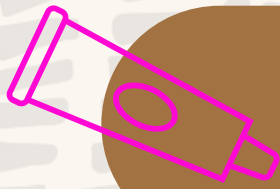
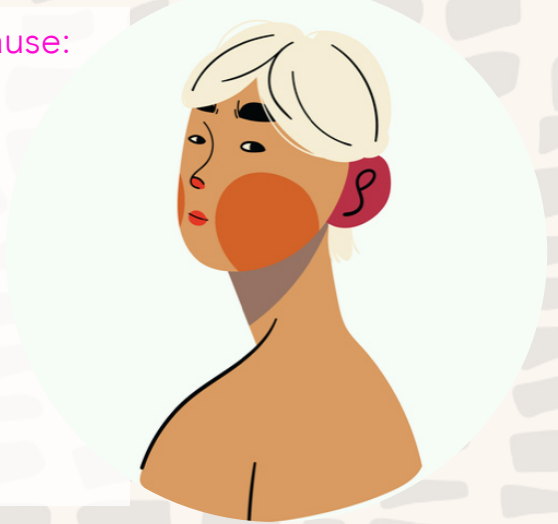


# feeling nothing?

By KATHRYN LINEBERGER

THE SKIN is a preferred route for consuming CBD because: topical forms of the drug are easy to use; they bypass the gut's neutralizing enzymes; and they produce fewer side effects.<sup>1</sup>

BUT, the effectiveness of a topical CBD product may be skewed by many different factors. Here are a few for consumers to consider:



A SURVEY FOUND ONLY 24% OF TOPICAL CBD PRODUCTS CONTAINED THE AMOUNT OF DRUG PROMISED ON THE LABEL.<sup>2</sup>

## mislabeled

## unregulated

THE FDA HAS NOT YET STANDARDIZED CBD MANUFACTURING, INGREDIENT SOURCING, OR PREPARATION METHODS.<sup>4</sup>

## degraded



CBD CAN LOSE ITS POTENCY IN AS LITTLE AS 30 DAYS, OR WHEN EXPOSED TO LIGHT.<sup>3</sup>

**not  
CBD**

- X HEMP
- X CANNABIS SATIVA SEED OIL
- X HEMP SEED OIL
- X HEMP SEED EXTRACT
- X HYDROLIZED HEMP SEED PROTEIN

CBD and hemp ingredients are used interchangeably on product labels, but they are not the same.<sup>5,6</sup>

## other ingredients

For a topical solution to be effective it must contain ingredients that penetrate the skin and transport the CBD to the tissues below. A product's other ingredients can disrupt the absorption.<sup>7</sup>



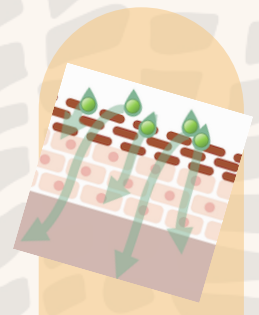
**MOLECULES TOO LARGE and remain on surface**



**Ph LEVEL DEGRADES THE CBD**



**DOESN'T BIND with skin's water and fat**



**IDEAL ACTION**

1. Akeemat, O., Tijani, Divya Thakur, Dhruv Mishra, Dorcas Frempong, Umeh I. Chukwunere, Ashana Puri, Delivering therapeutic cannabinoids via skin: Current state and future perspectives, Journal of Controlled Release, Volume 334, 2021, Pages 427-451. 2. Spindle, T.R., Sholler DJ, Cone EJ, et al. Cannabinoid Content and Label Accuracy of Hemp-Derived Topical Products Available Online and at National Retail Stores. JAMA Netw Open. 3. Mahmoudinoodezh, H., Telukutla, S.R., Bhangu, S.K., Bachari, A., Cavalieri, F., Mantri, N. (2022). The Transdermal Delivery of Therapeutic Cannabinoids. Pharmaceutics 14, 438. 4. Patel, P. M., & Lio, P. A. (2021). Safety and Sourcing of Topical Cannabinoids: Many Questions, Few Answers. The Journal of clinical and aesthetic dermatology, 14(8), 49-51. 5. Quiñones, R., Moreno, S., Smythers, A. L., Sullins, C., Pijor, H., Brown, G., Trouten, A., Richards-Waugh, L. L., and Siddig, A. (2022). Quantification of Cannabis in Infused Consumer Products and Their Residues on Skin. ACS Pharmacology & Translational Science 5 (8), 642-651. 6. Mnekin, L., & Ripoll, L. (2021). Topical Use of Cannabis sativa L. Biochemicals. Cosmetics (Basel), 8(3), 85-. 7. Tijani et al. Illustration: Natalia Vetrova. Other ingredient illustrations: K. Lineberger and barks\_Japan. Background: Alla Kuzmenko