

Do you drink decaffeinated coffee ?

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Decaf Coffee and Methylene Chloride: A Fight for Consumer Safety

The future of decaf coffee is continuing to brew a controversy. The National Coffee Association's (NCA) National Coffee Data Trends statistic, inferred that approximately 0.74 cups (24% of 3.1 cups) per day per capita in the United States are decaffeinated coffee.

Consumer health advocates are urging the FDA to ban methylene chloride, a chemical used in decaffeination. While trace amounts remain after processing, they argue a 1958 law mandates a ban because studies show it causes cancer in animals.

The Chemical in Question: Methylene Chloride and its health effects

Methylene chloride, is used by major coffee companies for its solvent properties. It binds to caffeine in beans, allowing its removal. However, the fight hinges on its potential health risks.

- **Scientific Evidence:** Rodent studies have linked

methylene chloride to cancer. The Delaney Clause of the FDA's food additive laws prohibits any additive proven to cause cancer in humans or animals.

- **Level of Exposure:** Advocates argue the Delaney Clause applies regardless of the trace amounts remaining after processing. They believe any detectable level is unsafe.

Methylene chloride, also known as dichloromethane (DCM), was banned in the United States for certain uses due to health concerns. However, there were no reported deaths directly linked to the use of methylene chloride in decaffeinated coffee.

Methylene chloride was widely used as a paint stripper and degreaser. In 1987, the Environmental Protection Agency (EPA) issued a ban on methylene chloride for use in consumer and most commercial paint stripping products due to its potential health risks. The EPA's risk assessment at the time concluded that methylene chloride posed an unreasonable risk to human health, particularly for workers and consumers exposed during paint stripping.

The primary health concerns associated with methylene chloride exposure include:

1. **Carcinogenicity:** Rodent studies have linked methylene chloride to cancer.
2. **Neurotoxicity:** Methylene chloride can cause dizziness, headaches, and even loss of consciousness due to its ability to deplete oxygen in the blood.
3. **Reproductive and developmental effects:** Methylene chloride may affect the reproductive system and cause developmental issues in fetuses.

The ban on methylene chloride for paint stripping was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in 1991. However, the chemical is still used in

various industrial applications, including the decaffeination of coffee and tea.

In 2018, the EPA proposed a ban on methylene chloride for use in consumer and most commercial paint and coating removal to address ongoing health concerns. The [ban was finalized in 2019](#), but the use of methylene chloride in decaffeinated coffee and tea remains unchanged.

Industry Frustration and the Limits of the Delaney Clause:

- **Overly Precautionary?** The food industry and some FDA officials find the Delaney Clause overly cautious. Animal studies may not perfectly reflect human exposure levels in decaf coffee.
- **Legal Wrangling:** This “Delaney Clause strategy” has been successful before, forcing bans on certain food additives.

Some commercial sources still using methylene chloride for decaffeination include:

1. ABC Decaffeinated Coffee
2. Eight O’Clock Decaffeinated Coffee (some blends)
3. Folgers Decaffeinated Coffee (some blends)
4. Maxwell House Decaffeinated Coffee (some blends)
5. Nescafé Decaffeinated Coffee (some blends)

Consumer Choice: CO₂ & Water-Based Decaffeination

While the debate continues, consumers can make informed choices:

- There are two main non-chemical methods of decaffeination for coffee: the Swiss Water Process and the Carbon Dioxide (CO₂) Process.

1. Swiss Water Process: The Swiss Water Process is a chemical-free method of decaffeinating coffee. This method uses water, temperature, and time to create a coffee bean solution, called Green Coffee Extract (GCE). GCE is then passed through a carbon filter to remove caffeine. The decaffeinated green coffee beans are then reintroduced to the GCE, allowing them to absorb the soluble flavors from the solution while leaving caffeine behind.

Advantages:

- Chemical-free
- Maintains coffee's original flavor
- Environmentally friendly

Disadvantages:

- More expensive than chemical methods
- Longer processing time

2. Carbon Dioxide (CO₂) Process: The CO₂ Process uses pressurized CO₂ as a solvent to extract caffeine from green coffee beans. At high pressure, CO₂ behaves like a liquid, allowing it to penetrate the coffee cells and dissolve caffeine. The CO₂-caffeine mixture is then depressurized, causing the CO₂ to evaporate and leave the caffeine behind.

Advantages:

- Chemical-free
- Highly selective for caffeine
- Environmentally friendly

Disadvantages:

- More expensive than chemical methods
- Limited commercial availability
- Specialized equipment required

This fight highlights the ongoing debate about food safety regulations. While the science on methylene chloride's effects in decaf coffee is complex, consumers have the right to be informed and have access to safer alternatives.

The Takeaway:

- Check the labels on the decaffeinated coffee brands and go for water or CO₂ based processing
- Is your coffee organic certified ?
- Don't settle for any unlabeled product or companies that fail to be transparent about the processing.