

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF MISSOURI**

<b>MICHELLE CRISTAL,</b>	)	
	)	
<b>Plaintiff,</b>	)	
	)	
<b>vs.</b>	)	<b>Case No:</b>
	)	
<b>L'ORÉAL USA, INC, L'ORÉAL USA</b>	)	
<b>PRODUCTS, INC., SOFTSHEEN-CARSON</b>	)	<b>JURY TRIAL DEMANDED</b>
<b>LLC., STRENGTH OF NATURE</b>	)	
<b>GLOBAL, LLC, and NAMASTE</b>	)	
<b>LABORATORIES, LLC,</b>	)	
	)	
<b>Defendants.</b>	)	

**COMPLAINT**

Plaintiff Michelle Christal, by her undersigned counsel, makes the following Complaint against Defendants L'Oréal USA, Inc, L'Oréal USA Products, Inc. ("L'Oréal"), SoftSheen-Carson LLC ("SoftSheen"), Strength of Nature Global, LLC ("Strength of Nature"), and Namaste Laboratories, LLC, ("Namaste") (collectively, "Defendants"), alleging as follows:

**NATURE OF THE ACTION**

1. This action arises out of Michelle Christal's diagnosis of endometrial cancer, a type of uterine cancer. Ms. Christal's uterine cancer was directly and proximately caused by her regular and prolonged exposure to phthalates and other endocrine disrupting chemicals ("EDCs") found in Defendants' hair care products.

2. Plaintiff brings this action against Defendants for claims arising from the direct and proximate result of Defendants, their directors, agents, heirs and assigns, and/or their corporate predecessors' negligent, willful, and wrongful conduct in connection with the design, development, manufacture, testing, packaging, promoting, marketing, distribution, labeling, and/or sale of their products including Dark & Lovely, Optimum, Motions, Just for Me, and

Organic Root Stimulator Olive Oil Relaxer (together, the “Products”).

**I. PARTIES**

3. Plaintiff is and at all times relevant to this action, was a citizen and resident of the State of Missouri with her place of residence being Jackson County, Missouri.

4. Defendant L’Oréal USA, Inc. is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 575 Fifth Avenue, New York, New York 10017 and process may be served upon its registered agent, Corporation Service Company, 80 State Street, Albany, NY 12207.

5. Defendant L’Oréal USA Products, Inc. is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 10 Hudson Yards 347 10th Avenue New York, New York 10001 and process may be served upon its registered agent, Corporation Service Company, 80 State Street, Albany, NY 12207.

6. Defendant SoftSheen-Carson LLC is, and at all times relevant to this action, was a New York Limited Liability Company with its principal place of business located at 10 Hudson Yards, 347 10th Avenue, New York, New York 10001, and process may be served upon its registered agent, Corporation Service Company, 80 State Street, Albany, New York 12207. Softsheen-Carson LLC’s sole member is L’Oreal USA, Inc.

7. Defendant Strength of Nature Global, LLC is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 64 Ross Road, Savannah, Georgia 31405, and process may be served upon its registered agent, Karen Sood, 6355 Peachtree Dunwoody Road, Atlanta, Georgia, 30328.

8. Defendant Namaste Laboratories, LLC is, and at all times relevant to this action, was a limited liability company with its principal place of business located at 310 S. Racine, 8th Fl, South, Chicago, Illinois 60607, and process may be served upon its registered agent, Illinois

Corporation Service Company, 801 Adlai Stevenson Drive, Springfield, Illinois 62703.

9. At all pertinent times, all Defendants were engaged in the research, development, manufacture, design, testing, sale, and marketing of the Products, and introduced such products into interstate commerce with knowledge and intent that such products be sold in the State of Missouri.

10. At all times material hereto, Defendants developed, tested, assembled, manufactured, packaged, labeled, prepared, distributed, marketed, supplied, and/or sold the defective Products, including but not limited to: Dark & Lovely, Optimum, Motions, Just for Me, and Organic Root Stimulator Olive Oil Relaxer.

11. The Products were placed into the stream of interstate commerce and have been used by the Plaintiff for many years. She has had certain of the Products applied to her own hair dating back to approximately the year 1986 and continuing until the present date. In addition, she has worked in a hair salon and has applied the Products on different customers since approximately the year 1994.

12. On or about September 27, 2022, Plaintiff was diagnosed with endometrial carcinoma, a diagnosis caused by Plaintiff's exposure to chemicals in Defendants' Products.

## **II. JURISDICTION AND VENUE**

13. This Court has subject-matter jurisdiction over this case under 28 U.S.C. § 1332(a) because the amount in controversy exceeds \$75,000 and Plaintiff and Defendants are residents of different states.

14. Defendants have sufficient minimum contacts with the State of Missouri and regularly conduct business within the State of Missouri such that exercising jurisdiction over Defendants would not offend due process or traditional notions of fair play and substantial justice.

15. Defendants' Products were all sold either directly or indirectly, to members of the general public within the State of Missouri.

16. Venue is proper in this district pursuant to 28 U.S.C. §§1391(a) and (b)(2) and 1391(c)(2) because a substantial part of the events or omissions giving rise to the claims occurred in this judicial district, and the Defendants are subject to this Court's personal jurisdiction. Venue is also proper under 18 U.S.C. § 1965 (a) because Defendants transact substantial business in this district.

17. Upon information and belief, at all relevant times, Defendants were present and transacted, solicited and conducted business in the State of Missouri through their employees, agents and/or sales representatives, and derived substantial revenue from such business.

18. At all relevant times, Defendants expected or should have expected that their acts and omissions would have consequences within the United States and the State of Missouri.

### **III. FACTS COMMON TO ALL COUNTS**

#### **A. Hair Straighteners and Relaxers - Background**

19. Black people make up about 13 percent of the U.S. population, but by one estimate, African-American spending accounts for as much as 22 percent of the \$42 billion-a-year personal care products market, suggesting that they buy and use more of such products – including those with potentially harmful ingredients– than Americans as a whole.<sup>1</sup>

20. In an analysis of ingredients in 1,177 beauty and personal care products marketed to Black women, about one in twelve (12) was ranked highly hazardous on the scoring system of

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<sup>1</sup> Thandisizwe Chimurenga, *How Toxic is Black Hair Care?*, New America Media, Feb. 2, 2012, [americamedia.org/2012/02/skin-deep-in-more-ways-than-one.php](http://americamedia.org/2012/02/skin-deep-in-more-ways-than-one.php); *Personal Care Products Manufacturing Industry Profile*, Dun & Bradstreet First Research, August 2016, [www.firstresearch.com/Industry-Research/Personal-Care-Products-Manufacturing.html](http://www.firstresearch.com/Industry-Research/Personal-Care-Products-Manufacturing.html) (This report uses "Black" to describe not only people who identify as African-American, but Black people in the U.S. who come from the Caribbean or other areas. "African-American" is used only when a cited source specifies that term).

EWG's Skin Deep® Cosmetics Database, a free online resource for finding less-hazardous alternatives to personal care products. The worst-scoring products marketed to Black women were hair relaxers, and hair colors and bleaching products. Each of these categories had an average product score indicating high potential hazard.

21. In the U.S. alone, Black consumers spend over \$1 trillion each year, with a significant amount of that spending toward hair care products.

22. In 2020, the global Black Hair care market was estimated at \$2.5 billion, with the hair relaxer market alone estimated at \$718 million in 2021, with the expectation of growth to \$854 million annually by 2028.

23. In its natural or virgin state, afro-hair texture is characterized by coily, springing, zigzag, and s-curve curl patterns; as well as its density, fullness, texture, and feel.<sup>2</sup>

24. Afro-textured hair “naturally grows up and out.”<sup>3</sup>

25. Black, or afro-textured hair texture, can be manipulated into a straightened state with the use of hair tools and hair products. Prior to the invention of the chemical relaxer in 1900s, individuals would “press” afro-textured hair with metal hair tools such as the “hot comb.” Pressing combs or hot combs are metal hair tools that are first heated in a stove or ceramic heater, then pressed into hair strands to temporarily straighten them.<sup>4</sup>

26. The hot comb was first invented by Frenchman, Marcel Grateau who popularized the hair styling tool in Europe in the 1870s, including advertisements in catalogs of major department stores like Sears and Bloomingdales.<sup>5</sup> The hot comb was later modified by Madam

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<sup>2</sup> Patrick Obukowcho, *Hair Relaxers: Science, Design, and Application*, 26, 14 (2018).

<sup>3</sup> Ayana Byrd & Lori Tharps, *When Black Hair Is Against the Rules*, The New York Times, April 30, 2014, <https://www.nytimes.com/2014/05/01/opinion/when-black-hair-is-against-the-rules.html>.

<sup>4</sup> Jaclyn Peterson, *The Price of Beauty*, CTI Charlotte Teachers Institute Curriculum (2021).

<sup>5</sup> Henry Louis Gates, *Madam Walker, the First Black American Woman to Be a Self-Made Millionaire*, PBS 100 Amazing Facts About the Negro, <https://www.pbs.org/wnet/african-americans-many-rivers-to-cross/history/100-amazing-facts/madam-walker-the-first-black-american-woman-to-be-a-self-made-millionaire/> (last

C.J. Walker, a trailblazer in the development of black hair products, to be manufactured with wider comb teeth.<sup>6</sup> With Walker's system, once the comb was heated a softening ointment was then applied for easier manipulation of black hair.<sup>7</sup>

27. Today, afro-textured hair is still often straightened with a hot comb rather than with chemicals.

### **B. Defendants' Marketing Efforts**

28. In 1971, Dark and Lovely manufactured the first lye relaxer. The formula consisted of sodium hydroxide, water, petroleum jelly, mineral oils, and emulsifiers.<sup>8</sup>

29. In the 1970s, lye relaxer users and manufacturers noticed that the lye formula stripped proteins from the hair strand, resulting in the hair thinning and breaking.<sup>9</sup> As a result, Johnson and Johnson marketed the first "gentle" hair relaxer in 1981, which used milder chemicals such as potassium hydroxide and lithium hydroxide.<sup>10</sup>

30. Over time, Soft & Beautiful and other chemical relaxer manufacturers developed herbal and botanical hair relaxer formulas.<sup>33</sup>

31. Today, Defendants market their hair relaxer products to African American customers across the United States, and the world. Defendant's marketing scheme relies heavily relying on branding and slogans that reinforce straight hair as the standard.<sup>11</sup>

32. Defendant Strength of Nature Global, LLC markets its Soft & Beautiful and Motions relaxer products, depicting beautiful, happy, fair-skinned African American women

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visited October 18, 2022).

<sup>6</sup> Cookie Lommel, *Madam C.J. Walker* 60 (1993)

<sup>7</sup> *Id.* at 62.

