

Microbial Contamination Guideline





General Information of microbial contamination

As they are water-based materials, emulsion polymers are vulnerable to infection from micro-organisms such as bacteria, yeast and fungi. For these microorganisms, which are present in our environment, organic materials and salt in the water phase act as nutrients.

Since these microorganisms can grow vigorously, emulsions need to be protected with adequate amounts of preservatives in order to avoid microbial contamination and harm.

Although the addition of preservatives or biocides are effective for the avoidance of contamination, laws and regulations (as well as the effect on the environment) may limit the usage of higher levels of these.

Usage of preservatives in polymer emulsions

Organik Kimya's polymer emulsions are preserved during transportation and shelf life by use of preservatives, but this protection will gradually decrease over time due to the degradation of the actives.

Microorganisms may contaminate the formulation from other additives blended with emulsion polymers, such as inorganic components, other fillers and even water, which may further degrade the preservative protection. This contamination may happen at all stages of product use if improperly handled.

Consequently, it may be essential for customers to use additional preservatives in their recipes. It is recommended to have an appropriate antimicrobial treatment method to be developed for each application with the assistance of their preservative supplier.

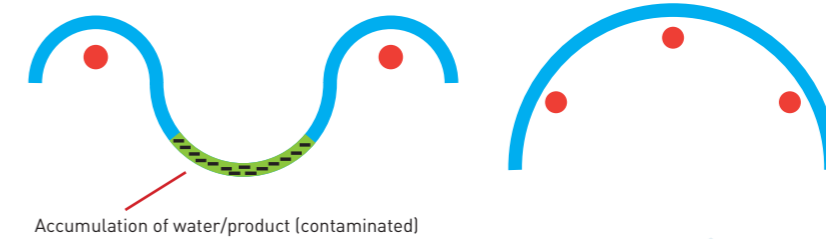
Cleaning and disinfection

Pipes, hoses, bulk storage tanks and mixing equipments must be kept sterile to block or reduce microbial contamination. The hoses used for unloading tankers must be rinsed and allowed to dry out with sterile water. Furthermore, pipelines not filled with latex emulsion must be drained and rinsed to avoid the occurrence of skin, as well as potential microbial growth. Hoses are the most vulnerable step of a product transfer process. Due to the accumulated risk inside these equipments over time, hoses are to be renewed maximum every 4 months, shorter renewals are recommended based on ambient conditions.



Ideal Hose Position

*Suggested position has been shown on the right side, to get the hose empty



Hose & Pump Connection

Hygiene is essential for production plants/storage facilities. It is strictly necessary to schedule and execute internal and external plant hygiene audits frequently. Periodically, at least 4 times a year, bulk storage tanks must be cleaned. Cleaning should include applying a high pressure water spray on the inside, followed by removing any loose or remaining skin (please assess high pressure resistance of your equipments/tanks).



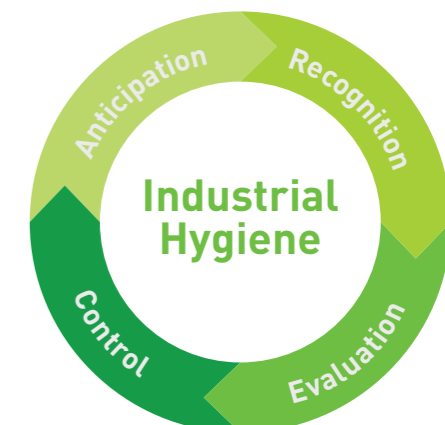
Ideal Hygienic Equipment / Tank

Moreover, it is necessary to disinfect the tank with an appropriate chemicals which are proposed by the customers preservative suppliers. During disinfection of the tank, all necessary health and safety precautions are suggested to be applied in terms of confined spaces regulations.



Hygiene Cycle

Health and safety precautions must be taken when dealing with these disinfectants, even at the diluted stage, for the correct handling and use of these chemical items. It is also important to disinfect and flush all transfer lines during the tank cleaning process. Most contaminated surfaces are those open to the air and are prone to microbial contamination.





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