

## **Was it a good idea to ban TBT from anti-fouling?**

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TBT was one of the most effective anti-foulants that ever came in use, but at the same time the most troublesome substance ever deliberately introduced in the marine environment. By the 1980s some negative side-effects of TBT on the marine environment were recorded and in 1998 the use of organotin -like TBT- was banned. After this ban on TBT the shipping industry needed new alternatives that were as effective as TBT in keeping the hulls free from biofouling. But are these alternatives better for the marine environment and was it a good idea to ban TBT?

Booster biocides became the most commonly used alternative, albeit that some negative side-effects on non-target organisms became evident. These booster biocides have an even larger broad-spectrum impact on marine ecosystems than TBT. Concern arose because photosynthesis is affected by booster biocides, which has an impact on the entire base of the food chain. In comparison with these boosters, the ban on TBT is not a good idea because its alternative is an even greater threat to the environment.

Non-toxic anti-fouling strategies are also being developed. This is a positive trend since no harmful toxins are released into the marine environment and thus negative side-effects are rarely seen. A good example is the natural anti-fouling surface design.

## **Hull management, a change in mindset!**

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Hull fouling has been a problem in the maritime world for a long time. In times where companies search for the best economic solution, many antifouling systems are old fashioned, toxic and firmly rooted in daily practices. This poses a huge threat to the marine environment. Today the irreversible effect on the environment is clearly seen. There is need for more stringent ecological regulations, which require new and innovative alternatives. Therefore, above all, a change in mindset is needed to look upon the problem from a larger perspective. In this regard the maritime industry should take on another approach. Why shouldn't hull fouling be managed on a more frequent time basis instead of fighting a losing ecological battle after a one-time application of toxic coatings and other antifouling systems? No pro-active antifouling system guarantees a hull which is 100% free of biofouling. With an eye on the future the change in mindset will contain a combination of multiple contributing factors, with hull cleaning becoming the standard treatment in every port.