


[\(https://www.safecosmetics.org/\)](https://www.safecosmetics.org/)

ook  
.co  
m/  
saf  
eco  
sm  
etic  
s).

co  
m/  
Saf  
eC  
os  
me  
tics  
HQ  
).

am  
.co  
m/  
saf  
eco  
sm  
etic  
shq  
).

BCPP.org  
(<https://www.bcpp.org/>)



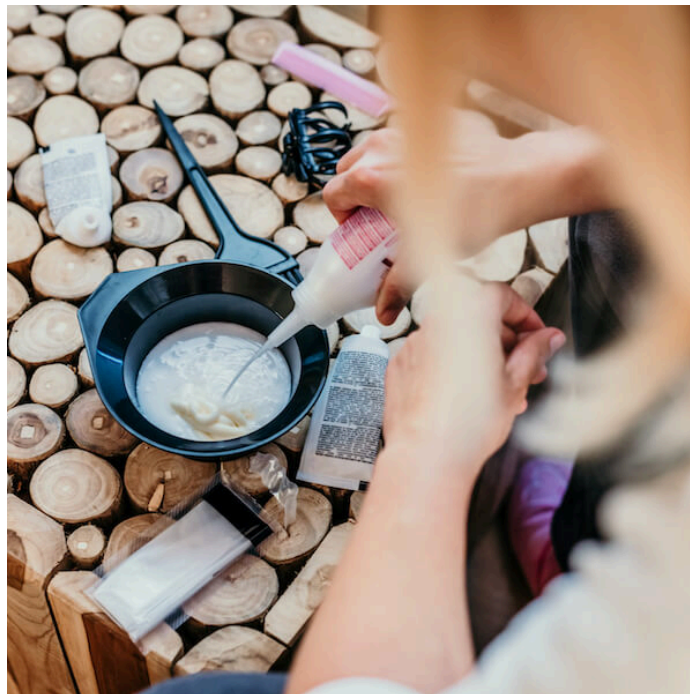
**TAKE ACTION**  
(/TAKE-ACTION/)

**DONATE**  
(?CAMPAIGN=407476)

[Home \(https://www.safecosmetics.org/\)](https://www.safecosmetics.org/) > [Chemicals \(https://www.safecosmetics.org/chemicals/\)](https://www.safecosmetics.org/chemicals/) > Coal Tar

# Coal Tar

Coal tar is a known carcinogen derived from burning coal. It is a complex mixture of hundreds of compounds, many of which are polycyclic aromatic hydrocarbons (PAHs).<sup>[1][2]</sup>



Coal tar is used in food, textiles, cosmetics and personal care products. Experimental studies have found that application of and exposure to coal tar produce skin tumors and neurological damage.

## WHAT IS COAL TAR?

Coal tar is a brown-black material and thick liquid generated during the incomplete combustion (burning) of coal.<sup>[3][6]</sup>

It is considered a known carcinogen by the National Toxicology Program and the International Agency for Research on Cancer. Coal tar is a complex chemical mixture that also includes a number of suspected and known carcinogens, such as benzene, toluene, naphthalene, anthracene, xylene, creosote oils and benzo[a]pyrene, which is a polycyclic aromatic hydrocarbon (PAH). PAHs (<https://www.bcpp.org/resource/polycyclic-aromatic-hydrocarbons/>) are a large class of chemical that are reasonably anticipated to cause cancer.<sup>[7][8]</sup>

## Found In

- Shampoos and scalp treatments
- Soaps
- Hair dyes
- Lotions

## What to look for on the label

- Coal tar solution
- Tar
- Coal
- Carbo-cort
- Coal tar solution
- Coal tar solution USP
- Crude coal tar
- Estar
- Impervotar
- KC 261
- Lavatar
- Picis carbonis
- Naphtha
- High solvent naphtha
- Naphtha distillate
- Benzin B70
- Petroleum benzin<sup>[3][4]</sup>

## Health Concerns

**Cancer:** Experimental studies have found that exposure to and application of coal tar produce skin tumors. Coal tar has also been associated with cancer of the lung, bladder, kidney and digestive tract.<sup>[5][9]</sup> Benzo[a]pyrene, a constituent of coal tar, has been found to be carcinogenic through skin exposure.<sup>[8][9]</sup> There have been many reports of skin cancer among patients using therapeutic coal-tar preparations.<sup>[5]</sup>

