Decaf Tea

From the teas.co.uk wiki

> **Decaf tea, in summary:** Decaf tea: how decaffeination works, the CO2 and water methods, the small residual caffeine that means "low" not "zero", and which decaf is worth drinking.

Last reviewed by the teas.co.uk team in March 2026.

Start here if you are new to decaf. To buy, use the UK decaf buying guide; for British black decaf in depth see how decaf British tea works.

Decaf tea is real tea (Camellia sinensis) with 95-99% of the caffeine industrially removed. The remaining 2-5mg per cup is small enough to be effectively negligible for sleep, pregnancy, and caffeine sensitivity, but it's NOT zero, that distinction matters. Modern decaffeination is dramatically better than the old methylene chloride process, and the cup tastes very close to caffeinated. This is the working overview of decaffeination, what it does, and what to look for when buying.

The four decaffeination methods

1. CO2 (supercritical fluid extraction)

The modern gold standard method. Tea leaves are placed in a sealed pressure chamber. Liquid CO2 (under high pressure and at a slightly raised temperature) is passed through. CO2 in this "supercritical" state behaves as both a liquid and a gas, it penetrates the leaves like a gas but dissolves caffeine like a liquid. Caffeine binds to the CO2; CO2 is then depressurised and the caffeine separates out. The CO2 is recycled.

- **Pros:** No chemical solvents, best polyphenol retention, best flavour preservation, environmentally clean.
- **Cons:** Higher infrastructure cost, used mostly by premium brands.
- **Used by:** Yorkshire Tea Decaf, Twinings, PG Tips Decaf, Clipper, Pukka, most premium UK decaf.

2. Water process (Swiss Water style)

Tea leaves are soaked in hot water, caffeine and flavour compounds dissolve out. The water passes through carbon filters that capture caffeine but let larger flavour molecules through. The "decaf flavoured" water is then re applied to fresh tea leaves. The flavour is partially restored; the caffeine is captured by the filters.

- **Pros:** No chemicals, good flavour retention.
- **Cons:** Slower, more expensive, more flavour loss than CO2.

- **Used by:** Some specialist brands; more common in coffee.

3. Methylene chloride

The older industrial method. Tea soaked in methylene chloride (a chlorinated solvent); the solvent dissolves caffeine; the solvent is removed by evaporation. Trace residues are below regulatory thresholds.

- **Pros:** Cheap, effective.
- **Cons:** Some flavour loss, polyphenol loss, residual solvent concern (low but non zero), increasingly seen as outdated.
- **Used by:** Some commodity decaf. Most major brands have moved away.

4. Ethyl acetate

Tea soaked in ethyl acetate (a solvent that occurs naturally in some fruits, sometimes called "natural decaffeination"). Solvent removed.

- **Pros:** Marketed as "naturally decaffeinated."
- **Cons:** Still a solvent process. Flavour loss similar to methylene chloride.
- **Used by:** More common in coffee; some specialty tea.

What "decaf" actually leaves in the cup

Compound	Caffeinated	Decaf (CO2)
Caffeine	30-50mg	2-5mg
Catechins (EGCG, etc.)	100%	85-95%
L theanine	100%	80-90%
Theaflavins (black tea)	100%	85-95%
Aromatic compounds	100%	75-85%

Decaf vs caffeine free

The terms are not interchangeable:

- **Decaf tea** = real tea (Camellia sinensis) with caffeine removed. 2-5mg residual per cup.
- **Caffeine free tea** = a herbal infusion that never contained caffeine. 0mg per cup. (Rooibos, chamomile, peppermint, fruit infusions.)

If you're highly caffeine sensitive, even decaf's 2-5mg residual may matter. For most drinkers it doesn't.

Why drink decaf?

- **Evening drinking.** 4pm onwards.
- **Pregnancy.** Comfortably within NHS 200mg/day caffeine limit.
- **Multiple cups daily.** Avoiding cumulative caffeine load.

- **Caffeine sensitivity.** Anxiety, migraines, reflux.
- **Children.** Caffeine isn't recommended for children; decaf gives them the cup without the stimulant.
- **Habit not stimulant.** Many tea drinkers want the cup, not the buzz.

The major UK decaf tea brands

- **Yorkshire Tea Decaf.** CO2-decaffeinated Assam led blend. Closest decaf to caffeinated Yorkshire. Quick Buy.
- **Tetley Decaf.** Lighter blend. Mainstream supermarket option.
- **Twinings Decaf range.** English Breakfast Decaf, Earl Grey Decaf, Green Tea Decaf. CO2 process. Premium pricing.
- **PG Tips Decaf.** CO2 process. Mainstream alternative.
- **Clipper Decaf.** Fairtrade, organic, plastic free bags.
- **Pukka Decaf range.** Organic, often blended with herbs.

