

OPTIMIZED HUMIC PRODUCTS FROM NATURAL SOURCES

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Abstract

Humic substances are the biological-chemical-geological decomposition products of the living plant origin matter on the Earth. The biggest part of the terrestrial organic matter (non-living biomass) are humic substances. Humus is the most relevant decomposition product of living matter, so it is the most important media for the reproduction of the continental biomass. Our latest researches shows that these materials can be great antioxidants.[1]

The formation of humic acids in humification processes needs geological times, that is minimum thousands of years. There are many sources of humic substances in nature, like soil, water, organic manure, compost, sapropels, peat, lignite, brown coal, Leonardite.

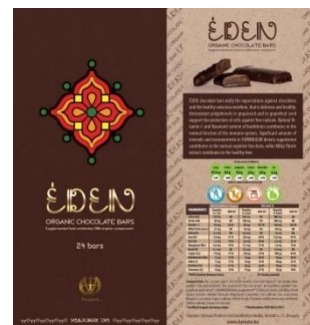
Our company is engaged in research and production of natural humic substances-based pioneer products. Careful extraction and purification, as well as quality control, are also important in order to produce humic and fulvic acid based products for healthy life. We are producing several humic and fulvic acid based products, as active ingredients for medicines, food supplements and cosmetics.

For our products, we use only contamination free Leonardite deposits in Hungary. The so called standard extraction method of humic substances is based on their alkaline solubility. We extract with sodium hydroxide (NaOH). After the first extraction, the Na-humate solutions may contain some contaminants and sediment that should be removed. The main thing we must first consider is the strict food regulations including heavy metal contaminations and microbiology. Second, we must work according to the GMP (Good Manufacturing Practice) regulations, which is strict in the identification of the active ingredients. [2]

Important question is the analytics and identification of the humic acid fractions. There are no international standards for the analysis of the humic fractions. Our company developed a complex humic-fulvic acid identification and standardization method for the humic substance content of the raw materials and the end products. In our poster, the main extraction process and analytical methods will be shown. [3]



Some application examples of the humic substances are: Huminiqum food supplement containing micronutrients and organic humate and fulvate, Éden chocolate supplemented food, and H.Y. Spray alcoholic hyatomelanolic acid extract for skin regeneration.



References

[1] Eladia M. Peña-Méndez, et al.: Humic substances, compounds of still unknown structure: applications in agriculture, industry, environment, and biomedicine; J. Appl. Biomed. 3: 13.24.

- [2] Nelson N. Schwartz at al.: Production of humic acid, United States Patent 3,398,186, Filed Dec. 23, 1963, Ser. No. 332,841 9
- [3] Bleam W. (2017). Soil and Environmental Chemistry. Academic Press, Amsterdam.