concerned about the possibility of *any* solvent involvement in their coffee, there are two other processes that use absolutely no solvents at all.

### ***The Swiss Water Method***

This method relies on two simple processes – [solubility](#) and [osmosis](#)– and as the name says, the only ingredient beyond coffee beans is water.

The green beans are first soaked in very hot water to dissolve the caffeine. The water is then passed through a charcoal filter that traps the larger caffeine molecules but allows the smaller flavour compounds to pass through. The result is flavourless caffeine-free beans (which are discarded), and flavour-rich caffeine-free liquid.

A fresh batch of beans is then added to the liquid. But because the solution is already saturated with flavour compounds, it extracts just the caffeine from the new beans, and leaves the flavour compounds largely intact in the new batch of beans.

Organic coffee beans are almost always decaffeinated with this process, and it's the preferred method for the more exotic blends enjoyed by coffee aficionados.

### ***Carbon Dioxide Process***

This process uses high-pressure CO<sub>2</sub> to extract the caffeine in much the same way as the solvent process since carbon dioxide has the property of bonding to caffeine molecules. The result is beans without the caffeine but with the flavour compounds largely intact. The CO<sub>2</sub> is then depressurised to its gaseous state which leaves the caffeine behind, and the CO<sub>2</sub> can be reused for the next batch of beans.

However, because this process is costly, it is predominantly used in processing large quantities of “supermarket”-grade coffee.



## Tell me again: is decaf coffee safe?

Yes.

In the chemical processes, solvent residues are extremely low, [below regulatory requirements for human consumption](#). What's more, the solvent has a very low boiling point, so it evaporates when the beans are later roasted. The non-chemical processes don't come into contact with chemicals at all.

The safety takeaway: neither process is harmful, so drink away without worrying about what's going on with your coffee. And if you really are still concerned about minute traces of solvents, then stick to beans decaffeinated by the Swiss Water or CO<sub>2</sub> methods.

In fact, drinking coffee might be more than safe. Whether you want the superpowers of caffeine or just the sumptuous taste of your favourite decaf brew, [coffee is loaded with several powerful antioxidants](#), and *might* even offer a number of health benefits. One thing's for sure, it makes you *feel great!*

But that's a larger topic for another post.

But what about the taste?



## Does decaf coffee taste any good?

It's true, there is a slight compromise of flavour with decaffeination. While the processes are effective at returning or retaining the flavour of the beans, as with any extraction process there will be some loss of other components such as taste.

However, choosing coffees based on variety and roast will ensure you get a tasty cup. It's best to avoid dark and oily decaf beans, since the higher roast will only further compromise the flavour of the slightly more delicate decaffeinated beans.

Many good coffee houses now offer a decaf option as standard, and if the variety and roast is a good one, you're not going to taste the difference between a decaf and a normal cup.

So what more reason do you need to drop everything and boil up another brew? Whether you want to be dancing on the inside from a blast of caffeine, or just revelling in the deliciousness of your favourite decaf brew, it's not only safe, it might even be good for you.

What better reason to have another cup!