**Organ System Toxicity:** Pyridine, a coal tar constituent, has been linked to neurological damage. Effects include emotional and sleep disturbances, as well as loss of coordination.<sup>[10][11]</sup>

## Vulnerable Populations

[Babies & Children](https://www.safecosmetics.org/population/babies-children/) (<https://www.safecosmetics.org/population/babies-children/>), [Men](https://www.safecosmetics.org/population/men/) (<https://www.safecosmetics.org/population/men/>), [Pregnant Women](https://www.safecosmetics.org/population/pregnant-women/) (<https://www.safecosmetics.org/population/pregnant-women/>), [Teenagers](https://www.safecosmetics.org/population/teenagers/) (<https://www.safecosmetics.org/population/teenagers/>), [Women of Color](https://www.safecosmetics.org/population/women-of-color/) (<https://www.safecosmetics.org/population/women-of-color/>), [Workers](https://www.safecosmetics.org/population/workers/) (<https://www.safecosmetics.org/population/workers/>).

## Regulations

According to the FDA, any drug products containing coal tar at levels of 0.5% to 5% (the level deemed effective and safe) must specify on a label the concentration of coal tar. Hair dye and certain skin products must display a warning label if they contain coal tar and must indicate specific precautions for that product.<sup>[5]</sup>

## How to Avoid?

Read labels and avoid cosmetics and personal care products containing coal tar or synonyms. Be especially vigilant about hair dyes.

### Explore other Chemicals

[Nail Polish Removers](https://www.safecosmetics.org/chemicals/nail-polish-removers/) (<https://www.safecosmetics.org/chemicals/nail-polish-removers/>)

[Lead And Other Heavy Metals](https://www.safecosmetics.org/chemicals/lead-and-other-heavy-metals/) (<https://www.safecosmetics.org/chemicals/lead-and-other-heavy-metals/>)

[Petrolatum, Petroleum Jelly](https://www.safecosmetics.org/chemicals/petrolatum/) (<https://www.safecosmetics.org/chemicals/petrolatum/>)

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

[Homosalate](https://www.safecosmetics.org/chemicals/homosalate/) (<https://www.safecosmetics.org/chemicals/homosalate/>)

[Phenoxyethanol](https://www.safecosmetics.org/chemicals/phenoxyethanol/) (<https://www.safecosmetics.org/chemicals/phenoxyethanol/>)

[View All Chemicals of Concern > \(/chemicals/\)](/chemicals/)

### Looking for a Safer Alternative?

Use Clearya's app to find non-toxic products! Clearya alerts you to toxics and helps you find safe products.



[Visit Clearya > \(https://www.clearya.com/\)](https://www.clearya.com/).

## Your Action Helps

Together, we can make beauty safer for all.

Take Action Today!

(/take-action/)

### FILTER BY:

**By Population**



**By Products**



**By Health Concerns**



### References

[1] Marston, C. P., Pereira, C., Ferguson, J., Fischer, K., Hedstrom, O., Dashwood, W. M., & Baird, W. M. (2001). Effect of a complex environmental mixture from coal tar containing polycyclic aromatic hydrocarbons (PAH) on the tumor initiation, PAH-DNA binding and metabolic activation of carcinogenic PAH in mouse epidermis. *Carcinogenesis*, 22(7), 1077-1086.

[2] Thomas, P. Behind the Label: Head and Shoulders classic clean (July 2008). Available Online: [http://www.theecologist.org/green\\_green\\_living/behind\\_the\\_label/269804/behind\\_the\\_label\\_head\\_and\\_shoulders\\_classic\\_clear](http://www.theecologist.org/green_green_living/behind_the_label/269804/behind_the_label_head_and_shoulders_classic_clear) ([http://www.theecologist.org/green\\_green\\_living/behind\\_the\\_label/269804/behind\\_the\\_label\\_head\\_and\\_shoulders\\_classic\\_clear](http://www.theecologist.org/green_green_living/behind_the_label/269804/behind_the_label_head_and_shoulders_classic_clear)). Accessed April 22, 2022.

