

CLEANING EFFECTIVENESS AND ENVIRONMENTAL CRITERIA

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Abstract

Food production must be done under high hygienic and sanitation conditions. The most important part of it is fulfilled by cleaning and disinfection of the equipment in technological lines before and after productivity times. The CIP system is always considered with charge of soil and chemical agents going out to the environment. Food industry is known as one of the most water consuming for cleaning and disinfection, and subsequently also as a huge amount of wastewater producing. There are two factors controlling what is going out after each industrial process to the surroundings and affecting in general our environment. Namely, there are LCA and EIA.

Description of LCA factor was based on processing procedure for dairy products with different wet basis moisture content, and assessment of the level of water contamination EIA factor after cleaning and sanitation process, and when discharged to the open water sources has been taken into account. It has been compared with the new CIP system in which the chemical agents were replaced by ozone together with its facilities, and for that a type of EIA audits have been proposed.

It seems that the new CIP system may play significant role on the dairy industry for reducing the EIA factor after manufacturing dairy products. The main attention has been focused on the environmental advantages reducing water amount used in such system with ozone, and amount of wastewater discharged to the environment, and it can be proved and verified by the EIA factors.

Key words: *CIP system, Ozone, Environmental criteria, Cleaning effectiveness.*