



February 12, 2025

Senator Tepler, Representative Doudera and members of the Environment and Natural Resources Committee:

I am writing in support of LD 317: "An Act to Enact the Safe Cosmetics Act."

My name is Elizabeth Boulos. I live in Cape Elizabeth and am the Founder of The Ingredient Insider. I support consumers in reducing their toxins exposure from the products they use, their lifestyle, and the environment to improve their health outcomes. Additionally, I support small businesses with sourcing products that are free from harmful ingredients with minimal environmental impact, evaluating ingredients safety in product formulations, and labeling transparency. Prior to entrepreneurship, I spent 15+ years in marketing, branding, product development, and sales for grocery retailers. As such, I am well-versed in the complexities and nuances of the demand for companies to change their formulations and can confidently say that the current language of LD 317 will not cause undue hardship to businesses, which is often an argument against ingredient regulation and/or product reform.

LD 317 would ban the sale of cosmetics with certain intentionally added chemicals. The chemicals listed are found in cosmetics products used by consumers, including children's products, as well as by beauty professionals, including hairstylists, barbers, nail techs, aestheticians and cosmetologists. The chemicals listed in LD 317 have wide-ranging health impacts, even at low doses, including increasing the risk of cancer, reproductive damage, organ system toxicity, neurotoxicity, endocrine disruption, birth defects, headaches and dizziness. Many of these products are used daily, adding to the toxic burden on our bodies, and for those who use them in a professional setting, they are exposed for several hours throughout the day. Many of these chemicals cause harm when applied and when inhaled (e.g., hair dye, hair spray, hair straightening treatments, nail polish, etc.).

While I believe LD 317 will have a positive health impact; I think it could be made stronger by including additional harmful chemicals. I propose expanding the list of included chemicals – please see proposed amended language below:

§3303. Prohibition on sale and distribution of certain cosmetic products

- **Prohibition.** Beginning January 1, 2027, a person may not distribute, sell or offer for sale in this State a cosmetic product containing any of the following intentionally added ingredients: lead; mercury; Ortho-phthalates and their esters, dibutyl phthalate, dicyclohexyl, hexyl phthalate, diisobutyl phthalate, diisodecyl phthalate, diisononyl phthalate, diisooctyl phthalate, diethylhexyl phthalate, diethyl phthalate and benzyl butyl phthalate; formaldehyde releasers, including formaldehyde, paraformaldehyde; quaternium-15; methylene glycol; m-phenylenediamine; o-phenylenediamine; triclosan; triclocarban; or nonylphenol; toluene; methylparaben; propylparaben; ethylparaben; isobutylparaben; isopropylparaben; Diethanolamine; triethanolamine; DEA; TEA; Cocamide DEA; DEA-cetyl phosphate; DEA oleth-

3 phosphate; Lauramide DEA; Myristamide DEA; Oleamide DEA; TEA-lauryl sulfate; Stearamide MEA; Linoleamide MEA; Cocamide MEA

Since the proposed amended language includes a larger list of phthalates, I want to highlight that class of chemicals, as well as a sampling of data related to their health impacts:

- Phthalates are one of the most used chemicals in personal care products; they act as a fixative for the fragrance formulations in nearly all products. However, fragrance ingredients don't need to be disclosed on the ingredient label, per the 1966 Fair Package & Labeling Act.
- In 2013–2014, over 50% of tests for phthalates for persons aged 6 years and older found positive results for diethylhexyl phthalate (DEHP), and almost all women and children had dibutyl phthalate (DBP) metabolites, according to the National Center for Health Statistics (NCHS).¹
- In epidemiological studies, it was revealed that exposure to phthalates adversely affected reproductive hormones (luteinizing hormone, free testosterone, sex hormone-binding globulin), anogenital distance, and thyroid function.²
- Phthalates have been measured in over 95% of the population, and according to the US CDC, adult women have higher levels than men specifically for the phthalates used in personal care products.
- Phthalates are linked to early onset puberty in girls. Early puberty is a risk factor for breast cancer, as a woman's risk of breast cancer is directly related to how many years she is exposed to estrogen.
- Phthalates are considered obesogenic and are also linked to insulin resistance, and diabetes.

The proposed amended language also included the addition of several parabens. While parabens gained attention in the early 2000's for their links to breast cancer, they are still commonly found in cosmetics products today. Data and health harms on parabens include:

- Parabens are a widely used class of preservatives in personal care products that have been linked to cancer, endocrine disruption, reproductive toxicity, immune system toxicity, neurotoxicity, and skin irritation.
- Parabens can reduce the efficacy of the breast cancer drug Tamoxifen, which is intended to slow the growth of cancer cells.⁴
- The good news is that avoiding phthalates and parabens reduces cancer risk in breast tissue according to a Harvard study.³

Lastly, the proposed amended language also includes the addition of select ethanolamines, a class of ammonia-based chemicals. They are used in a wide range of cosmetics with health harms including:

¹ America's Children and the Environment, 3rd ed.; Phthalates; 2017. (Accessed February 11, 2025): Available online: https://www.epa.gov/sites/production/files/2017-08/documents/phthalates_updates_live_file_508_0.pdf

² Jurewicz J., Hanke W. Exposure to phthalates: Reproductive outcome and children health. A review of epidemiological studies. *Int. J. Occup. Med. Environ. Health.* 2011;24:115–141. doi: 10.2478/s13382-011-0022-2.

³ Dutta, S., et al. (2023). Reduction of daily-use parabens and phthalates reverses accumulation of cancer-associated phenotypes within disease-free breast tissue of study subjects. *Chemical Science*, 322, 38014. <https://ui.adsabs.harvard.edu/abs/2023Chmsp.32238014D/abstract>

⁴ Darbre, Philippa D, & Harvey PW. Parabens can enable hallmarks and characteristics of cancer in human breast epithelial cells: a review of the literature with reference to new exposure data and regulatory status. *Journal of Applied Toxicology* 34, 9 (2014): 925-38. doi:10.1002/jat.3027

- TEA and DEA have been found to be hepatocarcinogenic, meaning they produce or tend to produce cancer in the liver (in a study of female mice).⁵
- Studies show that 52- 68% of DEA in hair dyes, body lotions and shampoos remain on the upper layers of the skin after exposure.⁶
- Studies have found that DEA affects human male reproductive health as DEA alters sperm structure, causing abnormalities that affect the sperm's ability to swim and fertilize the egg.⁷

Thank you for taking the time to read this testimony and for taking the topic of toxins in cosmetics products seriously. Please have confidence that the passage of LD 317 would protect the health of consumers and beauty professionals in the State of Maine. It gives me hope that Maine would be at the forefront of protecting residents' health from toxic chemicals with the passage of LD 317. Thank you.

Elizabeth Boulos, MS
Founder - The Ingredient Insider

⁵ Lehman-McKeeman, L. D., Gamsky, E. A., Hicks, S. M., Vassallo, J. D., Mar, M. H., & Zeisel, S. H. (2002). Diethanolamine induces hepatic choline deficiency in mice. *Toxicological sciences*, 67(1), 38-45.

⁶ Kraeling, M. E. K., Yourick, J. J., & Bronaugh, R. L. (2004). In vitro human skin penetration of diethanolamine. *Food and chemical toxicology*, 42(10), 1553-1561.

⁷ Panchal, S. R., & Verma, R. J. (2013). Spermatotoxic effect of diethanolamine: An in vitro study. *Asian Pacific Journal of Reproduction*, 2(3), 196-200.