<sup>8</sup> Cicely A. Richard, *This History of Hair Relaxers*, September 29, 2017, <https://classroom.synonym.com/the-history-of-hair-relaxers-12078983.html>.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

with straight hair in seeming perpetual motion.<sup>12</sup>



33. Defendant Strength of Nature Global, LLC also carries a TCB Naturals line that promises “silky smooth relaxed hair”

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<sup>12</sup> *Id.*

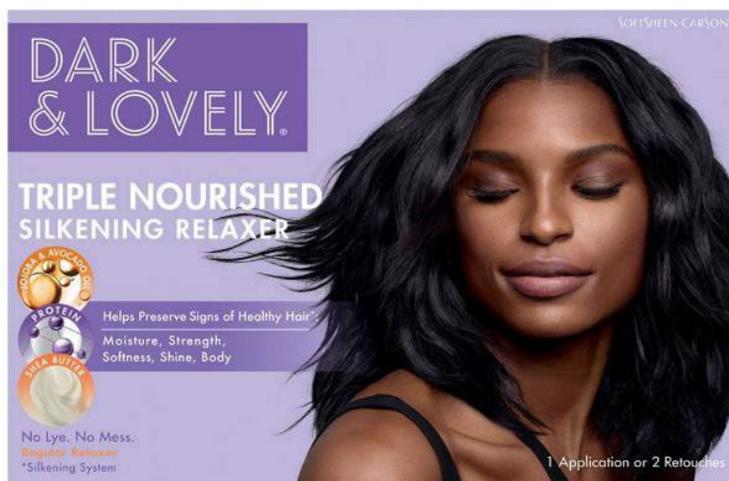
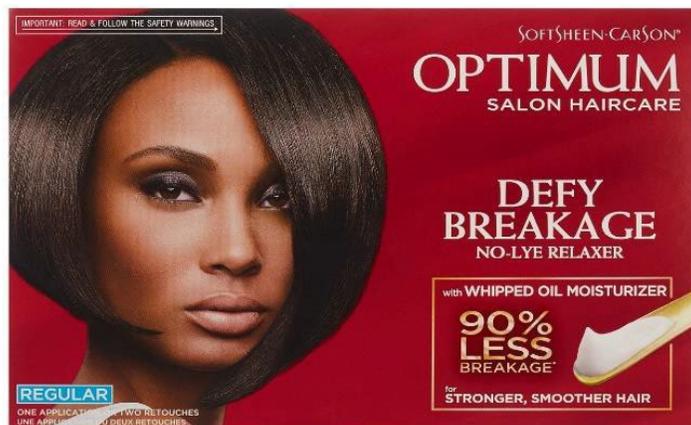
34. Defendant Strength of Nature Global, LLC’s Just for Me brand specifically targets young Black girls with promises of “perfect straightness,” grooming the next generation of lifetime consumers of relaxers containing DEHP.



35. Defendant Namaste also targets young Black girls with its Olive Oil Girls line.



36. Finally, Defendant L'Oréal depicts a Black woman with straight hair on each of its Dark and Lovely and Optimum brands of relaxer product.



### C. Chemical Relaxer Use

37. Hair relaxers are classified as creams or lotions which are specifically marketed to Black and Brown women to “tame” their ethnic hair by making it smoother, straighter, and easier to manage on a daily basis.

38. Hair relaxing, or lanthionization, can be performed by a professional cosmetologist in a salon or barbershop, or at home with at-home relaxer kits designed for individual use. These home kits are sold in grocery, drug, and beauty supply stores in urban and rural cities throughout the United States.

39. Relaxers are applied to the base of the hair shaft and left in place for a “cooking” interval, during which the relaxer alters the hair’s texture by purposefully damaging the hair’s natural protein structure. The effect of this protein damage straightens and smooths the hair. After a period of weeks (4 – 8 weeks on average), depending on the hair’s natural growth rate, the treated portion of the hair grows away from the scalp as new growth sprouts from the roots, requiring additional relaxer treatment to smooth the roots. These additional treatments are colloquially referred to in the community as “re-touches”, resulting in women relaxing their new growth every four to eight weeks on average, usually for decades.

40. Hair relaxers can, and often do, cause burns and lesions in the scalp, facilitating entry of hair relaxer constituents into the body. The main ingredient of “lye” relaxers is sodium hydroxide; no-lye relaxers contain calcium hydroxide and guanidine carbonate, and “thio” relaxers contain thioglycolic acid salts. No-lye relaxers are advertised to cause fewer scalp lesions and burns than lye relaxers, but there is little evidence to support this claim.

41. In some studies, up to 90% of black and brown women have used hair relaxants and straighteners, which is more commonplace for these women than for any other race. Hair products such as relaxers contain hormonally active and carcinogenic compounds, such as phthalates, known to cause endocrine disruption, which are not required to be listed separately as ingredients and are often broadly lumped into the “fragrance” or “perfume” categories. Relaxer habits usually begin in formative childhood years, and adolescence is likely a period of enhanced susceptibility to debilitating conditions resulting from exposure to these chemicals.<sup>13</sup>

42. In the 1990s, the first relaxer product for young Black girls, Just for Me™, hit the market with a catchy advertising jingle that captured consumer attention.<sup>14</sup> It soon became one of

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<sup>13</sup> Patrick Obukowcho, *Hair Relaxers: Science, Design, and Application* 27 (2018).

<sup>14</sup> Dana Oliver, *The ‘90s Just For Me Hair Relaxer Commercials Song Is Stuck In Our Heads*, HuffPost, Feb., 1,

the most popular straightening treatments, touting a no-lye formula designed to be gentler for children's sensitive scalps.

43. Once relaxer use begins in childhood, it usually becomes a lifetime habit. The frequency of scalp burns with relaxer application can increase the risk of permanent and debilitating diseases associated with long-term exposure to EDCs.

#### **D. Regulatory Framework**

44. The law does not require cosmetic products and ingredients, other than color additives, to have FDA approval before they go to market. But there are laws and regulations that apply to cosmetics placed into the market. The two most important laws pertaining to cosmetics marketed in the United States is the Federal Food Drug and Cosmetic Act ("FD&C Act") and the Fair Packaging and Labeling Act ("FPLA").

45. The FD&C Act expressly prohibits the marketing of "adulterated" or "misbranded" cosmetics in interstate commerce.

46. Adulteration refers to a violation involving product composition whether it results from ingredients, contaminants, processing, packaging shipping or handling.

47. Under the FD&C Act a cosmetic is adulterated if: 1) it bears or contains any poisonous or deleterious substance causing injury to the product user and 2) if its container is composed in whole or in part, of any poisonous or deleterious substance which may render the contents injurious to health.

48. Misbranding refers to violations involving improperly labeled or deceptively packaged products.

49. Under the FD&C Act, a cosmetic is misbranded if 1) labeling is false or misleading,

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2014. [https://www.huffpost.com/entry/just-for-me-hair-relaxer-commercial- song\\_n\\_4689981](https://www.huffpost.com/entry/just-for-me-hair-relaxer-commercial- song_n_4689981)

2) the label does not include all required information, 3) required information is not prominent and conspicuous, 4) the packaging and labeling is in violation of an applicable regulation issued pursuant to section 3 and 4 of the Poison Prevention Packaging Act of 1970.<sup>15</sup>

50. Under U.S. law, cosmetic manufacturers are not required to submit their safety data to the FDA. However, it is against the law to put an ingredient in a cosmetic that makes the cosmetic harmful when used as intended.<sup>16</sup> An example is methylene chloride because it causes cancer in animals and is likely to be harmful to human health, too.<sup>17</sup>

51. On May 19, 2022, the FDA issued a rule to amend its food additive regulations to no longer provide for most previously-authorized phthalates to be used as food additives because these uses have been abandoned by industry.<sup>18</sup> The FDA revoked authorizations for the food contact use of 23 phthalates and two other substances used as plasticizers, adhesives, defoaming agents, lubricants, resins, and slimicides.<sup>19</sup>

52. Companies and/or individuals who manufacture or market cosmetics have a legal responsibility and duty to ensure the safety of their own products. Neither the law nor FDA regulations require specific tests to demonstrate the safety of individual products or ingredients, and the law also does not require cosmetic companies to share their safety information with the FDA.

53. The FDA has consistently advised manufacturers to use whatever testing is necessary to ensure the safety of products and ingredients, which may be substantiated through

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<sup>15</sup> Food and Drug Administration Cosmetic Act § 602 (1938).

<sup>16</sup> *Prohibited & Restricted Ingredients in Cosmetics*, U.S. Food and Drug Administration, <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/prohibited-restricted-ingredients-cosmetics>

<sup>17</sup> 21 Code of Federal Regulations § 700.19.

<sup>18</sup> § 87 FR 31080

<sup>19</sup> *Phthalates in Food Packages and Food Contact Applications*, U.S. Food and Drug Administration, <https://www.fda.gov/food/food-ingredients-packaging/phthalates-food-packaging-and-food-contact-applications>

(a) reliance on already available toxicological test data on individual ingredients and on product formulations that are similar in composition to the particular cosmetic and (b) performance of any additional toxicological and other tests that are appropriate in light of such existing data and information.<sup>20</sup>

54. Except for color additives and ingredients prohibited or restricted by regulation, a manufacturer may use any ingredient in the formulation of a cosmetic, provided that (1) the ingredient and the finished cosmetic are safe under labeled or customary conditions of use, (2) the product is properly labeled, and (3) the use of the ingredient does not otherwise cause the cosmetic to be adulterated or misbranded under the laws the FDA enforces.<sup>21</sup>

55. With respect to whether the product is properly labeled, Title 21 of the Code of Federal Regulations defines the establishment of warning statements related to cosmetic products. Section 740.1 states that “[t]he label of a cosmetic product ***shall*** bear a warning statement whenever necessary or appropriate to prevent a health hazard that ***may*** be associated with the product.” (emphasis added). This warning directive directly correlates with the broad authority of manufacturers over their own cosmetic products to ensure that products are safe under labeled or customary conditions of use, properly labeled, and not adulterated or misbranded under FDA laws.

56. In short, under the current regulatory framework in the United States, it is incumbent upon the manufacturers of cosmetic products, and them alone, to assess the safety and efficacy of their products, and to warn consumers anytime a health hazard may be associated with their products. Here, a wealth of scientific information is available regarding long-term use of hair

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<sup>20</sup> *FDA Authority Over Cosmetics: How Cosmetics Are Not FDA-Approved, but Are FDA-Regulated*, U.S. Food and Drug Administration, Mar., 3, 2005, <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/fda-authority-over-cosmetics-how-cosmetics-are-not-fda-approved-are-fda-regulated>

<sup>21</sup> *Id.*

relaxers, straighteners and hair dyes as containing certain EDCs, which should have alerted manufacturers of these products to the specific and dangerous harms associated with their products when used as intended, particularly in women of color.

