

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 – 1802181-67-4
eCA : France

Submitter(s) : FWT GmbH Flamingo water technology
: Flamingostraße 1, DE-99986 Vogtei
Contact: Katja Czogalla

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 ~ 2001.

The main application of the biocide product containing PHMB is: Overwintering agent for public and private swimming pools.

Regarding the possible alternative to PHMB, there are

- a. CAS: 68424-85-1 Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides;
- b. CAS: 25988-97-0 poly(2-hydroxypropyl) dimethyl ammonium chloride,

but the problems encountered with these substances are:

Both substances have no bacteriostatic properties and decompose their effectiveness too quickly. Also has substance **a.** a foaming property.

Economical considerations

- For our purpose, the biocidal product (agent for overwintering) has to be dosed once a time only at the end of the outdoor season. The effectiveness ranges is 5-6 months. No postdosing is necessary for the winter months. After this period, the active ingredient (PHMB) will have degraded to the point where you can use the same pool water again for the next season.

Safety during use for operators as well as for end users

- PHMB has no degreasing effect on skin and mucous membranes
- User have few contact with the substance because of the high efficiency (once a year)

Practical advantages

- The effectiveness range of PHMB is 5-6 months. No postdosing is necessary for the winter months. After this period, the active ingredient (PHMB) will have degraded to the point where you can use the same pool water again for the next season.
- PHMB has disintegrated in swimming pool water after 5-6 months, so that the basin water can be drained into the canalisation (expert opinion in German language available).
- 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) Has to be dosed only once a year
- b) The effectiveness range of PHMB is 5-6 months in swimming pool water
- c) PHMB has no degreasing effect on skin and mucous membranes
- d) PHMB has disintegrated in swimming pool water after 5-6 months, so that the basin water can be drained into the canalisation