

Proposed Adoption of New Section 25704
(Title 27, California Code of Regulations):
Exposures to Listed Chemicals in
Coffee Posing No Significant Risk

Public Hearing on Rulemaking
Office of Environmental Health Hazard
Assessment
Sacramento, California
August 16, 2018



OEHHHA

SCIENCE FOR A HEALTHY CALIFORNIA

Proposition 65: The Safe Drinking Water and Toxic Enforcement Act of 1986

“No person in the course of doing business shall knowingly and intentionally expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individual....”

Health & Safety Code section 25249.6



Proposition 65: The Safe Drinking Water and Toxic Enforcement Act of 1986

- The Act provides an exemption to the warning requirement when an exposure to a Proposition 65 listed carcinogen poses no significant risk assuming lifetime exposures at the level in question. (Health & Safety Code section 25249.10(c)).
- As the lead agency for Proposition 65 implementation, OEHHA may adopt regulations establishing levels of exposure to listed carcinogens that are deemed to pose no significant risk.



Proposed Regulatory Text

OEHHA is proposing to add the following new section to Title 27, of the California Code of Regulations, Article 7, No Significant Risk Levels:

§ 25704. Exposures to Listed Chemicals in Coffee Posing No Significant Risk

Exposures to listed chemicals in coffee created by and inherent in the processes of roasting coffee beans or brewing coffee do not pose a significant risk of cancer.



Coffee: Definition

- In the proposed regulation, “coffee” refers to a beverage made by percolation, infusion, or decoction from the roasted seeds of a coffee plant.

Coffee: A Unique and Complex Mixture

- Coffee contains numerous chemicals formed during the roasting of coffee beans and the brewing process, including:
 - Carcinogens listed under Proposition 65 (e.g., acrylamide, benzo[a]pyrene)
 - Other chemicals considered to be protective against cancer (e.g., free radical scavengers, antioxidants)



Coffee Drinking and Cancer Risk

- Coffee, as a mixture, has been studied extensively in humans.
- Recent evaluation of these human cancer studies and other relevant information by the International Agency for Research on Cancer (IARC)
 - IARC Monographs on the Evaluation of Carcinogenic Risks to Humans (2018) *Drinking Coffee, Mate, and Very Hot Beverages*. Volume 116, World Health Organization, Lyon, France.



IARC's Findings on Coffee

- Based on review of >1000 studies in humans, animals, *in vitro* and other experimental systems
 - Evaluated 460 human epidemiologic studies
 - Included numerous well-conducted prospective cohort and population-based case-control studies
- Concluded there was inadequate evidence for the carcinogenicity of drinking coffee
- Classified coffee in Group 3: “Not classifiable as to its carcinogenicity to humans”
 - Strong evidence in humans that coffee has antioxidant effects.



IARC's Findings for Specific Cancers

- Drinking coffee *reduces* the risk of cancers of the liver and uterine endometrium
- Moderate evidence that drinking coffee *reduces* the risk of colorectal adenoma, a precursor lesion for most colorectal cancers
- Studies show that drinking coffee either *reduces* the risk, or has *no effect* on the risk of breast cancer
- There is evidence suggesting *lack of carcinogenicity* for cancers of the pancreas and prostate
- *Inadequate evidence* of an association between coffee drinking and other types of cancers



Beneficial Compounds in Coffee

- Soluble and insoluble fiber that can reduce the uptake of certain carcinogens into the body
 - Chemicals that appear to increase colon motility, reducing contact time within the colon
 - Antioxidants and free radical scavengers
 - Anti-inflammatory chemicals
- In clinical intervention trials, coffee consumption:
- Decreased markers of inflammation
 - Decreased markers of oxidative stress
 - Increased antioxidant capacity



Proposed Regulatory Text

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