

## **Assessing synthetic milk through the detection of anionic detergents in milk: a concise review**

### **ABSTRACT**

The emergence of synthetic milk as a deceptive method for economic gains involves the incorporation of adulterants such as starch, urea, inexpensive vegetable oils, glucose detergent, water, and preservatives. This fraudulent mixture, seamlessly integrated with pure milk, deceives consumers by maintaining a natural taste and appearance. However, this unethical practice poses significant health risks, particularly to vulnerable demographics like children, pregnant women, and individuals with compromised immune systems. Despite being prevalent in both developed and developing countries, this deceptive practice could extend to other regions, given the global demand for milk and dairy products. Various methods exist for detecting synthetic milk, and one prominent approach involves identifying anionic detergent, which serves as a key component in the production of synthetic milk, acting as an emulsifier for vegetable oils and other ingredients. Therefore, this paper aims to provide an in-depth review of the role of detergent in synthetic milk production, highlighting the evolution of detection technologies. Additionally, a comparative analysis of the strengths and limitations of the method for identifying anionic detergent in synthetic milk is presented.