Choosing a decaf worth buying

A decaf worth buying usually says how it was decaffeinated, because a good producer is happy to. "CO2" or "carbon dioxide method" and "water processed" both signal a gentler approach to flavour; "naturally decaffeinated" most often means the ethyl acetate method, which is safe and effective if sometimes a little less true to the original. The base tea named on the pack matters as much as the method: a decaf made from a quality black or green starts with more to lose and ends up better than a decaf made from low grade leaf.

Why some decaf tastes flatter

Decaffeination is applied to already finished tea, so pulling the caffeine out can also strip or alter some of the aromatic compounds that give tea its character: that is the practical meaning of the 75-85% aromatic retention shown for CO2 decaf above. A well made decaf from a good base tea and a gentle method can be very pleasant; a cheap one can be thin. That, not decaf being inherently bad, is the real reason a lot of decaf tastes a little softer than its caffeinated equivalent.

Brewing decaf well

Because some aromatic compounds are lost in processing, decaf rewards slightly more generous brewing: a little more leaf or an extra bag, full contact time, and for decaf black, fully boiling water and milk to round it out. Treating decaf exactly like full strength tea and expecting an identical cup is what produces the "decaf tastes flat" verdict; brewing it a touch stronger and starting from a good base largely closes the gap.

Decaf black vs decaf green

The two behave differently. Decaf black is the closer match to its caffeinated self: brewed full and taken with milk, the processing losses are largely masked, which makes it the dependable evening cup. Decaf green is harder, because green tea's appeal lies in the delicate fresh notes the process can blunt, so choose one

from a good base, brew it gently, and consider cold brewing, which flatters it. Knowing this stops the common mistake of judging all decaf by one disappointing decaf green.

Common myths about decaf

Myth: "Decaf is bad for you because of the chemicals."

Reality: Modern CO2 decaffeination uses no chemicals, just pressurised carbon dioxide. Older methylene chloride processes leave only trace residues below regulatory thresholds. Decaf tea is safe.

Myth: "Decaf has no antioxidants."

Reality: CO2-decaffeinated tea retains 85-95% of polyphenols. The polyphenol profile is largely intact.

Myth: "Decaf is completely caffeine free."

Reality: 2-5mg residual per cup. Small enough to ignore in most cases, but not zero. Highly caffeine sensitive drinkers may notice.

Myth: "Decaf tastes terrible."

Reality: Modern CO2 decaf tastes very close to caffeinated. Older methylene chloride decaf was noticeably worse, that's where the bad reputation comes from.

Myth: "Pregnant women should avoid all tea, including decaf."

Reality: NHS recommends limiting caffeine to 200mg/day. Decaf at 2-5mg per cup is well within limits. Multiple cups daily are fine.

FAQ

How is tea decaffeinated? Modern: CO2 (supercritical extraction). Older: methylene chloride solvent. Some specialty: water process or ethyl acetate.

Does decaf tea have caffeine? Yes, 2-5mg per cup. Not zero. For the things that matter (sleep, pregnancy, caffeine sensitivity) this is negligible.

Best decaf tea brand UK? Yorkshire Tea Decaf for closest to caffeinated black. Pukka for organic. Twinings for accessible variety.

Is decaf tea safe? Yes, modern CO2 process is chemical free; older methods leave only trace residues below regulatory limits.

Can I drink decaf at night? Yes, 2-5mg caffeine is below the threshold that affects sleep for most people.

Decaf, at a glance

Question	The answer
Is it real tea?	yes, Camellia sinensis with 95 to 99% of the caffeine removed
Caffeine left	about 2 to 5mg a cup, negligible for most but not zero
Best method	CO2 (supercritical) or water process; gentlest on flavour and polyphenols

Question	The answer
Polyphenols	CO2 decaf retains roughly 85 to 95%
vs caffeine free	decaf is true tea minus caffeine; caffeine free means a herb with none to begin with

Curator's note: I drink Yorkshire Decaf after 4pm and Yorkshire caffeinated before. Same cup, different time of day. Modern CO2 decaffeination is one of the real, quiet improvements in tea over the last 20 years. Lee, teas.co.uk, Tunbridge Wells.

Reference noted

- EFSA Scientific Opinion on the Safety of Caffeine (2015)

Browse the decaf range, compare in the black tea range, or visit the full tea shop (free UK delivery from £35).

FROM THE CURATOR

teas · If one of these decafs appeals, try it once. Twenty articles on decaf teach less than one cup.

Caffeine and decaf reading

- Decaf British tea (brands compared)
- Decaf English Breakfast
- Decaf green tea
- Caffeine free teas

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