

ISTA18-484429 - HEAVY METALS PRESENCE IN LIPSTICKS: INVESTIGATION OF HEALTH IMPACTS AND THEIR DISPOSAL IN THE ENVIRONMENT

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Lip cosmetics are involved in two major discussions: the public health and environmental problems. From this information, we intend to analyze the impact on human health, study the relationship among price, duration and color and investigate what are the possible impacts on the environment, assuming some waste disposal routes. The cosmetics analyzed were lipsticks, divided by brand, price and color. The first analysis was by x-ray fluorescence (XRF). Then, the raw material went through digestion with nitric and hydrochloric acids under heating, and diluted with distilled water, then filtered. The following readings were performed by optical emission spectrometry with inductively coupled plasma (ICP-OES). From the results of the analysis by XRF (found 18 metal elements), the matrix for analysis by ICP-OES is composed of: aluminum, calcium, cadmium, cobalt, chromium, copper, iron, potassium, manganese, nickel, lead, silicon and titanium. Toxic metals have been identified (Ni, Mn, Cd and Cr) in the samples. Although the examined lipsticks showed positive for toxic metals (Pb, Cd, Ni, Cr and Mn), their levels comply with national legislation, regard to limits for cosmetics and foods. However, it is important to note that the cosmetic and food laws have great differences in the limits for heavy metals. The study of disposal for lipsticks showed that even lipsticks that are most used, there is a waste of nearly 1/3 of the product due to the inner package. This information may help in a conscious consumption of lipsticks, including the risk associated with the use of a set of makeups (foundation, eyeshadows, mascara, blush and lipstick) with other cosmetics.

ISTA18-139903 - HISTOPATHOLOGICAL CHANGES CAUSED BY FIPRONIL AND THYMOL IN THE THYROID OF MICE (MUS MUSCULUS) (NON-TARGET ORGANISMS OF ACARICIDAL PRODUCTS)

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The indiscriminate use of tickcides has caused damage to the environment and to the nontarget organisms. Among those currently available in the market, fipronil, a highly toxic synthetic chemical has already proven its action in some species. Thymol, a product of plant origin, has a tickcide action and has been considered less harmful to the environment and to non-target organisms. The application of the acaricides in the cattle is done by aspersion bath, which causes the death of the ectoparasites. However, the effects caused by these products on nontarget organisms are unknown. Assessing the toxicity of a chemical through thyroid changes becomes an alternative that provides quick and accurate response. Thus, this study evaluated the morphology of the thyroid of females of *Mus musculus* mice exposed to the acaricides fipronil (2%) and thymol (2 mg/mL) through aspersion baths. After 14 days, the animals were euthanized, the thyroid removed and processed per histological routine (Committee on Animal Research and Ethics - UNESP Rio Claro, protocol 4243). The results showed that the exposures to both, fipronil and thymol, caused morphological alterations in the thyroid of the mice exposed. Were observed structural disorganization of the whole gland, fusion between thyroid follicles, vacuolization in the cells of the follicular epithelium and Integrity loss of the colloid present within the thyroid follicles. Along with blood analysis and body weight measurement, the results suggest that both chemicals are potentially toxic to the thyroid and consequently to the body, since this endocrine gland, the thyroid, is responsible for regulating the entire metabolism of vertebrates.