#### **E. Endocrine-Disrupting Chemicals**

57. The endocrine system is indispensable for life and influences nearly every cell, organ, and processes within the body.<sup>22</sup> The endocrine system regulates all biological processes in the body from conception through adulthood, including the development of the brain and nervous system, the growth and function of the reproductive system, as well as the metabolism and blood sugar levels.<sup>23</sup>

58. The endocrine system is a tightly regulated system made up of glands that produce and release precise amounts of hormones that bind to receptors located on specific target cells throughout the body.<sup>24</sup>

59. Hormones, such as estrogen, testosterone, progesterone, and androgen, are chemical signals that control or regulate critical biological processes.<sup>25</sup>

60. When a hormone binds to a target cell's receptor, the receptor carries out the hormone's instructions, the stimulus, and either switches on or switches off specific biological processes in cells, tissues, and organs.<sup>26</sup>

61. The precise functioning of the endocrine system is vital to maintain hormonal homeostasis, the body's natural hormonal production and degradation. A slight variation in hormone levels can lead to significant adverse-health effects, including reproductive impairment

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<sup>22</sup> *Endocrine System: The Endocrine System Includes The Thyroid, Adrenals, and the Pituitary Gland*, Science Direct, <https://www.sciencedirect.com/topics/psychology/endocrine-system>

<sup>23</sup> *Endocrine Disruption*, United States Environmental Protection Agency, Mar., 7, 2022, <https://www.epa.gov/endocrine-disruption/what-endocrine-system>

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

and infertility, cancer, cognitive deficits, immune disorders, and metabolic syndrome.<sup>27</sup>

62. EDCs are chemicals, or chemical mixtures, that interfere with the normal activity of the endocrine system.

63. EDCs can act directly on hormone receptors as mimics or antagonists, or on proteins that control hormone delivery.<sup>28</sup>

64. EDCs disrupt the endocrine system and interfere with the body's hormonal homeostasis in various ways.

65. EDCs can cause the body to operate as if there were a proliferation of a hormone and thus over-respond to the stimulus or respond when it was not supposed to by mimicking a natural hormone.

66. EDCs can increase or decrease the levels of the body's hormones by affecting the production, degradation, and storage of hormones.

67. EDCs can block the hormone's stimulus through inducing epigenetic changes, modifications to DNA that regulate whether genes are turned on or off or altering the structure of target cells' receptors.<sup>29</sup>

68. EDCs are known to cause to numerous adverse human health outcomes including endometriosis, impaired sperm quality, abnormalities in reproductive organs, various cancers, altered nervous system and immune function, respiratory problems, metabolic issues, diabetes,

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<sup>27</sup> *Id.*; Michele La Merrill, et al., *Consensus on the Key Characteristics of Endocrine-Disrupting Chemicals as a Basis for Hazard Identification*, Nature Reviews Endocrinol, Nov., 12, 2019, <https://www.nature.com/articles/s41574-019-0273-8>

<sup>28</sup> Evanthia Diamanti-Kandarakis, et al., *Endocrine-Disrupting Chemicals: An Endocrine Society Scientific Statement*, Endocrine Reviews, June 30, 2009, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2726844/>

<sup>29</sup> Luis Daniel Martínez-Razo, et al., *The impact of Di-(2-ethylhexyl) Phthalate and Mono(2-ethylhexyl) Phthalate in placental development, function, and pathophysiology*, Environment International, January 2021, <https://www.sciencedirect.com/science/article/pii/S0160412020321838?via%3Dihub>

obesity, cardiovascular problems, growth, neurological and learning disabilities.<sup>30</sup>

69. EDCs that mimic the effects of estrogen in the body may contribute to disease risk because exposure to estrogen, endogenously and exogenously, is associated with breast cancer, and a woman's lifetime risk of developing the disease increases with greater duration and cumulative exposure.

70. Natural and synthetic EDCs are present in hair products under the guise of "fragrance" and "perfumes", and thus enter the body when these products are exogenously applied to the hair and scalp. Studies exploring this issue have thus far classified EDCs as estrogens, phthalates, and parabens.

71. Indeed, numerous studies spanning more than two decades have demonstrated the adverse impact EDCs including Di-2-ethylhexylphthalate have on the male and female reproductive systems such as inducing endometriosis, abnormal reproductive tract formation, decreased sperm counts and viability, pregnancy loss, and abnormal puberty onset.<sup>31</sup>

### **(1) Phthalates**

72. Phthalates are used in a variety of cosmetics and personal care products. Phthalates are chemical compounds developed in the last century that are used to make plastics more durable. These colorless, odorless, oily liquids also referred to as "plasticizers" based on their most common uses.

73. Phthalates also function as solvents and stabilizers in perfumes and other fragrance preparations. Cosmetics that may contain phthalates include nail polishes, hair sprays, aftershave

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<sup>30</sup> *Endocrine Disrupting Chemicals (EDCs)*, Endocrine Society, Jan., 24, 2022, <https://www.endocrine.org/patient-engagement/endocrine-library/edcs#:~:text=EDCs%20can%20disrupt%20many%20different,%2C%20certain%20cancers%2C%20respiratory%20problems%2C>

<sup>31</sup> Hee-Su Kim, et al., *Hershberger Assays for Di-2-ethylhexyl Phthalate and Its Substitute Candidates*, Dev Reproduction, Mar., 22, 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5915764/>.

lotions, cleansers, and shampoos.

74. At all relevant times herein, phthalates were used in Defendants' products.

75. Phthalates are chemicals used to improve the stability and retention of fragrances and to help topical products stick to and penetrate skin and hair.<sup>32</sup>

76. Phthalates are known EDCs which interfere with natural hormone production and degradation and are detrimental to human health.<sup>33</sup>

77. Phthalates are commonly used by cosmetics and hair care product manufacturers to make fragrances and colors last longer, and to make hair more flexible after product is applied, among other uses.

78. Phthalates can be found in most products that have contact with plastics during producing, packaging, or delivering. Despite the short half-lives in tissues, chronic exposure to phthalates will adversely influence the endocrine system and functioning of multiple organs, which has negative long-term impacts on the success of pregnancy, child growth and development, and reproductive systems in both young children and adolescents. Several countries have established restrictions and regulations on some types of phthalates.<sup>34</sup>

79. Phthalates are a series of chemical substances, which are mainly used as plasticizers added to polyvinyl chloride ("PVC") plastics for softening effects. Phthalates can potentially disrupt the endocrine system.<sup>35</sup>

80. Defendants' products referenced herein contain phthalates, including Di-2-ethylhexylphthalate.

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<sup>32</sup> Olivia Koski & Sheila Hu, *Fighting Phthalates*, National Resources Defense Council, April 20, 2022, <https://www.nrdc.org/stories/fighting-phthalates>

<sup>33</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, *Healthcare (Basel)* 9, 603, May 9, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

81. Under the authority of the Fair Packaging and Labeling Act (“FPLA”), the FDA requires an ingredient declaration on cosmetic products sold at the retail level to consumers.

82. However, the regulations do not require the listing of the individual fragrance or flavor, or their specific ingredients meaning phthalates evade listing when combined with a fragrance. As a result, a consumers, including Plaintiff was not able to determine from the ingredient declaration on the label if phthalates were present in a fragrance used in the herein referenced hair products used by the Plaintiff and placed into the stream of commerce by Defendants.

83. Since 1999, the Centers for Disease Control (“CDC”) have found phthalates in individuals studied for chemical exposure.<sup>36</sup> Neither IARC nor NTP has evaluated DEHP with respect to human carcinogenicity.

## (2) Di-2-ethylhexylphthalate

84. Di-2-ethylhexylphthalate<sup>37</sup> (“DEHP”) is a highly toxic manufactured chemical<sup>38</sup> that is not found naturally in the environment.<sup>39</sup>

85. DEHP belongs to the family of chemicals called phthalates.<sup>40</sup>

86. DEHP was first used in 1949 in United States and has been the most abundantly used phthalate derivative in the Twentieth century.<sup>41</sup>

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<sup>36</sup> *Biomarker Groups*, National Report on Human Exposure to Environmental Chemicals, Center for Disease Control, [https://www.cdc.gov/exposurereport/pdf/Biomarker\\_Groups\\_Infographic-508.pdf](https://www.cdc.gov/exposurereport/pdf/Biomarker_Groups_Infographic-508.pdf)

<sup>37</sup> Also known as Bis(2-ethylhexyl) phthalate.

<sup>38</sup> Sai Rowdhwal & Jiayang Chen, *Toxic Effects of Di-2-ethylhexyl Phthalate: An Overview*, Biomed Research International, Feb., 22, 2018

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5842715/#:~:text=DEHP%20is%20noncovalently%20bound%20to,and%20plastic%20waste%20disposal%20sites>.

<sup>39</sup> *Toxicological Profile for Di(2-Ethylhexyl) Phthalate (DEHP)*, U.S. Dept of Health and Human Services, January 2022, <https://www.atsdr.cdc.gov/ToxProfiles/tp9.pdf> (DEHP is listed as hazardous pollutants under the Clean Air Act.; DEHP is on the Proposition 65 list because it can cause cancer and birth defects or other reproductive harm).

<sup>40</sup> *Di(2-ethylhexyl) phthalate (DEHP)*, Proposition 65, California. Gov, <https://www.p65warnings.ca.gov/factsheets/di2-ethylhexylphthalate-dehp>

<sup>41</sup> Pinar Erkekoglu & Belma Kocer-Gumusel, *Environmental Effects of Endocrine-Disrupting*

87. DEHP does not covalently bind to its parent material. Non-covalent bonds are weak and, as a result, DEHP readily leaches into the environment increasing human exposure.<sup>42</sup>

88. Humans are exposed to DEHP through ingestion, inhalation, and dermal exposure for their lifetimes, including intrauterine life.<sup>43</sup>

89. The Agency for Toxic Substances and Disease Registry (“ATSDR”) estimates that the range of daily human exposure to DEHP is 3–30 µg/kg/day.<sup>44</sup>

90. The no-observed-adverse-effect level for DEHP to humans is 4.8 mg/kg bodyweight/day and the tolerate daily intake (TDI) is 48 µg/kg bodyweight.<sup>45</sup>

Endpoint	Cancer (NSRL)		Developmental and Reproductive Toxicity (MADL)	
	Oral	Inhalation	Oral	Inhalation
DEHP	310 µg/day	N.C.	410 µg/day	N.C.

