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Animal Testing & the Alternatives in the Cosmetic Industry

Animal testing in the cosmetic industry has been a contentious issue for decades. technological advancements have paved the way for viable alternatives to traditional animal testing, offering more humane and reliable means of assessing cosmetic safety and efficacy. The use of these alternative technologies is highly seen in the Cosmetic Industry. Kathrin Herrmann and Kimberley Jayne (2019) wrote *Animal Experimentation: Working Towards a Paradigm Change* pointed out that, “At least 115 million animals are thought to be used for scientific purposes every year, worldwide”(Herrmann, et. al, 2019, p.585). Animals being used in this practice include rabbits, mice, and rats. The animals are used for testing the safety and efficacy of cosmetic products before they can be marketed to customers. While proponents argue that animal testing is necessary to ensure the safety of cosmetics, opponents argue that it is unethical and unnecessary. *Cruelty Free International* wrote “Alternatives to Animal Testing” stating how this new technology is used over In Vivo Testing, “Scientists have even managed to coax cells to grow into 3D structures, such as miniature human organs, which can provide a more realistic way to test new therapies”(Cruelty Free International,1). The European Union also banned the import of cosmetics containing ingredients that have been tested on animals and forbidden future testing on animals. In the United States each state has a different protection law established. Animal testing in the cosmetic industry is ethically wrong for several reasons. The industry is now exploring alternative methods to ensure the safety and efficacy of its products. There are a

few alternatives that can replace animal testing that have been used and proven to work just as well. In vitro testing, artificial skin, human volunteers, skin explants, etc. are some alternatives that replace animal testing in the cosmetic industry. The use of technology in these alternatives are not only important for our human community but our wildlife community as well. By embracing these alternatives, we can ensure that our progress in this field is made with the utmost care and consideration for both human and animal welfare.

Alternatives: In Vitro Testing

One of the most promising alternatives is In Vitro testing, which involves conducting experiments on human cells or tissues cultivated in a laboratory setting. Unlike animal testing, in vitro methods allow researchers to directly assess the effects of cosmetic products on human biological systems, providing more accurate predictions of human responses. For instance, in vitro tests can evaluate a cosmetic product's acute toxicity without subjecting animals to potentially lethal doses. In vitro testing is done on samples including blood or tissue taken from a human body. This technology can then detect possible reactions, diseases, and conditions on human blood or tissue. This approach not only eliminates the need for animal suffering but also yields more reliable results, thereby enhancing consumer safety. Animals used in cosmetic testing are often subjected to painful procedures such as skin irritation tests, eye irritancy tests, and lethal dose tests. These tests can cause animals to experience severe pain, distress, and even death. Advances in technology have made it possible to develop alternative methods of testing cosmetics that are more accurate, reliable, and humane. In vitro testing involves testing cosmetics on human cells or tissues grown in a lab. This method allows for more accurate predictions of human responses to a product than animal testing. In vitro testing is widely used to

test the safety of cosmetic ingredients. Vitro testing is very effective at checking a cosmetic product's acute toxicity. Maria P. Vinardell (2017) wrote “Alternative Methods to Animal Testing for the Safety Evaluation of Cosmetic Ingredients: An Overview” published in *MDPI* states, “All accepted methods for determining acute oral toxicity are based on in vivo experiments after the single administration of a few doses and estimation of the dose causing the death in 50% of the animals”(Vinardell, 2017, pg. 1). When labs used in vivo (animals) to test cosmetic’s acute toxicity more than 50% of animals died due to the dosage received. In vitro testing is a more ethical alternative which saves the animals. This method is more effective in predicting the safety and efficacy of cosmetic products than animal testing.

Alternatives: Artificial skin & Skin explants

Artificial skin and skin explants represent additional alternatives to animal testing in the cosmetic industry. Artificial skin, typically composed of materials like silicone or collagen, mimics human skin and can be utilized to evaluate the safety and efficacy of cosmetic formulations. Similarly, skin explants—small samples of human skin obtained during surgical procedures—offer a valuable means of studying the effects of cosmetics on human skin. By employing these alternatives, researchers can better understand how cosmetic products interact with human biology, reducing reliance on animal models and minimizing ethical concerns. Again Artificial skin is a product that simulates human skin and can be used to test cosmetics. It is made from materials such as silicone or collagen and can be used to test the efficacy and safety of cosmetics. *Alivia Kaylor(2023)* wrote “Alternatives to Animal Testing Models in Clinical and Biomedical Research,” Kaylor states, “Because roughly 30% of medications fail in human clinical trials due to toxicity — despite pre-clinical data using animal and cell models — tissue

chips function as new human cell-based approaches that help researchers accurately determine how effective a therapeutic candidate would be in clinical studies.”(Kaylor, 2023, pg. 1).

Presently, ten years after the Safe Cosmetics and Personal Care Products Act was in effect in 2013 there are definitely many alternatives including the skin explants and artificial skin that replace animal testing. Now that we are at year ten of this act being in effect there are definitely many alternatives including the skin explants and artificial skin that replace animal testing. The skin explant are small pieces of human skin that are removed during surgery. These explants can be used to study the effects of cosmetics on human skin. This method is particularly useful in testing the penetration and distribution of a cosmetic product on the skin.