[3] Coal Tar. Environmental Working Group's Skin Deep cosmetic safety database. Available Online: [http://www.ewg.org/skindeep/ingredient/701514/COAL\\_TAR/](http://www.ewg.org/skindeep/ingredient/701514/COAL_TAR/) ([http://www.ewg.org/skindeep/ingredient/701514/COAL\\_TAR/](http://www.ewg.org/skindeep/ingredient/701514/COAL_TAR/)). Accessed April 22, 2022.

[4] Don't use food or products made with coal tar dyes. March 2013. November 5, 2013.

[5] Coal Tar. Report on carcinogens 12 edition. Available Online: <https://www.safecosmetics.org/wp-content/uploads/2022/08/12throc-complete.pdf> (<https://www.safecosmetics.org/wp-content/uploads/2022/08/12throc-complete.pdf>). Accessed April 22, 2022.

- [6] Merk, H. F., Mukhtar, H., Kaufmann, I., Das, M., & Bickers, D. R. (1987). Human hair follicle benzo [a] pyrene and benzo [a] pyrene 7, 8-diol metabolism: effect of exposure to a coal tar-containing shampoo. *Journal of investigative dermatology*, 88(1), 71-76.
- [7] Coal Tar-Based Asphalt Pavement Sealcoat, PAHs, and Environmental Health. Available Online: [https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental-health?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental-health?qt-science_center_objects=0#qt-science_center_objects) ([https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental-health?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/mission-areas/water-resources/science/coal-tar-based-pavement-sealcoat-pahs-and-environmental-health?qt-science_center_objects=0#qt-science_center_objects)). Accessed April 22, 2022.
- [8] Fysh, J. M., Andrews, L. S., Pohl, L. R., & Nebert, D. W. (1980). Differing degrees of coal-tar shampoo-induced mutagenesis in the Salmonella/liver test system in vitro. *Pharmacology*, 20(1), 1-8.
- [9] Bonner, M. R., Han, D., Nie, J., Rogerson, P., Vena, J. E., Muti, P., ... & Freudenheim, J. L. (2005). Breast cancer risk and exposure in early life to polycyclic aromatic hydrocarbons using total suspended particulates as a proxy measure. *Cancer Epidemiology Biomarkers & Prevention*, 14(1), 53-60.
- [10] Pyridine. Material Data Safety Sheet. Available Online: <https://fscimage.fishersci.com/msds/19990.htm> (<https://fscimage.fishersci.com/msds/19990.htm>). Accessed April 22, 2022.
- [11] Pinsky, C., & Bose, R. (1988). Pyridine and other coal tar constituents as free radical-generating environmental neurotoxicants. *Molecular and cellular biochemistry*, 84(2), 217-222.

## Add Impact To Your Inbox

Get our emails to stay in the know.

This site is protected by reCAPTCHA and the Google [Privacy Policy](https://policies.google.com/privacy) (<https://policies.google.com/privacy>) and [Terms of Service](https://policies.google.com/terms) (<https://policies.google.com/terms>) apply.



### get to know us

[about us \(/about/\)](#)  
[see our financials \(https://www.bcpp.org/about-us/financials/\)](https://www.bcpp.org/about-us/financials/)  
[contact us \(/contact/\)](#)  
[news \(/news/\)](#)

take action

- campaigns (/take-action/campaign/)
- individuals (/take-action/)
- businesses (/business/)
- press (/take-action/media/)

get the facts

- chemicals of concern (/chemicals/)
- products of concern (/products/)
- laws and regulations (/resources/regulations/)
- tips (/resources/safe-cosmetics-tips/)

1388 Sutter Street, Suite 901  
San Francisco, CA 94109-5400  
Safeco Cosmetics, Inc.  
HQ

© 2024 Campaign for Safe Cosmetics, a program of Breast Cancer Prevention Partners (<http://www.bcpp.org/>) all rights reserved.

BCPP is a 501(c)3 | EIN: 94-3155886 | [Privacy Policy](https://www.bcpp.org/privacy-policy/) | [Site Map](/sitemap_index.xml) | [BCPP.org](https://www.bcpp.org/)