Source: OEHHA’s safe harbor levels for TDCIPP, DBP, DEHP, benzene, and formaldehyde. N.C. = not calculated by OEHHA as of August 2020.<sup>46</sup>

91. When DEHP enters in the human body, it breaks down into specific metabolites. The toxicity of DEHP is mainly attributed to its unique metabolites which include the primary

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*Chemicals: A Special Focus on Phthalates and Bisphenol A*, Environmental Health Risk, June 16, 2016, <https://www.intechopen.com/chapters/50234>

<sup>42</sup> Katelyn H. Wong & Timur Durrani, *Exposures to Endocrine Disrupting Chemicals in Consumer Products – A Guide for Pediatricians*, Current Problems in Pediatric and Adolescent Health Care, Science Direct, May 2017, <https://www.sciencedirect.com/science/article/pii/S1538544217300822?via%3Dihub>

<sup>43</sup> Schmidt, Juliane-Susanne, et al., *Effects of Di(2-ethylhexyl) Phthalate (DEHP) on Female Fertility and Adipogenesis in C3H/N Mice*, Environmental Health Perspective, May 15, 2012, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3440070/>

<sup>44</sup> Hannon, Patrick et. al., *Daily Exposure to Di(2-ethylhexyl) Phthalate Alters Estous Cyclicity and Accelerates Primordial Follicle Recruitment Potentially Via Dysregulation of the Phosphatidylinositol 3-Kinase Signaling Pathway in Adult Mice*, Biology of Reproduction Volume 90, Issue 6, June 2014, 136, 1–11 <https://academic.oup.com/biolreprod/article/90/6/136,%201-11/2514356>

<sup>45</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, Healthcare (Basel) 9(5):603, May 18, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>46</sup> Aalekhya Reddam & David Volz, *Inhalation of two Prop 65-listed Chemicals Within Vehicles May Be Associated with Increased Cancer Risk*, Environment International Volume 149, April 2021, <https://www.sciencedirect.com/science/article/pii/S016041202100026X>

metabolite, mono-(2-ethylhexyl)phthalate (MEHP), and secondary metabolites, mono-(2-ethyl-5-hydroxyhexyl)phthalate (MEHHP), and mono-(2-ethyl-5-oxohexyl)phthalate (MEOHP).<sup>47</sup>

92. DEHP and its metabolites are known to cause significant adverse-health effects including but not limited to: endometriosis, developmental abnormalities, reproductive dysfunction and infertility,<sup>48</sup> various cancers, and metabolic syndrome within the human population and their future children.<sup>49</sup>

93. Most of the available studies on the health effects of DEHP in laboratory animals used oral administration, with a few inhalation studies and only two dermal exposure studies identified.<sup>50</sup>

94. The results of the selected animal studies, along with limited human data, suggest potential associations between DEHP exposure and the following health outcomes:

- a) **Reproductive effects.** Epidemiological studies suggest a potential association between DEHP exposure and decreased serum testosterone and altered sperm parameters in males. Available studies on fertility effects in humans do not indicate an association between DEHP exposure and infertility. In animals, the available oral and inhalation studies provide evidence that the male reproductive system, particularly the testes, is susceptible to DEHP toxicity. Evidence from animal studies indicates decreased male and female fertility at high oral doses.
- b) **Developmental effects.** Epidemiological studies suggest a potential association between reduced AGD and testicular descent in male infants and prenatal

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<sup>47</sup> Saab, Yolande, et. al., *Risk Assessment of Phthalates and Their Metabolites in Hospitalized Patients: A Focus on Di- and Mono-(2-ethylhexyl) Phthalates Exposure from Intravenous Plastic Bags*. *Toxics*, 10(7), 357, <https://pubmed.ncbi.nlm.nih.gov/35878262/>; Ishtaf Sheikh, et. al., *Endocrine disruption: In silico perspectives of interactions of di-(2-ethylhexyl)phthalate and its five major metabolites with progesterone receptor*. *BMC Structural Biology* Volume 16, Suppl 1, 16, Sept., 30, 2016, <https://bmestructbiol.biomedcentral.com/articles/10.1186/s12900-016-0066-4> (Other secondary metabolites include mono(2-ethyl-5-carboxypentyl)phthalate (5-cx-MEPP) and mono[2-(carboxymethyl)hexyl]phthalate (2-cx-MMHP)).

<sup>48</sup> Richardson, Kadeem et. al., *Di(2-ethylhexyl) Phthalate (DEHP) Alters Proliferation and Uterine Gland Numbers in the Uterine of Adult Exposed Mice*, *Reproductive Toxicology*, 77, 70-79, <https://pubmed.ncbi.nlm.nih.gov/29458081/>

<sup>49</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, *Healthcare (Basel)* 9, 603, May 9, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>50</sup> *Chapter 2: Health Effects*, Toxicological profile for Di(2-ethylhexyl) phthalate (DEHP) (2001), <https://www.atsdr.cdc.gov/ToxProfiles/tp9-c2.pdf>

DEHP exposure. In addition, human epidemiological studies provide mixed results for potential relationships between exposure to DEHP and preterm birth, early puberty, and delayed mental and psychomotor development in children. Studies in animals indicate that altered glucose homeostasis and the development of the reproductive system following early life exposure is a particularly sensitive target of DEHP toxicity.

95. The global consumption of DEHP was estimated at 3.07 million tons (Global demand for plasticizers continues to rise). The estimated global market of phthalates in 2020 is expected to reach 10 billion USD and would still be widely used in plasticizers.<sup>51</sup>

96. Human epidemiological studies have shown a significant association between phthalates exposures and adverse reproductive outcomes in both women and men.<sup>52</sup>

97. Evidence found that DEHP was significantly related to insulin resistance and higher systolic blood pressure and the reproduction system problems, including earlier menopause, low birth weight, pregnancy loss, and preterm birth.<sup>53</sup>

98. When it comes to the impacts on children, epidemiological studies about phthalates toxicity focused on pregnancy outcomes, genital development, semen quality, precocious puberty, thyroid function, respiratory symptoms, and neurodevelopment.<sup>54</sup>

99. Since the turn of the century, restrictions on phthalates have been proposed in many Asian and western countries. In 2008, the US Congress announced the Consumer Protection Safety Act (CPSA) that permanently banned the products, especially children's toys and childcare articles, containing DEHP, DBP, and BBP at levels >0.1% by weight.<sup>55</sup>

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<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> N.M. Grindler, et al., *Exposure to Phthalate, an Endocrine Disrupting Chemical, Alters the First Trimester Placental Methylome and Transcriptome in Women*, Scientific Reports Volume 8, April 17, 2018, <https://doi.org/10.1038/s41598-018-24505-w>

<sup>54</sup> *Id.*

<sup>55</sup> Consumer Product Safety Improvement Act of 2008, H.R. 4040, 110<sup>th</sup> Cong. (2008), <https://www.congress.gov/110/plaws/publ314/PLAW-110publ314.pdf>

## **F. Injuries Associated with Exposure to Endocrine Disrupting Chemicals**

### **(1) Uterine Cancer**

100. Uterine cancer is associated with phthalate metabolites found in hair care products.

101. Uterine cancer, otherwise known as endometrial carcinoma, is among the more common (the fourth most common) cancers in women in developed countries,<sup>56</sup> accounting for about 3% of all new cancer cases.<sup>57</sup>

102. Every year around 65,000 females develop uterine cancer in the USA alone, out of which more than 90% is of endometrial origin. It is commonly diagnosed in the seventh decade, with the mean age being 61 years.<sup>58</sup>

103. The incidence in Black women is twice that of White women.<sup>59</sup> In addition, Black women with uterine cancer carry a poorer prognosis as compared to White women.<sup>60</sup>

104. Though death rates from other cancers in women have declined in recent years, death rates for uterine cancer have increased by more than 100% in the last 20 years.<sup>61</sup>

105. Indeed, new cases of uterine cancer have increased by 0.6 percent per year from 2010 to 2019, and death rates have risen an average of 1.7 percent per year during the same time frame.<sup>62</sup>

106. A groundbreaking study recently found that women who use chemical hair

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<sup>56</sup> Unaiza Faizan & Vijayadershan Muppidi, *Uterine Cancer*, In: StatPearls, National Library of Medicine, Jan 2022, <https://www.ncbi.nlm.nih.gov/books/NBK562313/>

<sup>57</sup> *Cancer Stat Facts: Uterine Cancer*, National Cancer Institute, <https://seer.cancer.gov/statfacts/html/corp.html>

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

<sup>60</sup> Joel Sorosky, *Endometrial Cancer*, *Obstetrics & Gynecology* Volume 120, 383-97, Aug. 2012, <https://pubmed.ncbi.nlm.nih.gov/22825101/>

<sup>61</sup> Linda Duska, et al., *Treatment of Older Women With Endometrial Cancer: Improving Outcomes With Personalized Care*, American Society Clinical Oncology Educational Book, 35:164-74, 2016, <https://pubmed.ncbi.nlm.nih.gov/27249697/>

<sup>62</sup> Jack J. Lee, *Rising Endometrial Cancer Rate Spur New Approaches to Prevention*, National Cancer Institute: Division of Cancer Prevention, June 28, 2022, <https://prevention.cancer.gov/news-and-events/blog/rising-endometrial-cancer>

straightening or relaxing products have a higher risk contracting of uterine cancer.<sup>63</sup>

107. The study found that an estimated 1.64% of women who never used chemical hair straighteners or relaxers would go on to develop uterine cancer by the age of 70; but for frequent users, that risk more than doubles, increasing to 4.05%.<sup>64</sup>

108. These risk are more substantial among Black women, who make up the overwhelming majority of hair straightening and hair relaxing products, including as Defendants' products.

## **(2) Breast Cancer**

109. Breast cancer is associated with phthalate metabolites found in hair care products.

110. In Black women, breast cancer is diagnosed earlier and tends to be more aggressive, resulting in Black women having the highest rates of death due to this disease than any other ethnic/racial group.

