

## Research on PVC Stabilizer Industry and Organotin in particular:

We did some digging and spoke a few Industry people to know the truth. We spoke to people from the following companies:

- Arteka India Pvt Ltd - Arteka is a Japanese company into PVC Stabilizer manufacturing with offices all over the globe.
- Songwon India Pvt Ltd - Songwon is a Chinese company into PVC Stabilizer manufacturing with offices all over the globe.
- PVC Stabilizer expert
- Goldstab Organics Pvt Ltd - Goldstab is an Indian company into PVC Stabilizer manufacturing.

### Enlightened by the following facts after channel checks:

Is the lead stabilizer ban real? - There is no legislation that has been imposed for the ban of lead stabilizers in the manufacturing of PVC Pipes. It is just a recommendation by the National green Tribunal to the industry to start using lesser toxic stabilizers or put a hazardous mark on their products if using lead. It's up to the manufacturers' discretion if they want to adapt to the policy.

Are PVC Pipe manufacturers changing from lead stabilizers? – Yes, Finolex spoke in a concall about how they are changing from lead stabilizers to non-toxic ones. But surprisingly, the trigger is not the ban on lead, but in fact the rising lead prices that is incentivising them to switch to other alternatives. (This could reverse again in future if prices fall).

What are the alternatives to lead stabilizers in general or PVC pipe specific? – There are many! Due to its chemical properties, lead acts as the best stabilizer. BaZn, CaZn, organotin, etc all of which are lesser toxic than lead are good alternatives for lead. However, when it comes to costing, CaZn is the next cheapest thing after lead and companies prefer it over Organotin (Organotin is 5x the price of CaZn). So even in a hypothetical scenario wherein Supreme Court actually bans lead in PVC pipes, the demand would first switch to CaZn and not organotin.

Is there demand for Organotin in India? - Though we got mixed answers, we understand that Organotin is widely used in India catered by imports. Its application is prevalent in many industries but specific to PVC pipe manufacturing, its demand is weak as there are cheaper alternatives available. It would not constitute to more than 2-3% of the overall Stabiliser demand in India

Export Markets? - There are 2 component attached to the manufacturing of Organotin – an organic component 2-EHTG (80%) and tin ingots (20%). Manufacturing of 2-EHTG is a very toxic process that is even hazardous to humans and very few companies have got it right. Only US companies have mastered it and hence 97% of the US stabilizer market is tin based. The same isn't true for Europe as historically large European companies failed to get the manufacturing process right and now is dominated by CaZn stabiliser. Also as mentioned before, Organotin is 5x price compared to others and a developed nation like US can afford it.

Is it cost effective for Vikas Ecotech to manufacture Organotin in India and compete with imports? – Practically No. There are no tin mines in India at all. It's only present in Indonesia and China. And secondly, manufacturing of 2-EHTG requires special technical know-how that not all companies have. So taking these two factors into account, it is very difficult to manufacture Organotin in India at competitive prices and compete with imports from Indonesia and China.

What are the other companies in the industry doing? – Other stabilizer companies are in fact adding capacities in the CaZn segment. They don't see a scope in the Organotin business in the near future.