Animal testing is not always reliable, even though animal testing has been used for decades it is not always a reliable indicator of how a product will affect humans. This is why artificial skin and skin-explants are great alternatives. This type of technology involves small pieces of human skin removed from surgeries placed in petri dishes. These skin pieces can be cultured for 14 days at a time where it can evaluate different time points after single or repetitive topical applications. It can also test a combined topical application across different time points. Animals have different anatomies and physiological processes than humans, making their responses to cosmetic products unpredictable. For example, a cosmetic product may be safe for rats or rabbits but can cause severe allergic reactions or skin irritation in humans. This unreliability is a significant disadvantage of animal testing and makes it an unsuitable method for assessing the safety and efficiency of cosmetic products

Alternatives: Human Volunteers

Human volunteers also play a crucial role in advancing alternative testing methods for cosmetics. Human clinical trials, in which volunteers test cosmetic products under controlled conditions, provide valuable insights into product safety and efficacy. Unlike animal models, human volunteers offer a more direct approximation of real-world responses, enhancing the relevance and reliability of test results. Human clinical trials are particularly useful in testing the efficacy of cosmetics. In Herrmann and Jayne's (2019) book, *Animal Experimentation: Working Towards a Paradigm Change* they conclude, "A much-needed change of paradigm away from using animals for research, education, and training, we need to start by recognizing that animals are not mere objects for research, but their own individual agents"(Herrmann, et. al, 2019, p. 590). Herrmann and Jayne are trying to state the obvious, if we provide humans with such protection why can't we provide animals with that same protection. animals have just as many rights as humans do, the animals are not given a choice whether or not they're tested on. If there are human volunteers keyword 'volunteers' these people have rights but also chose to be a part of an experiment. Animal testing is simply outdated. The use of animals in cosmetic testing is a practice that is rooted in the past and is no longer acceptable in today's society. Furthermore, many countries have banned or restricted animal testing in cosmetics, including the European Union, Israel, and India. Molly Mullin (2022) wrote "Testing Cosmetic Products on Animals: Legislation and Effective Alternatives" published in *Fordham University's Rhetorikos* states, "In fact, 80 percent of countries still have not made the tests illegal" (Mullin 2022, pg. 1). These developments reflect a growing consensus that animal testing is no longer acceptable in the cosmetic industry.

Animals are the New Human Volunteers

At least in the United States animals are defined as ‘property’ and do not have rights similar to humans (FDA 2022, pg. 1). There are many alternatives to animal testing in the cosmetic industry but the FDA has advised, “cosmetic manufacturers to employ whatever testing is appropriate and effective for sustaining the safety of their products” (FDA 2022, pg.1). A lot of companies do not want to risk the use of human volunteers, therefore using animals is looked at to be more ethical. Especially since the FDA is advising cosmetic manufacturers to do as they please. Most companies after considering alternatives still decide that animal testing is necessary because it assures the safety of a product or ingredient. Even though using animals to test may be more sustainable for the safety of products, there are many cosmetic companies out there that are cruelty free. It is a choice, for example Burt's Bees is a company that doesn't test finished products or ingredients on animals, and neither do their suppliers or any third-parties. They also don't sell their products where animal testing is required by law (Cruelty-Free Kitty). A company like Burt's Bees is sticking up for animal rights and are proving it by becoming cruelty free. Animal testing in the cosmetic industry is not a requirement, it's a choice, and many companies are choosing to be inhumane and disrespect animals and their rights.

Animal Testing & the Alternatives

In conclusion, animal testing in the cosmetic industry is wrong for several reasons. It is cruel and inhumane, unnecessary, unreliable, and outdated. As consumers, we have the power to make a difference by supporting cruelty-free cosmetic brands and advocating for an end to animal testing. We must demand that the cosmetic industry embraces alternative methods of testing that are more accurate, reliable, and humane. The new use of technology in animal testing can ensure that cosmetics are safe for human use without causing unnecessary harm to animals..

The harm inflicted on innocent animals is simply unacceptable, and the scientific community has acknowledged that alternatives to animal testing exist and are just as effective. These alternatives are more ethical, accurate, and cost-effective. They include in vitro testing, computer modeling, and human cell and tissue cultures. Cosmetic animal testing is not only cruel but also unreliable. Animals have different physiology and reactions to chemicals than humans, so the results of animal testing are not always transferable to human use. This means that animal testing does not guarantee safety for humans and can even be misleading. Furthermore, animal testing in cosmetics is unnecessary because many safe and effective ingredients are already available for use. The use of natural, organic, and synthetic ingredients has been extensively researched and their safety profile is well-known. There is simply no need to continue testing on animals for cosmetics when there are already established safe alternatives. We have the responsibility to speak up for those who cannot speak for themselves and demand that companies replace animal testing with more ethical and reliable alternatives. By prioritizing the adoption of these alternatives and advocating for policy changes, we can ensure that cosmetic products are developed and marketed in a manner that respects both human and animal welfare. It's time to recognize that animals are sentient beings, and their lives matter just as much as ours.

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