111. Academic communities have begun to explore the potential role of environmental exposure to estrogen and EDCs. A growing body of evidence links: (1) environmental estrogen and EDC exposures to breast cancer risk, (2) the presence of such chemicals in personal care products, including hair products, and (3) the use of certain hair products with potential breast cancer risk in African Americans.<sup>65</sup>

112. Hormonal imbalances and over-activation of the estrogen, progesterone, and epidermal receptors are associated with development and progression of breast cancer.<sup>66</sup>

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<sup>63</sup> Che-Jung Chang, et al., *Use of Straighteners and Other Hair Products and Incident Uterine Cancer*, Journal of the National Cancer Institute, Oct., 17, 2022, <https://pubmed.ncbi.nlm.nih.gov/36245087/>

<sup>64</sup> *Id.*

<sup>65</sup> Laura Stiel, et al., *A Review of Hair Product Use on Breast Cancer Risk in African American Women*, Cancer Medicine, 5(3):597-604, March 2016, <https://pubmed.ncbi.nlm.nih.gov/26773423/>

<sup>66</sup> *Hormone Action in the Mammary Gland*, Cold Spring Harbor Perspectives in Biology, 2(12), December 2010, <https://pubmed.ncbi.nlm.nih.gov/20739412/>; Suzanne Fenton & Linda Birnbaum, *Timing of Environmental Exposures as a Critical Element in Breast Cancer Risk*, The Journal of

113. Numerous studies have shown that increased breast cancer mortality, poor prognosis, and the recurrence of breast cancer are associated with the higher urinary concentrations of DEHP and its metabolite, MEHP.<sup>67</sup> Studies have also shown that exposure to DEHP increases invasive properties of breast cells.<sup>68</sup>

114. Hormone receptor-negative breast cancer means that cancer cells do not grow in response to the hormones estrogen or progesterone.<sup>69</sup> Receptors are proteins on certain tumor cells that hormones stick to, allowing cancer cells to grow and multiply.

115. Progesterone is essential for the mammary gland development and has a proliferative effect on epithelial cells.<sup>70</sup> Disruption of the progesterone pathway is known to be a risk factor for breast cancer.<sup>71</sup> Two progesterone receptors are expressed at similar levels in the mammary gland, PR-A and PR-B.<sup>72</sup>

116. The progesterone receptor gene is an estrogen-regulated gene.<sup>73</sup>

117. T-47D cells are cancer cells isolated from breast cancer patients and contain the receptors involved in hormone-dependent breast cancer, estrogen and progesterone receptors.

118. DEHP and its metabolite, MEHP, increase cell proliferation of T-47D cancerous

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Clinical Endocrinology & Metabolism, Volume 100, Issue 9, 3245–3250, Sept., 1, 2015, <https://academic.oup.com/jcem/article/100/9/3245/2836022>

<sup>67</sup> Tsung-Hua Hsieh, et al., *DEHP Mediates Drug Resistance by Directly Targeting AhR in Human Breast Cancer*, Biomedicine & Pharmacotherapy, Volume 145, 112400, Nov., 18, 2021, <https://pubmed.ncbi.nlm.nih.gov/34801851/>

<sup>68</sup> Belinda Crobeddu, et al., *Di(2-ethylhexyl) Phthalate (DEHP) Increases Proliferation of Epithelial Breast Cancer Cells Through Progesterone Receptor Dysregulation*, Environmental Research, Volume 172, 165-173, June 2019, <https://www.sciencedirect.com/science/article/abs/pii/S0013935119301653?via%3Dihub#bib82>

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> P.A. Mote, et al., *Loss of Co-ordinate Expression of Progesterone Receptors A and B is an Early Event in Breast Carcinogenesis*, Breast Cancer Research and Treatment, 72, 163-172, 2002, <https://link.springer.com/article/10.1023/A:1014820500738#citeas>

<sup>73</sup> Mariana Brandao, et al., *Molecular Biology of Breast Cancer*, Essential Concepts in Molecular Pathology, Progesterone Receptor, 2020, <https://www.sciencedirect.com/topics/medicine-and-dentistry/progesterone-receptor>

cells.<sup>74</sup> DEHP and MEHP induce progesterone receptor stimuli, resulting in increased progesterone receptor levels and T-47D cell proliferation.<sup>75</sup>

119. Importantly, when progesterone receptors are purposefully inhibited by administration of a pharmacologic antagonist competitor of the progesterone receptor, it decreases the proliferation of T-47D induced by DEHP and MEHP.<sup>76</sup> Thus, exposure to DEHP and its metabolite increases proliferation of breast cancer cells by activating the progesterone receptor.<sup>77</sup>

120. Estrogen receptor  $\alpha$  drives more than 70 percent of breast cancers.<sup>78</sup>

121. Estrogen receptor-negative breast cancers are a group of tumors with poor prognosis and fewer cancer prevention and treatment strategies compared to estrogen-positive tumors.<sup>79</sup>

122. DEHP metabolites were associated with increased risk of breast cancer as well as uterine leiomyoma due to the EDC's influence on estrogen receptors.<sup>80</sup>

123. Aromatase and estrogen receptor  $\alpha$  are two key proteins for the proliferation of endocrine-responsive and endocrine-resistant breast cancers.<sup>81</sup>

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<sup>74</sup> B elinda Crobeddu, et al., *Di(2-ethylhexyl) Phthalate (DEHP) Increases Proliferation of Epithelial Breast Cancer Cells Through Progesterone Receptor Dysregulation*, *Environmental Research*, Volume 172, 165-173, June 2019, <https://www.sciencedirect.com/science/article/abs/pii/S0013935119301653?via%3Dihub#bib82>

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> David G. Hicks M.D. & Susan C. Lester MD, PhD, *Hormone Receptors (ER/PR)*, *Diagnostic Pathology: Breast, Progesterone Receptor*, 2016, <https://www.sciencedirect.com/topics/medicine-and-dentistry/progesterone-receptor>

<sup>79</sup> Thomas C Putti, et al., *Estrogen Receptor-Negative Breast Carcinomas: A Review of Morphology and Immunophenotypical Analysis*, *Modern Pathology*, 18, 26-35, Aug., 27, 2004, <https://www.nature.com/articles/3800255>

<sup>80</sup> Zhiqin Fu, et al., *Association Between Urinary Phthalate Metabolites and Risk of Breast Cancer and Uterine Leiomyoma*, *Reproductive Toxicology*, 74: 134-142, Sept., 23, 2017, <https://pubmed.ncbi.nlm.nih.gov/28951174/>

<sup>81</sup> Hei Jason Chan, et al., *Structural and Functional Characterization of Aromatase, Estrogen Receptor, and Their Genes in Endocrine-Responsive and -Resistant Breast Cancer Cells*, *The Journal of Steroid Biochemistry and Molecular Biology*, Volume 161, 73-83, July 2016, <https://www.sciencedirect.com/science/article/abs/pii/S0960076015300303>

124. Aromatase is an enzyme involved in the conversion of androgen, such as testosterone, to estrogen, such as 17 $\beta$ -estradiol. It is also a very effective therapeutic target for the treatment of endocrine-responsive breast cancer.<sup>82</sup>

125. Resistance to chemotherapy and hormonal therapy is a major clinical problem in breast cancer medicine, especially for cancer recurrence.

126. Several mechanisms lead to chemotherapy resistance, including drug inactivation. Drug inactivation, refers to metabolic processes that some clinical drugs undergo that decrease their clinical effectiveness.

127. The aryl hydrocarbon receptor (AhR) can form an estrogen receptor  $\alpha$  complex, which activates the receptor's response even in the absence of estrogen.<sup>83</sup>

128. AhR plays an important role in estrogen receptor-negative breast cancer, including the regulation of tumor growth, metastasis<sup>84</sup> and drug resistance.<sup>85</sup>

129. AhR functions as a receptor for hormones EDC phthalates and causes drug inactivation. Overexpression of AhR affects cell proliferation and motility and is associated with a poor prognosis in human cancer.<sup>86</sup>

130. CYP450 is a group of enzymes involved in the estrogen pathway are considered important candidate genes for the susceptibility to breast carcinoma.<sup>87</sup>

131. CYP1A1 is a CYP450 enzyme, examined extensively for its capacity to activate

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<sup>82</sup> *Id.*

<sup>83</sup> *Aromatic Hydrocarbon Receptor*, Comprehensive Toxicology, 2010, <https://www.sciencedirect.com/topics/medicine-and-dentistry/aromatic-hydrocarbon-receptor>.

<sup>84</sup> The spread of cancer cells from the place where they first formed to another part of the body.

<sup>85</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dihub>.

<sup>86</sup> *Id.*

<sup>87</sup> Balraj Mittal, et al., *Chapter 4 – Cytochrome P450 in Chapter Susceptibility and Treatment*, Advances in Clinical Chemistry, Volume 71, 77-139, 2015, <https://www.sciencedirect.com/science/article/abs/pii/S0065242315000517>.

compounds with carcinogenic properties.<sup>88</sup> Continuous exposure to inhalation chemicals and environmental carcinogens is assumed to increase the level of CYP1A1 through the AhR.<sup>89</sup> CYP1A1 is a known significant risk factor for breast carcinoma.<sup>90</sup>

132. CYP1B1 is another CYP450 enzyme involved in the metabolism of potential carcinogens.<sup>91</sup> CYP1B1 expression has been shown to be higher in tumors compared to normal tissues, especially in hormone-related cancers including breast, ovary, and prostate tumors.<sup>92</sup>

133. A recent landmark study provided a clinical outcome demonstrating that DEHP directly binds to AhR and induces downstream CYP1A1 and CYP1B1 expression through the genomic AhR pathway. This study thus revealed new evidence by which DEHP and AhR are co-involved in breast cancer drug resistance.<sup>93</sup>

134. This same landmark study also evaluated DEHP metabolites in the urine of approximately 500 breast cancer patients and demonstrated that the metabolite concentration was significantly higher in recurrent breast cancer group compared with non-recurrent patients.<sup>94</sup>

135. Urinary concentrations of mono-ethyl phthalate have been positively associated with breast cancer risk, as well as the number of personal care products used, and the use of hair products, among other personal care products, has been significantly associated with urinary

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<sup>88</sup> Vasilis Androutsopoulos, et al., *Cytochrome P450 CYP1A1: Wider Roles in Cancer Progression and Prevention*, BMC Cancer, Volume 9, June 16, 2009. <https://bmccancer.biomedcentral.com/articles/10.1186/1471-2407-9-187>.

<sup>89</sup> *Id.*

<sup>90</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dihub>.

<sup>91</sup> Yeo-Jung Kwon, et al., *Enhances Cell Proliferation and Metastasis through Induction of EMT and Activation of Wnt/ $\beta$ -Catenin Signaling via Sp1 Upregulation*, PLoS One, 11(3), March 16, 2016, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151598>

<sup>92</sup> *Id.*

<sup>93</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dihub>.

<sup>94</sup> *Id.*

phthalate concentration.

136. Studies have shown positive correlation increased breast cancer risk and adolescent use of hair products that modify hair texture, specifically hair straighteners, perms, and hair dye in black women in the U.S.<sup>95</sup> The frequency of use is associated with a higher risk of premenopausal breast cancer.

