

Debatt om plaster och miljö i Society of Plastic Engineers (SPE)

Docent Swaraj Paul hos oss har involverat sig i debatt forumet hos SPE. Hans inlägg har mottagits väl av industri och forskare inom denna välansedda sammanslutning som oftast är tongivande. Inläggen granskas och godkänns innan de läggs upp i forumet. Vi vill här delge Swarajs inlägg i oförkortad version.

"Industry Exchange: Sustainability Newsletter (Dec-Jan 2019)

Jan 5th

I very much appreciate that this issue has been taken up by chain, which is being followed by both plastic producers and users. I really feel sorry for all the abuse, which plastic materials are getting because how we handled this material. According to my long experience polymers are the most versatile material where required properties can be obtained by selecting polymers with tailor-made structures. In order to cope with all the negative opinion about plastics and especially the present problems with micro plastics I would suggest that both the producers and the users should think about the long-term consequences while specific polymers are selected for specific applications. My question is, do we need to use so many different polymer types if we could fulfill our requirements with a few types with environmentally favorable features e.g. Polyolefins because during selection we need to consider the recycling criteria and environmental consequences. The present trend is that the plastic industry acts only when media raises the issues instead of industry takes the precautionary measures. In order to avoid the negative opinion about plastics, which may jeopardize the whole plastic industry, we need to foresee the problems with different polymers and try to find alternative materials and sustainable solutions. I hope

that industry should not be short sighted and profit oriented.

Jan 8th

It has been very interesting for me to follow all the communications on the Chain. All professionals engaged in plastic industries are well aware of that plastic materials are outstanding materials and a modern society cannot survive without plastics. At the same time we have to agree that plastics are really becoming an environmental threat if we do not take it seriously now! This negative opinion will not only effect the community but also jeopardize the plastic industry as a whole. We need to look the whole problem as "the big picture" i.e. cradle to grave. We should neither politicize this issue nor should focus just on short-term quick fix solutions or profitability. We need to work out both a short-term and a long-term strategy to cope with plastic litter and microplastics in oceans. MacArthur Foundation Framework should be a long-term milestone but we need to come up with a few short-term and realistic measures to convince the common citizens that we take their concerns seriously and show that plastic industries are working seriously to solve these issues and plastics are not as bad materials as the media is trying to illustrate.

Of course, such preventative measures need to be performed at global level because all developmental work cost money and at the end of the day everybody wants to get economic benefits from such investments. Therefore, all the countries need to make a commitment to accept and implement all the novel solutions. Under such circumstances, stepping out of global agreements like Paris agreement will not help to solve such problems.

Switzerland and Sweden are very good examples of how they have solved the litter problem by building up a very effective infra-structure, which took a long time to build up. Mind setting and educating people will not help to solve litter problem unless there exist a good infra structure. In Sweden

plastics from packaging is not a problem either because major part of the used materials are recycled. We have also been successful in using plastic litter as energy source. Unfortunately, all types of plastics, except polyolefins, cannot be used to generate energy because of the formation of toxic gases. Disposal of plastic litter as landfills is totally forbidden in Sweden and also in major part of Europe because of the long term effects on the environment.

In these communications, I found several realistic proposals from Amitkumar such as produce products with end of life solutions, redesigning of plastic articles, mono material movement. These can be implemented as short-term solutions without costing much! However, we need to do more to find long-term and sustainable solutions.

I am quite optimistic that our community can accept such challenges and solve these problems if plastic industries are willing to invest and if there could exist proper globally harmonized long term economic incentives and sustainable environmental regulations.

Jan 9th

Thanks for all the positive in-puts. I become a bit afraid when some of the professional still think that it is a perception and belief and not a real problem. We need to come out of the dark and agree that it is a big problem and we need to act now. Amitkumar has cited a very good example of consequenc-es of such a denial from the tobacco industry. We have several examples of chemical scandals where the industries have denied to take the problem seriously. A few such examples are: asbestos, PFOA, PFOS, Glyfosat, all brominated flame retardants (FR).

Here, I can share my personal experiences how difficult or sluggish can it be to introduce new tech-nologies. We have developed a halogen free FR system for polyolefins (paxymer.se), which we pa-tented first in 2006 followed by a new patent in 2016. These are under rigorous industrial

evaluations both in Europe and US and have passed all the tests for different applications. Fortunately, because of very strict restrictions on the use of chlorinated and brominated FR in Scandinavia, Paxymer got entry into industrial scale use for several applications. But in other parts of the world, we observe a lack of urge for such a substitution because there is a lack of willingness from the industry and there are no globally harmonized long-term economic incentive and environmental regulations.

After this comment may be I shall be accused for socialistic thinking but if we look back into the history no material has been removed from the market unless environmental regulations have banned them. According to my opinion the environmental restrictions and regulations today are perhaps the driving forces for new developments, although they are problematic in the beginning. We both like and dislike REACH! In such new developments it is again important for us to have "the big picture" in our mind. Biodegradable materials are very good examples of lack of consideration of such a "big picture".

Jan 10th

Dr Dharia,

Thank you very much for your inspiring comments and understanding the seriousness of the problem. Right now, we are involved in a 19 partner European project on the gigantic problem of micro-plastics in oceans. Therefore, we know how big is the problem? Most of the measures that you have mentioned is being used in Sweden. So far, the consumer plastic wastes are concerned, Sweden has very good policies, strategies and regulations to solve them in real life although it is expensive for the industry. But so far, the industrial wastes are concerned e.g. the industrial plastics and the materials that you refer, there are not so many good sustainable solutions as we have for the consumer plastics. Therefore, everything is being sorted out and collected and partly processed because we cannot dump them as landfills. We

are working here right now very intensively to find solutions for the recycling of such materials. One of the way is to minimize the use of such materials by a few short-term practical measures such as by regulating the use of multi-materials in the construction of industrial parts, but instead providing incentives to use mono-materials and perhaps to use more of polyolefins because their re-cycling as energy source is very effective due to very high calorific values compared to many other plastics and even wood and have no harmful emissions. This is one of the reason why in Scanidinia we are switching away from PVC compared to the rest of the world.

Unfortunately, our activities in Sweden alone cannot solve the rest of the worlds environmental problem from plastic litter and global warming and therefore I think that it is urgent that we work on global basis and our professional community need to corporate globally instead of working na-tion wise.”