

PINFA ADVISORY GROUP - SECOND MEETING
WEDNESDAY, 25TH OCTOBER 2017, 10:00 – 16:30 CET
BRUSSELS

External participants

- Doreen Fedrigo, *Senior Policy Officer, Nanomaterials, Chemicals, ECOS*
- Frank Kuebart, *Managing Director, Eco-INSTITUT*
- Pim Leonards, *Chair Environmental Bioanalytical Chemistry, Vrije Universiteit Amsterdam*
- Miguel Rejat, *Inspector, Generalitat De Catalunya Fire Brigade*
- Hans Wendschlag, *Environmental Manager, HP*
- Monika Sabaranska, *Supplies Regulatory Compliance Manager, EMEA, HP*

Pinfa participants

- Adrian Beard, *Chairman, pinfa*
- Vicente Mans, *Advocacy Manager, pinfa*
- Philippe Salémis, *Secretary General, pinfa*

External moderators

- Simon Levitt – *moderator, Harwood Levitt Consulting*
- Giacomo Borgo – *assistant moderator / writer, Harwood Levitt Consulting*

Purpose of the pinfa Advisory Group

- pinfa represents the manufacturers of phosphorus, inorganic and nitrogen flame retardants (PIN FRs) and is a Sector Group within Cefic, the European Chemical Industry Council. The members of pinfa share the common vision of continuously improving the environmental and health profile of their FR products. Therefore, pinfa members seek to maintain a dialogue with the users of PIN FRs to identify their needs and technologies they are looking for.
- In recent years, there has been much discussion and debate around FRs. Concerns have been raised about environmental impacts, largely but not solely about halogenated FRs. In cases where FR use is decreased, there are concerns about fire safety. Where are FRs critical for fire safety, and where can other solutions be sufficient?
- The aim of the meeting is to bring together the group on average twice a year. It is not a fixed group, pinfa will invite additional participants if they are interested to attend.
- The participants will have formal positions in their organisations, but pinfa's intention is for the meeting to be a discussion between the individuals, not a stating of the formal positions of those organisations.

The Chatham House Rule

The meetings follow the Chatham House rule, whereby minutes include who attended and what was discussed, but opinions are not attributed to individual participants.

March 2017 meeting

The October 2017 Advisory Group meeting followed an inaugural meeting of the group in March 2017.

The report of the first meeting will be published on the pinfa website, together with this report. The intention is that meeting reports can be understood as individual documents, but the group's thought process is better understood by reading the succession of documents.

1. Recap of March 2017 meeting

Some of the participants of this meeting were attending for the first time; others attended in March. The group agreed it was important to strike a balance between new discussions and building on previous discussions - new discussions because the philosophy of the meetings is to be a safe space to raise any issue; and building on previous discussions to minimise repetition where concepts have been agreed, and to allow the group to move further than would be possible in any one meeting.

Therefore, this meeting started with a short recap of the March discussion, as a basis upon which to build and add new topics. The key points recapped were as follows:

- The first meeting was structured into a discussion on fire safety - what is the contribution of FRs, do they work, what is the evidence base, etc.; and environmental / human health profile - are there 'good' FRs, what is the evidence base, etc.
- On the issues of FRs and fire safety, there has been a remarkable lack of shared facts or agreement in the last twenty years; even after many years' discussion, most stakeholders still believe what is in their commercial or other interest, and the debate has been extremely polarised even on topics which should be provable one way or the other. In this context, pinfa's historic approach of not lobbying aggressively was welcomed, as is the current pinfa Advisory Group initiative.
- The importance of FRs to fire safety is recognised at a 'micro' level. Fire tests and videos show they slow the rate of fire, which is vital for the agreed key issue of escape time. But the importance of FRs to fire safety at a macro level is not agreed by policy-makers one way or the other, that prevention and slowing of fires converts to saving of life and reduction of injuries.
- Fire-fighters are concerned that fires are spreading more quickly, especially residential fires. Europe may therefore have a creeping fire safety problem, based on the accumulation of fire load in homes.
- FRs have a large image problem, and this has grown beyond halogenated FRs to FRs generally. The group believes the perception is worse than the reality. If the scientific evidence could be brought together in a simple, clear way, this would be the first step towards building trust and

answering where FRs are necessary, where they are less necessary, and which FRs are acceptable. pinfa can play a role but it must not be in promotion or marketing.

- The circular economy, closed loop recycling and future generations of consumer products using current products are relevant to the debate; the group at some point should explore this, but it is complicated to unpack.
- Future actions. pinfa to consider what role it can play as a portal for information on PIN FRs; increase the dialogue with fire-fighters; the concept of the Advisory Group is good and meetings should continue; invite participants from ENGOs in future.