137. The use of straighteners in the year prior to baseline was associated with an 18% higher risk of breast cancer.<sup>96</sup> In the Women's Circle of Health Study (WCHS), a case-control study of women in New York, use of relaxers before age 12 and between the ages of 13–19 years was positively, associated with Endocrine Receptive– breast cancer among African- American women; which is consistent with our finding of a suggestive higher risk for Endocrine Receptive– tumors.<sup>97</sup> In the Ghana Breast Health study, use of relaxers was associated with a higher risk overall and risk was elevated regardless of age of first use, including in the youngest age category (<21 years).<sup>98</sup>

138. A recent study, published in the *Carcinogenesis Journal* by Oxford University, concluded that Black women who used lye-based relaxers at least seven times a year for over 15 years or more had around a 30 per cent increased risk of developing breast cancer, compared with those who used it less frequently.<sup>99</sup>

139. The US-based researchers examined data from Boston University's Black Women's Health Study, which assessed the medical diagnoses of 50,000 African American

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<sup>95</sup> Alexander J. White et al., *Adolescent use of hair dyes, straighteners and perms in relation to breast cancer risk*, Int'l J. of Cancer, Vol. 148(9):2255-2263 (2021), <https://pubmed.ncbi.nlm.nih.gov/33252833/>.

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> Patricia F. Coogan et al., *Hair product use and breast cancer incidence in the Black Women's Health Study*, *Carcinogenesis*, Vol. 42, Issue 7 (July 2021) 924–930, <https://doi.org/10.1093/carcin/bgab041>.

women over a 25-year time period plus variable factors that could impact upon their wellbeing. Between 1997 and 2017, some 95 per cent reported using lye-based relaxers and 2,311 developed breast cancers.<sup>100</sup>

### (3) Uterine Fibroids

140. Uterine fibroids are associated with phthalate metabolites found in hair care products.

141. Black women have a higher prevalence of uterine fibroids and tumors than any other ethnicity/racial group.<sup>101</sup>

142. A 2017 Rutgers University study linked breast cancer and Black women's use of hair relaxers. A 2012 study in the *American Journal of Epidemiology* associated fibroid risk with the use of hair relaxers. Shirley McDonald of the Hair and Scalp Clinic says, "We now know that many hair products contain chemicals that are considered carcinogenic and/or hormone disrupters, leading to increased risk of medical issues such as fibroids (non-cancerous tumors that grow in the uterus, potentially damaging fertility and leading to a host of other complications). Trichologists see lots of conditions that are likely to be triggered by hair products, particularly central centrifugal cicatricial alopecia, a type of permanent hair loss to the crown area of the scalp.

143. More recently, the National Institutes of Health spent eight-years studying over 46,000 women of all races between the ages of 35–74. They were looking for links between chemical hair relaxers and breast cancer. And, they discovered African American women's breast cancer risk increased risk by 45%. Breast cancer and other reproductive issues, including, fibroid

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<sup>100</sup> Wise, L. A., Palmer, J. R., Reich, D., Cozier, Y. C., & Rosenberg, L. (2012). Hair relaxer use and risk of uterine leiomyomata in African-American women. *American journal of epidemiology*, 175(5), 432–440.  
<https://doi.org/10.1093/aje/kwr351>

<sup>101</sup> *Id.*

development, are often connected. So this study suggests there are even more reasons to steer clear of black hair relaxers. Plus, there's a new study from the American Journal of Epidemiology further confirms this link. In their group of 23,000 menstruating Black American women, these participants displayed two to three times higher uterine fibroid incidences.

144. Concerns around racial disparities in healthcare linked to chemicals found in cosmetic products are not new; previous studies, as far back as 2012, have also suggested a correlation between chemical relaxer use and uterine fibroids, a condition that disproportionately affects Black women.<sup>102</sup>

145. Hair relaxers are used by millions of black women, possibly exposing them to various chemicals through scalp lesions and burns. In the Black Women's Health Study, the authors assessed hair relaxer use in relation to uterine leiomyomata incidence. In 1997, participants reported on hair relaxer use (age at first use, frequency, duration, number of burns, and type of formulation). From 1997 to 2009, 23,580 premenopausal women were followed for incident uterine leiomyomata. The incidence of uterine leiomyomata is 2–3 times higher in US black women than in US white women.

#### **(4) Endometriosis**

146. Endometriosis is associated with phthalate metabolites found in hair care products.

147. In Black women in the USA, endometriosis is one of the common indications for major gynecological surgery and hysterectomy, and is associated with long hospital stay and high hospital charges.<sup>103</sup>

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<sup>102</sup> Nadine White, *Campaign urges beauty firms to pull 'toxic' hair products aimed at Black women*, Independent (August 3, 2021), <https://www.independent.co.uk/news/uk/home-news/black-hair-lye-no-more-lyes-b1893747.html>.

<sup>103</sup> M. C. Kyama, *The prevalence of endometriosis among African-American and African- indigenous women*. Gynecologic and obstetric investigation, Vol. 57(1) (2004), <https://pubmed.ncbi.nlm.nih.gov/14974452/>.

148. Phthalate metabolites were related to increased uterine volume, a sign of fibroids on ultrasound, 2018.<sup>104</sup> The sum of DEHP increased volume risk by 33% and the sum of androgenic phthalates increased risk by 27%.<sup>105</sup>

149. The function of the uterine lining, the endometrium, is based on cell–cell interactions under the instruction of steroid hormones.<sup>106</sup> Endometriosis, a common cause of female infertility, occurs almost exclusively in menstruating women of reproductive age and often results from disruptions of this well-balanced cellular equilibrium.<sup>107</sup>

150. It is estimated that 20% to 50% of women being treated for infertility have endometriosis.<sup>108</sup>

151. Endometriosis is a painful, estrogen dependent disease resulting from the growth of endometrial glands and stroma outside the uterus that causes a chronic inflammatory reaction.<sup>109</sup>

152. During the follicular phase of the menstrual cycle, estrogen, working through estrogen receptor  $\alpha$ <sup>110</sup>, induces growth of the endometrium.<sup>111</sup>

153. The developing fetus and the female reproductive tract are particularly susceptible to EDCs.<sup>112</sup> EDCs are known to interfere with hormonal homeostasis, leading to alteration of

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<sup>104</sup> Amir R. Zota et al., *Phthalates exposure and uterine fibroid burden among women undergoing surgical treatment for fibroids: a preliminary study*, *Fertility and sterility*, Vol. 111(1) (2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6321778/>.

<sup>105</sup> *Id.*

<sup>106</sup> L. Cobellis et al., *High plasma concentrations of di-(2-ethylhexyl)-phthalate in women with endometriosis*, *Human Reproduction*, Vol. 18, Issue 7 (2003), 1512–1515, <https://doi.org/10.1093/humrep/deg254>.

<sup>107</sup> D. L. Olive and L. B. Schwartz, *Endometriosis*, *The New England J. of Med.*, Vol. 328(24):1759-69 (1993), <https://pubmed.ncbi.nlm.nih.gov/8110213/>; K. G. Osteen and E. Sierra-Rivera, *Does disruption of immune and endocrine systems by environmental toxins contribute to development of endometriosis?*, *Seminars in Reproductive Endocrinology*, Vol. 15(3):301-8 (1997) <https://pubmed.ncbi.nlm.nih.gov/9383839/>.

<sup>108</sup> *Endometriosis*, World Health Organization (March 31, 2021), <https://www.who.int/news-room/factsheets/detail/endometriosis>.

<sup>109</sup> *Id.*

<sup>110</sup> Ilaria Paterni et al., *Estrogen receptors alpha (ER $\alpha$ ) and beta (ER $\beta$ ): subtype-selective ligands and clinical potential*, *Steroids*, Vol. 90:13-29 (2014), <https://pubmed.ncbi.nlm.nih.gov/24971815/>.

<sup>111</sup> Kun Yu et al., *Estrogen Receptor Function: Impact on the Human Endometrium*, *Frontiers in endocrinology*, Vol. 13 (2022), <https://pubmed.ncbi.nlm.nih.gov/35295981/>.

<sup>112</sup> Saniya Rattan et al., *Di(2-Ethylhexyl) Phthalate Exposure During Prenatal Development Causes Adverse*

estrogen signaling.<sup>113</sup> Specifically, DEHP is known to cause enhanced-estrogenic activity.<sup>114</sup>

154. DEHP is a known estrogen receptor agonist that promotes cell proliferation.<sup>115</sup> An agonist is a chemical that activates a receptor to produce a biological response.

155. Numerous studies, spanning over decades, establish that DEHP leads to the development of endometriosis as it is known to increase the viability, activity, proliferation, migration of endometrial stromal cells, a required precondition of endometriosis.<sup>116</sup>

156. Studies have shown that endometriotic women have significantly higher plasma DEHP concentrations than those without the disease.<sup>117</sup> A study that included a sample size of approximately 500 women living in various states observed that DEHP's metabolite, MEHP, a was the only phthalate consistently associated with endometriosis.<sup>118</sup>

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*Transgenerational Effects on Female Fertility in Mice*, Toxicol Sci., Vol. 163(2) (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5974785/>.

<sup>113</sup> Xueping Chen et al., *Toxicity and Estrogenic Endocrine Disrupting Activity of Phthalates and Their Mixtures*, Int'l J. Env'tl. Res. and Pub. Health, 1(3):3156-3168 (2014) <https://doi.org/10.3390/ijerph110303156>; Pablo A, Pérez et al., *The phthalate DEHP modulates the estrogen receptors  $\alpha$  and  $\beta$  increasing lactotroph cell population in female pituitary glands*, Chemosphere, Vol. 258:127304 (2020), <https://pubmed.ncbi.nlm.nih.gov/32559490/>.

<sup>114</sup> Chon-Kit Chou et al., *Reduced camptothecin sensitivity of estrogen receptor-positive human breast cancer cells following exposure to di(2-ethylhexyl)phthalate (DEHP) is associated with DNA methylation changes*, Env'tl. Toxicology, Vol. 3, Issue 4 (2019), <https://doi.org/10.1002/tox.22694>.

<sup>115</sup> Juhye Kim, et al., *Chronic Low-Dose Nonylphenol or Di-(2-ethylhexyl) Phthalate has a Different Estrogen-like Response in Mouse Uterus*, Development & reproduction, Vol. 22(4):379-391 (2018), <https://pubmed.ncbi.nlm.nih.gov/30680337/>. ("In the present study, we could see that in vitro treatment with DEHP caused various biological changes of endometrial cells such as increased MMP-2 and -9 activities, increased cell invasion, increased Erk phosphorylation, and increased Pak4 expression. Taken these findings together with our previous in vitro study, we can propose that refluxed endometrial cells could not only survive in the pelvic cavity following retrograde menstruation, but also invade through mesothelial layer, develop vascular supplies, proliferate at ectopic location, and eventually establish endometriotic lesions through various biological alterations caused by exposure to high level of phthalate.")

