

POLYHEXAMETHYLENE BIGUANIDE (PHMB)

There are a very limited number of commonly used alternative chemistries available. While the evaluation has not yet been completed for most of these chemistries, others such as Glutaraldehyde for example have been defined as a candidate for substitution in their own right.

Each chemistry has a unique blend of properties which together with its activity spectrum makes it suited to certain applications but not others.

PHMB has a number of strengths which are not found in the available alternatives and thus has a place in applications in which it cannot be easily replaced by other chemistries.

Reducing the already limited choice of chemistries may make it very difficult for users to select a suitable chemistry for their application and places increased resistance development pressure on the remaining chemistries.

PHMB has various attributes which makes it a very flexible ingredient in the formulation of disinfectants for a wide range of applications. The physical performance attributes of PHMB (not leaving streak marks on surfaces, ease of water rinsing from surfaces, its low corrosiveness to construction materials, its low-foaming activity) and the ability of PHMB to maintain effectiveness in use applications (tolerance to hard water, effectiveness over a wide pH range, tolerance to organic load) means PHMB delivers unique performance benefits for a wide range of end use applications such as food, institutional, industrial and domestic. Some of the key benefits are:

- Broad spectrum – bactericidal and virucidal
- No known development of resistance
- Fast speed of kill
- Tolerant of organic matter
- Tolerant of hard water
- Stable and effective over wide pH range
- No taste or smell
- Non-staining
- Non tainting to food
- Low corrosivity

PHMB is one of the most effective biocides in use and has been proven over time in work environments to provide critical protection against key food borne pathogens such as listeria, E-coli and Salmonella and a broad range of other bacteria and viruses.

Other available chemistries do not offer the same blend of characteristics and therefore are not a good alternative for many applications.

A continued reduction in the number of available chemistries:

- makes it hard for formulators to create products which meet the needs of users
- reduce the differentiation of products in the marketplace
- make it very difficult for users to select a suitable product/chemistry for their application
- place increased resistance development pressure on the remaining chemistries

Decisions on active substance approval must be taken in the context of the need to achieve adequate microbiological control, the arsenal of tools/chemistries available and the potential costs of failure should control mechanisms breakdown.

A full analysis of the potential risks of an increase in microbiological contamination against the potential benefits of removing a disinfectant from the market should be commissioned before any decision is taken.

- A decision on an individual active substance should not be taken in isolation

- The context is the overriding need to achieve adequate microbiological control, the limited arsenal of chemistries available, their properties, and the potential costs of failure should microbiological control breakdown.
- A full analysis of the potential risks of an increase in microbiological contamination against the potential benefits of removing one more chemical from the market should be commissioned by the ECHA before any decision is taken.
- PHMB has a number of unique performance attributes which are not found in the available alternatives and thus cannot be readily substituted.
- PHMB has a proven track record of providing protection in critical environments such as food safety.