

TAL 797 – Seminário

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MICROBIAL BIOSURFACTANTS AS A SOLUTION FOR THE FOOD INDUSTRY

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Surfactants are amphiphilic molecules capable of reducing the interfacial tension between immiscible liquid or liquid-gas surfaces, helping to stabilize emulsions. For this reason, they are widely used in the food, pharmaceutical, cosmetics, cleaning materials and chemicals sectors. Furthermore, they act as environmental remediators in advanced oil recovery and mineral flotation. However, the most widely commercially available surfactants are derived from the petrochemical industry, most of which are considered toxic and difficult to decompose. Biosurfactants, on the other hand, are biodegradable, less toxic, biocompatible, chemically diverse and sustainably produced. They are by-products of the metabolism of living organisms, especially microorganisms. Despite these advantages, their use is still low due to production costs, which limit the economic viability of their commercialization. In this case, the production of microbial biosurfactants using agro-industrial by-products can be an alternative for economic viability. This resource contributes to the achievement of several United Nations (UN) Sustainable Development Goals (SDGs) related to sustainable development, as well as being in conformity with the principles of the circular bioeconomy.

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