<sup>116</sup> *Id.*

<sup>117</sup> L. Cobellis et. al, *High plasma concentrations of di-(2-ethylhexyl)-phthalate in women with endometriosis*, Human Reproduction, Vol. 18, Issue 7 (July 1, 2013), 1512–1515, <https://doi.org/10.1093/humrep/deg254>. Concluded that 92.6% of women with endometriosis tested had detectable levels of DEHP and /or its metabolite, MEHP.

<sup>118</sup> Buck Louis G. M. et al., *Bisphenol A and phthalates and endometriosis: the Endometriosis: Natural History, Diagnosis and Outcomes Study*, Fertility and sterility, Vol. 100(1):162-9.e1-2 (2013), <https://pubmed.ncbi.nlm.nih.gov/23579005/>.

### **(5) Pre-term Delivery**

157. Pre-term child birth is associated with phthalate metabolites found in hair care products.

158. A large population-based Norwegian cohort of hairdressers working 30 or more hours per week revealed an 80% increased risk of low birth weight.

159. Combining 19 cohort studies of female hairdressers or cosmetologists, Henroitin in 2015 (J Occupational Health) found small but significant elevations in premature birth (5% increased), small-for-gestational age (24% higher), low birthweight (21% elevated), and miscarriage (19% greater).

160. Several smaller cohort studies have shown associations between hair product use and gestational age. Preston (Envion Health 2021) reported that among 154 women 7% of whom had preterm, AA women using daily hair oils delivered a full 8.3 days (statistically significant) earlier than non-users.

161. Women in cosmetology school in North Carolina had twice the risk of miscarriage (Flint 2016) and hairdressers, significantly increased risks of small-for-gestational age babies, malformed babies, and infant mortality.

### **G. Ms. Christal's Use of Hair Relaxing Products**

162. Ms. Christal was first exposed to EDCs and/or phthalate-based products around 1986, at or around the age of 15, when she began using Defendants' Products.

163. Ms. Christal used Defendants' Products by applying this to her scalp or by having another individual apply Defendants' Products to her scalp, as instructed by Defendants.

164. Ms. Christal would keep the Product on her hair for the time allotted in the instructions.

165. In addition, Ms. Christal worked in a hair salon and then operated her own hair salon, during which time she applied the Products to the hair and/or scalps of other individuals. Ms. Christal has been engaging in such work since approximately 1994.

166. There was never any indication, on the Products packaging or otherwise, that this normal use could and would cause her to develop uterine cancer.

167. Ms. Christal was diagnosed with fibroids on or about September 19, 2022.

168. Ms. Christal was diagnosed with endometrial carcinoma on or about September 27, 2022 at the age of 51.

169. Ms. Christal underwent a laparoscopic hysterectomy and bilateral salpingo-oophorectomy, bilateral sentinel pelvic lymph nodes dissection at University Health on November 17, 2022. The surgical pathology final report confirmed, in pertinent part, endometrial adenocarcinoma, leiomyomata, and adenomyosis.

170. Ms. Christal has no family history of cancer or uterine cancer.

171. As a result of Defendants' acts and/or omissions, Ms. Christal suffered extreme pain and suffering, and extreme emotional distress.

**COUNT ONE-STRICT LIABILITY (FAILURE TO WARN)**

172. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

173. At all pertinent times, the Defendants were manufacturing, marketing, testing, promoting, selling and/or distributing the Products in the regular course of business.

174. At all pertinent times, Plaintiff used the Products on her scalp area, which is a reasonably foreseeable use. In addition, at all pertinent times, Plaintiff applied the products to other individuals, which is a reasonably foreseeable use.

175. At all pertinent times, Defendants knew or should have known that their products contained phthalates and other EDCs, which are carcinogens.

176. At all pertinent times, Defendants knew or should have known that presence of phthalates and other EDCs in the Products significantly increases the risk of cancer, including, but not limited to, uterine cancer.

177. Defendants had a duty to warn Plaintiff about the presence of phthalates and EDCs in their Products.

178. Defendants had a duty to warn Plaintiff about the dangers of the presence of phthalates and EDCs in their Products.

179. Defendants knew that the risk of exposure to phthalates and EDCs from use of its products was not readily recognizable to an ordinary consumer and that consumers would not inspect the products for phthalates and EDC content.

180. Defendants did not provide adequate warnings to Plaintiff that the Products contained phthalates and EDCs.

181. Defendants did not provide adequate warnings to Plaintiff regarding the dangers associated with phthalates and EDCs in the Products and failed to exercise reasonable care.

182. Had Plaintiff received a warning that the use of the Products would significantly increase her risk of developing uterine cancer, she would not have used them.

183. Plaintiff was justified in her reliance on Defendants' labeling and advertising of the Products.

184. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

**COUNT TWO – STRICT LIABILITY**  
**(DESIGN DEFECT)**

185. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

186. Defendants engaged in the design and development of the Products in the course of

Defendants' business.

187. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

188. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was design, development, manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

189. Plaintiff used the Products in a manner reasonably anticipated and as normally intended, recommended, promoted, and marketed by Defendants.

190. The Products failed to perform safely when used by Plaintiff in a manner that was reasonably foreseeable to and anticipated by Defendants, specifically increasing her risk of developing uterine cancer and other injuries.

191. The presence of phthalates and other EDCs in the Products renders the Products defective and unreasonably dangerous when used in the manner they were intended.

192. The presence of phthalates and other EDCs in the Products render the Products defective and unreasonably dangerous because such features pose a risk of danger and injury to an extent beyond that would be contemplated by the ordinary consumer.

193. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives, including fragrance free products, have been readily available for decades.

194. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

**COUNT THREE – STRICT LIABILITY**  
**(MANUFACTURING DEFECT)**

195. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

196. At all relevant times, Defendants engaged in the manufacture of the Products in the course of Defendants' business.

197. The Products contained a manufacturing defect when they left the possession of Defendants.

198. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

199. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

200. Plaintiff used the Products in a manner that was reasonably foreseeable to and anticipated by Defendants.

201. The Products were in a defective condition unreasonably dangerous when put to a reasonably anticipated use.

202. As a result of the defects in the manufacture of the Products, Plaintiff suffered damages in an amount to be proven at trial.

203. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives, including fragrance free products, have been readily available for decades.

**COUNT FOUR - NEGLIGENCE**  
**(NEGLIGENT FAILURE TO WARN)**

204. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

205. At all relevant times, Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

206. Defendants knew, or by the exercise of reasonable care, should have known use of their Products was dangerous, harmful, and injurious when used by Plaintiff in a reasonably foreseeable manner.

207. Defendants knew, or by the exercise of reasonable care, should have known ordinary consumers such as Plaintiff would not have realized the potential risks and dangers of their Products when used in the manner it was intended. Such features pose a risk of danger and injury to an extent beyond that would be contemplated by the ordinary consumer.

208. Defendants owed a duty to all reasonably foreseeable consumers to disclose the risks associated with the use of their Products.

209. Defendants breached their duty of care by failing to use reasonable care in providing adequate warnings on their Products when used in the manner intended.

210. Defendants breached their duty of care by failing to use reasonable care in providing adequate warnings on their Products when such products were dangerous to an extent beyond that would be contemplated by the ordinary consumer.

211. The failure of Defendants to adequately warn about their defective products, and their efforts to misleadingly advertise through conventional avenues, created a danger of injuries described herein that were reasonably foreseeable at the time of design and/or manufacture and distribution.

212. At all relevant times, Defendants could have provided adequate warnings and instructions to prevent the harms and injuries set forth herein, such as providing full and accurate information about the products in advertising.

213. A reasonable company under the same or similar circumstances would have warned and instructed of the dangers.

214. Plaintiff was injured as a direct and proximate result of Defendants' failure to warn and instruct because she would not have used the Products had she received adequate warnings and instructions about the dangers associated with the Products when used in the manner it was intended.

215. Defendants' lack of adequate and sufficient warnings and instructions, and their inadequate and misleading advertising, was a substantial contributing factor in causing harm to Plaintiff.

216. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

**COUNT FIVE – NEGLIGENCE**  
**(NEGLIGENT DESIGN AND/OR MANUFACTURING DEFECT)**

217. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

218. At all relevant times, Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

219. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

220. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

221. Plaintiff used the Products in a manner normally intended, recommended, promoted, and marketed by Defendants.

222. The presence of phthalates and other EDCs renders the Products unreasonably dangerous when used in the manner they were intended.

223. The presence of phthalates and other EDCs render the Products unreasonably dangerous because such features pose a risk of danger and injury to an extent beyond that would be contemplated by the ordinary consumer. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives are available.

224. Defendants knew, or by the exercise of reasonable care should have known, that the Products are unreasonably dangerous. However, Defendants have continued to design, manufacture, sell, distribute, market, promote, and supply the Products so as to maximize sales and profits at the expense of public health and safety in conscious disregard of the foreseeable harm to the consuming public, including Plaintiff.

225. Defendants owed a duty to Plaintiff, a reasonably foreseeable user, to design a safe Product.

226. Defendants breached their duty by failing to use reasonable care in the design and/or manufacturing of their Products because the Products were unreasonably dangerous in that they contain phthalates and other EDCs, thereby substantially increasing the risk of uterine cancer and other health issues. These features render the Products unreasonably dangerous when used in the manner intended. Likewise, these features render the Products unreasonably dangerous because they pose a risk of danger and injury to an extent beyond that would be contemplated by the ordinary consumer.

227. Defendants also breached their duty by failing to use reasonable care by failing to use cost-effective, reasonably feasible alternative designs in the design and/or manufacturing of their Products.

228. A reasonable company under the same or similar circumstances would have designed a safer product.

229. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered

damages in an amount to be proven at trial.

**COUNT SIX**  
**(GROSS NEGLIGENCE)**

230. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

231. The Defendants' negligence and extreme carelessness includes, but is not limited to, their marketing, designing, manufacturing, producing, supplying, inspecting, testing, selling and/or distributing the Products in one or more of the following respects:

- a. In failing to warn Plaintiff of the hazards associated with the use of the Products;
- b. In failing to properly test their products to determine adequacy and effectiveness or safety measures, if any, prior to releasing the Products for consumer use;
- c. In failing to properly test their products to determine the increased risk of uterine cancer and other adverse health effects during the normal and/or intended use of the Products;
- d. In failing to inform ultimate users, such as Plaintiff, as to the safe and proper methods of handling and using the Products;
- e. In failing to remove the Products from the market when Defendants knew or should have known the Products were defective and unreasonably dangerous;
- f. In failing to instruct the ultimate users, such as Plaintiff, as to the methods for reducing the type of exposure to the Products which caused increased risk of cancer, including, but not limited to, uterine cancer and other adverse health effects;
- g. In failing to inform the public in general and Plaintiff in particular of the known dangers of using the Products;
- h. In failing to advise users how to prevent or reduce exposure that caused increased risk for cancer, including, but not limited to, uterine cancer, as well as other adverse health effects;
- i. In marketing and labeling the Products as safe for all uses despite knowledge to the

contrary;

j. In failing to act like a reasonably prudent company under similar circumstances.

