

Public consultation on potential candidates for substitution

NON-CONFIDENTIAL comments

Substance : Polyhexamethylene biguanide Hydrochloride ; PHMB (1415; 4.7)
Supported PTs : PT1, PT2, PT4, PT5, PT6
EC Number : Not allocated (polymer)
CAS Number : **32289-58-0** and 1802181-67-4
eCA : France

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COMMENTS

This submission is made in response to the public consultation on Polyhexamethylene biguanide with a mean number-average molecular weight (Mn) of 1415 and a mean polydispersity Index (PDI) of 4.7.

We are submitting the below comments to inform why PHMB should not be designated as a candidate for substitution.

We are using PHMB since at least 30 years

The main application(s) of biocide products containing PHMB are : drinking livestock, irrigation water in greenhouses, wine industry, swimming pools, air disinfection

Regarding the possible alternative to PHMB, there are chlorine based products, alcohol based products, quaternary ammonium compounds, but the problems encountered with this/these substances are : stability over large pH range, stability in the long term, to high temp, sunlight, inflammability, compatibility, corrosivity, generation of by-products (chloramines), risk of violent chemical reaction, pH dependence, sensibility to organic matter.

Economical considerations

- PHMB efficacy allows uses at lower concentration level than some other biocides such as quaternary ammonium compounds, alcohols.

Safety during use for operators as well as for end users

- lower vapour tension than some other biocide actives (alcohols, bleaches)
- PHMB known to be of low risk for human health (it is a preservative approved by SCCS for contact lenses solutions, body wipes and other cosmetic products up to 0.1% (1000 mg/kg))

Practical advantages

- PHMB residues in professional areas can easily be neutralised/destroyed before being drained to sewage network
- PHMB enters in aqueous-based formulations/products, making them easy to rinse with water

Total impurity content:

- Mean content of 4.3%, meaning that PHMB brings 95.7% of Active ingredient on average

To summarise our remarks

The possible alternatives solutions with other biocide active substances do not meet all the benefits provided by the PHMB:

- a) Very economical: 1L of undiluted product treats 50m³ of water
- b) Powerful broad-spectrum microbicidal, effective against gram-positive and gram-negative bacteria highly effective against algae, and effective in slightly acidic or alkaline environments. Effective even in hard water and in presence of organic matter.
- c) Tasteless, odourless and non-foaming
- d) known to be of low risk for human health