The points above were used by the group as an input to develop their thinking further below.

2. Fire safety & the Grenfell fire

The group discussed the awful Grenfell fire in London, which had occurred since the March meeting. It is relevant to these discussions, because of the rapid fire spread and resulting loss of lives. The group agreed that there were multiple, overlapping causes - both inside and outside the building and having nothing to do with safety, but also including failure to comply with existing regulations and perhaps a need for a review of regulations.

It was noted that for too long there has been an imbalance between required fire standards in public buildings and standards in private dwellings, due to the sad political fact that major public fires are headline news whereas, even if over time there are more fatalities in dwellings, these are dispersed, so they do not create the same headlines. Because Grenfell was a residential fire yet created mass casualties, it may spur policy-makers to review fire safety, especially in high density residential buildings.

Some in the room echoed the concerns from the first meeting, of fire load leading to rapid fire development in dwellings. The view was that fire safety in transport is sufficient, in residential buildings it is not. Again, the concern was expressed as follows - there is an accumulation of consumer products in homes, many such as furniture and electronics based on polymeric flammable materials; if a fire starts, this fire load turns a small fire very quickly into a bigger fire because of limited escape time.

As discussed previously, it may be that Europe has a creeping fire load problem, and official systems are not picking up on it (heterogenous professional, military and volunteer fire brigades approach investigation differently; traditional problem with insufficient or misleading fire statistics; focus on source of ignition, and not on impact of fire load, rate of fire spread on fatalities and injuries).

The group agreed it is increasingly important to understand if fire-fighters more widely in Europe are seeing an increase in quickly developing residential fires, where fire-fighters arrive after flashover. **A key action for pinfa and some members of the group is to reach out to fire-fighters in different European countries to get their input.**

To note, if it emerges that this is indeed a silent emerging problem, it does not necessarily follow that more FRs are the answer. In the approach to fire-fighters, this should be made clear, otherwise there is again a risk that some will downplay the fire load risk, thinking it leads automatically to increased FR use. The focus here should be to ascertain if there is a problem without immediately advocating FRs are the answer.

2. FRs and smoke

In their advocacy efforts, others have focused on lifetime exposure of fire-fighters to smoke, and this leading to increased incidence of cancer and other health issues.

A question discussed by the group was what is the contribution of FRs, in individual fires and across the lifetime of fire-fighters? On an accumulated basis, does the presence of FRs increase or decrease the volume of smoke, and the toxicity of smoke? Pinfa has also been working on this topic.

The current working hypothesis is that:

1) on an accumulated basis, the presence of FRs can prevent a certain number of fires and reduce the size of others, so this can count as a decrease in smoke volume and toxicity in the overall calculation.

2) in certain large fires, the presence of FRs does add incrementally to smoke volume and smoke toxicity. The hypothesis is that this increment is so small, it is likely to be non-meaningful from a chronic exposure perspective. It is the burning of polymeric and other materials that produces toxic smoke, and therefore the lifetime contribution of FRs to reduce the incidence of fire exposure is thought to outweigh any increase in individual exposures.

pinfa continues to work on this topic and will report back to future Advisory Group meetings.

3. Identifying 'good' FRs

The group had a detailed and productive discussion about FRs, their image and their environmental and human health profile.

The group raised the point that the use of FRs will always be criticised, even as scientific evidence builds about the availability of 'good' or acceptable FRs. This is because of the long and polarising history of the FR debate, the fact that historic allegations against halogenated FRs turned out in some cases to be correct, and the fact that some user industries use FR criticism for commercial purposes, to avoid extra cost to themselves. Thus, the motivation and opportunity to criticise FRs will always exist.

Faced with all this, the fact that most FRs can be used in accordance with regulations does not give users in the supply chain sufficient confidence that they will be immune from future criticism. It was agreed that REACH should be providing such reassurance for chemicals that go through the process successfully, but this is not yet happening, perhaps because some 'usual suspect' contentious chemicals have not yet been resolved.

At the same time, for example in the electronics industry, there is a push to move to alternative, non-halogenated FRs because of negative lists of halogenated FRs in ecolabel criteria, and the use of such criteria in public procurement. With other groups of chemicals, there have been examples of 'regrettable substitution', of users moving from one chemical to another, only for it to be discovered later there were also problems with the alternative. So, the electronics industry needs to be confident in the alternative FRs.

It was agreed that good, independent work has been done, which has identified quite a number of 'good' FRs. This includes REACH dossiers and conclusions, analyses by German and Nordic regulators, work done by projects such as GreenScreen, and projects such as Enfire commissioned by the European Commission. Yet, it was also suggested that there were much

fewer studies done and therefore available on non-halogenated FRs than on halogenated FRs and therefore informed substitution was not so simple and general knowledge of the (eco)toxicological profiles of PIN FRs was lower.

