

## WET WIPES AS A CAUSE OF ENVIRONMENTAL PROBLEMS: A MINI REVIEW

Nataliia Tkachuk<sup>1\*</sup>, Liubov Zelena<sup>2</sup>, Yaroslav Novikov<sup>1</sup>

<sup>1</sup>T. H. Shevchenko National University “Chernihiv Colehium”, Chernihiv, Ukraine

<sup>2</sup>Danylo Zabolotny Institute Microbiology and Virology, NAS of Ukraine, Kyiv, Ukraine

\*Speaker: [nataliia.smykun@gmail.com](mailto:nataliia.smykun@gmail.com)

Our everyday life cannot be imagined without using various hygiene and cleansing products, wet wipes in particular, that protect us from undesirable pollution and contamination, and even could be used as a medical treatment. Besides all these positive aspects wet wipes can be very harmful for the different natural environments. The aim of this study was to analyze and summarize data from literary sources regarding wet wipes as a cause of environmental problems. Methods of theoretical research of available information, analysis of scientific and methodical sources on this problem, empirical method of accumulating facts, method of argumentation for proving own judgments were used. It has been established that the society produces and uses wet wipes in large quantities, and there is a trend towards an increase in the volume of their production and an increase in their volume on the market is expected in the future (IMARC, n.d.; Kyrychenko et al., 2020; Ramya & Amutha, 2021). Wet wipes pose a threat to the environment because they contain toxic compounds (surfactants, plastic) (Siegert, 2011) and have low biodegradability (Sülar & Keçeci, 2021). As a result, a number of environmental problems arise: 1) accumulation of wet wipes in the environment; 2) increase in greenhouse gas emissions; 3) pollution of water, soil, groundwater; 4) an increase in microplastics in the environment. To eliminate the environmental problems associated with wet wipes while maintaining the functionality of the products, it is suggested, first of all, to use eco-safe, biodegradable base fabric materials and non-toxic solutions for wetting. In addition, an important place is occupied by the formation of a conscious attitude of consumers of wet wipes to their disposal.

### References:

- IMARC (n.d.). *Baby Wipes Market Report by Technology (Spunlace, Airlaid, Coform, Needlepunch, Composite, and Others), Product Type (Dry Wipes, Wet Wipes), Distribution Channel (Supermarkets and Hypermarkets, Pharmacies, Convenience Stores, Online Stores, and Others), and Region 2024-2032*. (n.d.). <https://www.imarcgroup.com/baby-wipes-market>.
- Kyrychenko, O. V., Hniti, N. V., & Bidna, K. A. (2020, March). Market of wet wipes in Ukraine. In *Proceedings of the VII International Scientific and Practical Internet Conference “Modern Materials Science and Commodity Science: Theory, Practice, Education”*, Poltava, Ukraine (pp. 12-13) [in Ukrainian].
- Ramya, K., & Amutha, K. (2021, October). Eco-friendly wet wipes – A review. In *Proceedings of the International Conference on Advances in Technical Textiles, Sathyamangalam, Tamilnadu, India*.
- Siegert, W. (2011). Preservative Trends in Wet Wipes. *SOFW-J.*, 137, 44-51.
- Sülar, V., Keçeci, B. (2021). Degradation of nonwoven fabrics suitable for wet wipes buried in soil. *Proceedings of the International Conference on Textiles and Connected R & D Domains “TexTen X” (Bucharest, Romania, October 21-22, 2021)*. DOI: 10.35530/TT.2021.53