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Home (https://www.safecosmetics.org/) > Chemicals (https://www.safecosmetics.org/chemicals/) > Carbon Black

Carbon Black

Carbon black is a dark black powder used as a pigment in cosmetics such as eyeliner, mascara and lipstick.^[1] It is produced by incomplete combustion of carbon-based products such as coal tar,^[2] and has been linked to increased incidence of cancer and negative effects on organs.^[3]



WHAT IS CARBON BLACK?

Carbon black is the product of incomplete combustion of carbon-containing materials.^[6]

Commercial carbon black, in particular, has organic contaminants such as polycyclic aromatic hydrocarbons (PAHs), which have been identified as human carcinogens.^[7] PAHs damage DNA,^[8] and exposure to PAHs can lead to tumors on lungs, bladder and skin; and PAHs can also cause non-cancer toxicities like reproductive and developmental toxicity.^[9] PAHs bind tightly to the surface of carbon black and can only be removed with the use of solvents such as toluene at high temperatures.^[10] People can be exposed to carbon black through inhalation, skin or eye contact, and food and beverages.^{[11][12]}

Found In

- Eyeliner
- Mascara
- Nail polish
- Eye shadow
- Brush-on-brow
- Lipstick
- Blushers
- Rouge
- Makeup
- Foundation

What to look for on the label

- Carbon black
- D & C Black No. 2
- Acetylene black
- Channel black
- Furnace black
- Lamp black
- Thermal black

Health Concerns

Cancer: California EPA's Proposition 65 list identifies carbon black (airborne, unbound particles of respirable size) as a carcinogen.^[13] The International Agency for research on cancer classifies carbon black as a possible human carcinogen.^[14] Experimental studies in female rats found increased incidence of lung tumors in rats that inhaled carbon black.^[15] NIOSH raises concerns about lymphatic cancer among workers exposed to carbon black, largely due to the presence of polycyclic aromatic hydrocarbons (PAHs) in carbon black.^[16] Furthermore, carbon black containing PAHs may lead to skin cancer.^[17] Long-term exposure to carbon black can lead pulmonary inflammation, fibrosis and lung tumors in rats.^[18]

Organ System Toxicity: Several human studies indicate carbon black exposure may increase the risk of lung disease.^[19] Carbon black exposure is a possible concern for workers, particularly exposures to the respiratory system and eyes when it is in powder form.^[20] Early research suggests carbon black may increase the incidence of cardiovascular disease.^[21]

Vulnerable Populations

Teenagers (<https://www.safecosmetics.org/population/teenagers/>), Workers (<https://www.safecosmetics.org/population/workers/>).

Regulations

Restricted in cosmetics in United States^[4] and EU.^[5]

How to Avoid?

Read labels and avoid cosmetics and personal care products containing carbon black, D & C Black No. 2, acetylene black, channel black, furnace black, lamp black, and thermal black.

Explore other Chemicals

Styrene Acrylates Copolymer (<https://www.safecosmetics.org/chemicals/styrene-acrylates-copolymer/>).

Butylated Compounds (<https://www.safecosmetics.org/chemicals/butylated-compounds/>).

Acrylates (<https://www.safecosmetics.org/chemicals/acrylates/>).

Mica (<https://www.safecosmetics.org/chemicals/mica/>).

Polyacrylamide (<https://www.safecosmetics.org/chemicals/polyacrylamide/>).

Fragrance (<https://www.safecosmetics.org/chemicals/fragrance/>).

View All Chemicals of Concern > (/chemicals/)

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