Some participants suggested that the results from REACH, GreenScreen and Enfiro can give confidence of the availability of sufficient FRs with good environmental and health profiles, but the information is not readily accessible, except to those who are experts and with sufficient time to research. Most reports run to hundreds of pages and are not easy to find.

This was the challenge the group identified and discussed - there is increasing evidence, but who and how to convert this into more easily accessible information, better curated and in one place. And what else can be done to protect users from unwarranted criticism.

One idea was a confirmation of the discussion in March, that **pinfa could do more to act as a repository of information on PIN FRs**. There is a Product Finder on the pinfa website, but this could be developed much further to be more user-friendly. The group recommended a simple and curated resource per chemical, always focusing on the provision of information and not falling into advocacy. Because pinfa represents producers, wherever the repository / portal can refer to and point users towards independent reports and sources, the more of this the better. The group asked pinfa to encourage its members to have their products GreenScreened and to include the results of GreenScreen scores for individual FRs as an excellent independent source, to be clear where NGOs support an initiative, and to be honest; better to say 'we don't yet know' than give false certainty.

A second idea focused on ecolabels. The Swedish ecolabel body for electronics, TCO, has published a 'positive list' of good FRs - fourteen FRs at the time of the meeting. This is the first FR positive list of its kind and is good news for the E&E industry, who are normally faced with negative lists only. It was agreed there is high trust in ecolabel criteria, as setting a higher standard beyond regulation, and if these positive lists were more widely known, this would offer reassurance and protection against criticism.

It was also agreed it would be good if other ecolabels followed the example of a positive list, this would further spread the idea there are good FRs. A small group of participants agreed to go together to Blue Angel to suggest they follow TCO's lead for their electronics criteria; and to develop a wider plan to promote the spread of FR positive lists. However, one participant suggested that ecolabel systems are already over-burdened with existing criteria and that positive lists would likely add further burden as scientific knowledge and evidence would need regular updating, so pinfa should consider this before launching efforts to amend ecolabel approaches.

It was also suggested to approach other NGOs, e.g. EEB/BEUC who have been active in the EU ecolabel for over a decade, and ChemSec, earlier rather than later to get their input into this idea of developing and promoting a positive list of FRs. This is not to confer competitive advantage to those on the list, but to reassure and argue that a range of good FRs are available.

There was one view in the group that did not agree with this idea until we have more fully worked through the implications of the circular economy for FR use.

4. The circular economy.

The circular economy was a topic identified at the previous meeting for discussion now and was again raised by several in the group.

It was again noted that it is difficult to move from the concept to what it specifically means. Time was spent identifying what the most relevant questions are for FRs, and the group formulated it in this way:

If and as Europe is to move to a closed loop system, what do we need to build into planning for FRs? If we take the materials and products in which FRs are used, what will be the most sensible ways forward for dealing with those materials and products at end of life to make the system closed loop? E.g. E&E, the building and construction sector, the transport sector, and the polymeric materials used to which FRs and other plastic additives are added? Then, what does that mean for plastic additives including FRs? And what does that mean for products already in circulation, and products designed and placed on the market as circular economy policies are implemented?

Should we be labelling polymers, identifying the polymer additives they contain? Should polymer additives be removed from the design of products? Should they be included but removed at end of life? Who should be responsible at the end of product life? How do we make sure additives designed for one application don't get downcycled and end up in products where they are not wanted, e.g. in toys?

Together with all these questions, how do we maintain the functionality for which polymer additives are used, including fire safety?

The group decided these questions were a good basis for discussion at the next Advisory Group meeting.

5. Other topics.

One topic raised, but minimally discussed this time, was the Swedish FR tax. Sweden has imposed a tax on FR use, which is a way that Sweden can influence chemical use within its national competence and without being blocked by Brussels. Several members of the group saw this as a worrying precedent. It was agreed to give sufficient time to this topic at the next meeting.

6. Planning for the next meeting

The group agreed the meetings are working well and providing value for participants. The additional participation from those connected with ENGOs was welcomed and to be continued. It would be good next meeting to get further representatives from the firefighting community.

It was agreed that this meeting had generated some concrete ideas that need exploring and implementing. It would be better to leave a little more time between meetings for pinfa and others to progress and report back. A next meeting could be May 2018.

Key topics for the next meeting: the circular economy; Swedish tax; the core topics of this meeting, discussing updates and progress made in between meetings.

This document

This document has been circulated to the meeting participants for their approval and will be placed on the Advisory Group pages of the pinfa website. Any of the participants are welcome to

share the document as they see fit, e.g. sharing with others for information and/or encouraging others to join future meetings.