

BIMOGARD - the non toxic microorganism control concept

The papermaking process is very sensitive to disturbances. The formation of deposits is one of the most important factors limiting the productivity on a paper machine today. Needless to say, a minimum of two things are required to form a deposit; a surface and some material that has the potential to develop a deposit. In a pulp and paper mill, there are thousands of square meters of surface, all more or less sensitive to deposit formation. While pitch, stickies and inorganic salts may form deposits, microbiological deposits are the most common troublesome form in the industry.

Bimogard is a non toxic method for the papermaker to control paper and process hygiene. Bimogard not only replaces traditional toxic biocides normally used for slime control but also uniquely reduces the microbiological content of the final paper product itself. Furthermore, the usage of Bimogard facilitates the shutdown cleaning operations.

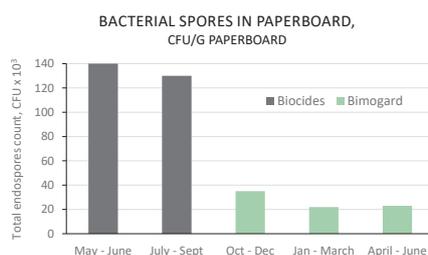
PAPER HYGIENE

Paper produced on a paper machine using Bimogard system contains less total bacteria in comparison with a process using toxic biocides.

Why is this paradox true?

Some bacteria species have the ability to switch between a metabolising and a non-metabolising state. In the latter form, the bacteria, often referred to as endospores, are very resistant and will escape biocides and the heat in the drying section of the paper machine.

The secret behind Bimogard and its ability to reduce the bacteria content of the paper is that Bimogard ensures that the bacteria remains in its metabolising and heat-sensitive state. The heat in the drying section will then, to a large extent, kill the bacteria. We can therefore say that Bimogard and the paper machine are cooperating in a completely non toxic way to reduce the bacteria content of the paper.



Bimogard, in contrast to biocides, reduces endospore content in the paper.

A controlled microbiological content in the paper itself is of great importance for tissue but also for paper and paperboard intended for food contact.

PROCESS HYGIENE

On a paper machine running with the Bimogard concept, you can exclude all usage of biocides, both in the process water and in the pulp.

How does this work?

In a paper machine water system, there are two main types of bacteria, slime forming bacteria and non slime forming bacteria. The slime forming bacteria are the troublemakers from a process point of view, and they have the ability to adhere to surfaces and build up what sometimes is called a biofilm, i.e. slime. Bimogard makes it more difficult for the slime forming bacteria to form a biofilm.

This means that in areas with strong turbulent water, problems related to slime will not occur.

Stalacite-shaped slime formed on critical positions in the paper machine can cause runnability problems. This type of slime is reduced due to the ability of Bimogard to counteract filamentous bacteria and fungi. An additional benefit of Bimogard usage is that the paper machine surfaces exposed to the white water are cleaned more easily when hosed during the shutdown cleaning operation.

BIMOGARD REDUCES HEALTH AND SAFETY RISKS

Usage of toxic biocides implies risks for all personnel involved, i.e. transportation people, machine crew, maintenance people, etc. Every step taken to reduce biocide usage means a reduction of health and safety risks. Implementing the Bimogard system on the paper machine means a better and safer workplace.