Each and all of these acts and omissions, taken singularly or in combination, were a proximate cause of the injuries and damages sustained by Plaintiff.

232. At all pertinent times, the Defendants knew or should have known that the Products were unreasonably dangerous and defective when put to their reasonably anticipated use.

233. Defendants' acts and/or omissions constitute gross negligence because they constitute a total lack of care and an extreme departure from what a reasonably careful company would do in the same situation to prevent foreseeable harm to Plaintiff.

234. Defendants acted and/or failed to act willfully, and with conscious and reckless disregard for the rights and interests of Plaintiff, and their acts and omissions had a great probability of causing significant harm and in fact resulted in such harm to Plaintiff.

235. Plaintiff was injured as a direct and proximate result of negligence and/or gross negligence as described herein.

236. Defendants' gross negligence were a substantial factor in causing and/or contributing to Plaintiff's harms.

237. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

**COUNT SEVEN-NEGLIGENCE**  
**(NEGLIGENT MISREPRESENTATION)**

238. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

239. Defendants supplied information about the Products in the course of business.

240. Defendants had a duty to accurately and truthfully represent to consumers, Plaintiff, and the public, information about the safety of the Products.

241. In addition, Defendants had a duty to not make false representations with respect to the safety of the Products.

242. Defendants failed to exercise ordinary care in the representations concerning the Products while they were involved in their manufacture, sale, testing, quality assurance, quality control, and distribution in interstate commerce, because Defendants negligently misrepresented the existence of EDCs and the associated high risk of unreasonable, dangerous, adverse side effects associated with use of the Products. As a result of Defendants' failure to exercise reasonable care, the information provided by Defendants was not full and accurate and, in addition, was false.

243. The information was intentionally provided by Defendants with intent that Plaintiff, a person who worked in and operated a salon, to rely on their representations.

244. Defendants' representations were material to Plaintiff's decision to purchase the Products.

245. Plaintiff justifiably relied on the information provided by Defendants.

246. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered pecuniary and other damages in an amount to be proven at trial.

**COUNT EIGHT – VIOLATION OF MISSOURI  
MERCHANDISING PRACTICES ACT  
(Mo. Rev. Stat. §§ 407.010 through 407.307)**

247. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

248. Defendants were engaged in the research, development, manufacture, design, testing, sale, and marketing of the Products, and introduced such products into interstate commerce with knowledge and intent that such products be sold in the State of Missouri.

249. Plaintiff purchased and used some of Defendants' Products for personal use.

250. Plaintiff acted as a reasonable consumer would have acted in light of all

circumstances.

251. Defendants acted unlawfully under 407.020, in that they used deception, fraud, false pretense, false promise, misrepresentation, unfair practice and concealment, suppression, and omission of material facts in connection with the sale and advertisement of merchandise. The wrongful conduct included, among other things, misrepresenting the products as safe when in fact they were unsafe because they contained EDCs, failing to disclose the existence of and dangers of the Products containing EDCs, and continuing to market, advertise, and sell the Products adulterated with EDCs.

252. Defendants intended for Plaintiff to rely on their representations and advertisements regarding the Products in order to achieve monetary gain from Plaintiff through her purchase of the Products.

253. Defendants' actions, described above, would cause a reasonable person to purchase and use their products.

254. Plaintiff, acting as a reasonable person, did, in fact, purchase the Products.

255. Defendants' wrongful conduct resulted in monetary gain from Plaintiff for the Products that would not have been paid had Defendants not engaged in unfair and deceptive conduct.

256. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered ascertainable damages in an amount to be proven at trial.

#### **COUNT NINE-FRAUD**

257. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

258. Defendants, who engaged in the development, manufacture, marketing, sale and distribution of cosmetic and personal care products, including the Products, owed a duty to provide accurate and complete information regarding said products.

259. Defendants fraudulently misrepresented the use of the Products as safe and effective, specifically:

a. Defendant Soft and Beautiful's Products are intentionally labeled as "Botanicals" and with "Natural" ingredients that are "Ultra Nourishing," including but not limited to using "Natural Plant Oils and Butters;"

b. Defendants Namaste's Products are marketed as "Olive Oil" products to imply natural products, and their Products are advertised as being "Build in Protection;"

c. Defendants Namaste's website states that their Products use "Rich Olive and Avocado Oils" that they claim "moisturize and condition while Aloe Vera protects the skin and scalp."

d. Defendants Namaste's Products claim that they "use[] the latest technology to safely elongate tight coils."

260. Defendants knew that these misrepresentations and/or omissions were material, and that they were false, incomplete, misleading, deceptive and deceitful when they were made.

261. Defendants made the misrepresentations and/or omissions for the purpose of deceiving and defrauding consumers, including Plaintiff, with the intention of having them act and rely on such misrepresentations and/or omissions.

262. Plaintiff relied, with reasonable justification, on the misrepresentations by Defendants, which induced her to purchase and use the Products on a regular basis for decades.

263. Plaintiff was unaware of the falsity of these representations, had no reason to believe Defendants were deceiving her, and had no means to check the veracity of Defendants' claims.

264. Defendants profited, significantly, from their unethical and illegal conduct that

fraudulently induced Plaintiff, and millions of other consumers, to purchase a dangerous and defective product.

265. Defendants' actions, and Plaintiff's justifiable reliance thereon, were substantial contributing factors in causing injury and incurrence of substantial damages.

266. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

### **COUNT TEN – FRAUDULENT CONCEALMENT**

267. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

268. Defendants owed consumers, including Plaintiff, a duty to fully and accurately disclose all material facts regarding the Products, not to conceal material defects related thereto, not to place these defective products into the stream of commerce, and to fully and accurately label product packaging. To the contrary, Defendants explicitly and/or implicitly represented that the Products were safe and effective.

269. Defendants actively and intentionally concealed and/or suppressed material facts, in whole or in part, to induce consumers, including Plaintiff, to purchase and use the Products and did so at her expense. Specifically:

a. Defendants have been aware of the positive association between DEHP used in their products and an increased risk of cancer demonstrated by epidemiology studies since at least 2015 that exposure to the phthalates in their products enhance invasive and proliferative activities of endometrial cells.

270. Recent studies have established a statistically significant correlation between Defendants' Products and uterine cancer.

271. Defendants made the misrepresentations and/or omissions for the purpose of deceiving and defrauding Plaintiff and with the intention of having her act and rely on such

misrepresentations and/or omissions.

272. Defendants knew that their concealments, misrepresentations and/or omissions were material, and that they were false, incomplete, misleading, deceptive, and deceitful when they were made. Alternatively, Defendants concealed information, and/or made the representations with such reckless disregard for the truth that knowledge of the falsity can be imputed to them.

273. Defendants concealed vital safety information that was not within the fair and reasonable reach of Plaintiff, such that Plaintiff was unable to discover the same, even when Plaintiff exercised reasonable consumer diligence.

274. Plaintiff exercised the diligence of a consumer in the same or similar circumstances.

275. Defendants profited, significantly, from their unethical and illegal conduct that caused Plaintiff to purchase and habitually use a dangerous and defective product.

276. Defendants' actions and representations, and Plaintiff's justifiable reliance thereon, were substantial contributing factors in causing injury and incurrence of substantial damages.

277. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

#### **COUNT ELEVEN BREACH OF EXPRESS WARRANTY**

278. Plaintiff repeats and realleges the preceding allegations, as if fully set forth herein.

279. Defendants sold the Products, which are goods, to Plaintiff.

280. The Defendants made statements of fact about the kind or quality of those goods.

281. For example, through packaging and labeling and written and media advertisements, Defendants expressly warranted, that the Products were safe and fit for the purposes intended, that they were of merchantable quality, and that they did not pose dangerous health risks for reasonably anticipated users.

282. Defendants' representations were made to induce Plaintiff to purchase the Products.

283. Plaintiff read and relied on these express warranties provided by Defendants. As a result, she purchased said Products.

284. Defendants' warranties were a material factor inducing Plaintiff to purchase the Products.

285. The Products did not conform to these express representations because they cause serious injury, even when used in the manner directed by Defendants. As such, Defendants breached their express warranties.

286. The nonconformities to the express warranties injured Plaintiff.

287. Through this Complaint, the buyer, Plaintiff, is notifying the sellers, Defendants, of these nonconformities in a timely manner, mere months after her discovery of the risk.

288. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

#### **COUNT TWELVE – BREACH OF IMPLIED WARRANTIES**

289. Plaintiff incorporates by reference each of the preceding paragraphs as if fully set forth herein.

290. At the time the Defendants manufactured, marketed, labeled, promoted, distributed and/or sold the Products, the Defendants knew of the uses for which the Products were intended and impliedly warranted the Products to be of merchantable quality and safe for such use.

291. Defendants breached their implied warranties of the Products sold to Plaintiff because they were not fit for their common, ordinary and intended uses.

292. Plaintiff purchased the Products in reliance upon Defendants' skill and judgment and the implied warranties of fitness for the purpose.

293. The Products were not altered by Plaintiff.

294. Plaintiff was a foreseeable user of the Product and used the Product in the manner intended.

295. Defendants failed to adequately label the products, disclose that the Products contained EDCs, and/or disclose the risks associated with the use of the Products.

296. The Products did not measure up to the promises or facts stated in advertisements and communications by Defendants.

297. Defendants impliedly warranted that the Products were merchantable, fit, and safe for ordinary use.

298. Defendants further impliedly warranted that the Products were fit for the particular purpose for which they were intended and sold.

299. Contrary to these warranties, Defendants' Products were defective, unmerchantable, and unfit for their ordinary use when sold, and unfit for the particular purpose for which they were sold.

300. Through this Complaint, the buyer, Plaintiff, is notifying the seller, Defendants, that these unsafe products caused serious injury. Plaintiff discovered the injuries mere months ago, making this notification more than timely.

301. As a proximate result of Defendants' conduct, Plaintiff was injured and has suffered damages in an amount to be proven at trial.

### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for judgment against Defendants on each of the above-referenced claims and causes of action, and as follows:

1. Awarding past and future compensatory damages in excess of \$75,000, including,