

Minority Position on the

Restriction on PAH in Granules or mulches for use as infill material in synthetic turf pitches or in loose form on playgrounds and in sport applications

I, the undersigned, take a minority position based on the following arguments/justifications.

Minority Position :

Given its costs and negative environmental impacts (in terms of additional emission of CO₂ and potential barrier to the circular economy) on the one hand, and the very limited potential human health benefits, the proposed restriction is more likely to be not proportionate and not an adequate RMO in SEAC perspective¹.

I do not agree with the SEAC conclusion that “the proposed restriction [R01 with concentration limit 17 mg/kg] is the most appropriate EU-wide measure to address the risk”, for several reasons :

- SEAC own analysis on proportionality does not support this conclusion
- Given information available to SEAC, there is more evidence the restriction is not proportionate than it is, or than no conclusion on proportionality can be drawn

The same arguments leading to my above position also apply to the SEAC conclusion that “the restriction is considered proportional for a limit value of 20 mg/kg as proposed by RAC.” I also note that SEAC did not provide an assessment of this other restriction option.

¹ There are also considerations about risk acceptability to take into account for decision, but they are outside RAC/SEAC remit in my view. When considering risk acceptability, the conservativeness of assumptions in risk assessment should be kept in mind.

Justification for the minority position :

SEAC own analysis on proportionality does not support RO1

SEAC states that it is not possible to conclude on proportionality using the quantified costs and benefits because of uncertainties and does not propose a conclusion based on consideration of both quantified and non-quantified benefits. SEAC states that it can neither conclude on proportionality based on affordability considerations², and mentions it has no remit to take social concern considerations or assessment into account³.

Therefore, SEAC has no good basis to support its conclusion regarding RO1.

Evidence the restriction is not proportionate

Contrary to SEAC, I think that the information at hand, including uncertainties, allows to conclude that the proposed restriction is more likely to be not proportionate.

Monetised costs of the proposed restriction (€30 to €55 millions) are higher than the monetized benefits of €11 million. Consideration of other non-quantified elements and of uncertainties confirms it is more likely that costs outweigh the benefits.

Monetized costs :

It would be more correct to state that costs are uncertain, than overestimated as SEAC opinion does. The costs of the restriction depend very much on whether the proposed restriction will resolve or not (or even amplify) the societal concern regarding the use of ELT infill in pitches and playgrounds, because societal concern will drive stakeholders in their decision to switch to (often virgin) alternative materials. If a switch to alternative materials occurred instead of adaptation of ELT markets, an illustrative cost (derived by proportionality from RO2 assessment)⁴ would be around € 180 million.

The Dossier Submitter analysis and SEAC opinion fail to present an informed and scientific analysis regarding societal concerns⁵. The assumption taken by the

² I agree that when costs and benefits cannot be compared (lack of information, uncertainties,..), affordability is useless : in case the costs would outweigh the benefits, affordability would be a negative factor since it would promote the adoption of an unfit intervention, whereas it would be a positive factor in the opposite situation (costs < benefits).

³ I also agree societal considerations as such are outside SEAC remit, in the proportionality discussion.

⁴ Since 5% and 86% of ELT infill material do not comply respectively under RO1 and RO2, Cost of RO1 = (5/86)* Cost of RO2, as a first approach assuming costs of switching to alternative materials is proportional to non-compliant amounts of ELT.

⁵ I noted previously that societal concern as such for proportionality discussion is out of SEAC remit. However, like in the present case, considering societal concern

Dossier Submitter and not challenged by SEAC that the restriction will resolve societal concern does not appear to be well grounded. Other views are possible : since not being a clear ban on non-threshold carcinogenic substances, and not addressing other chemicals of potential concern in ELT, the restriction could on the opposite reinforce societal concern (or create it in MS where there is currently no apparent concern/information). An analysis of the impacts of societal concern on the restriction scenario should also include circular economy and climate change issues that are also relevant in the present case. It is therefore not possible like SEAC does to conclude firmly that costs are overestimated.

The fraction of non-complying ELT material, and therefore the costs could also be underestimated, because, as noted in the opinion, “samples from sports turf pitches were, in most cases, pooled samples from multiple locations on one field” and “samples from manufacturers were taken from one big bag or pooled from multiple big bags”. Pooling tends to narrow the statistical distribution of concentrations, and this could have a dramatic effect on the non-complying fraction of ELT, and therefore on costs⁶.

Another reason to question the non-complying fraction is that in samples that have been taken from existing pitches, some PAHs might have already be leaching from the material or degrading, and the measured concentration might be an underestimate of the original concentration in the infill material when it had been put on the market.

Finally on this issue, the uncertainty of the analytical methods and implication in terms of ‘false negative’ and therefore in terms of additional costs and unaddressed risk, would need to be looked at.

It should also be acknowledged that if the fraction of non-compliant ELT infill is underestimated, the effect is also to increase the baseline risk, and therefore the benefits of the restriction, however likely in a much lower proportion⁷. If risks and costs are underestimated, the likelihood that a significant switch to other materials takes place, for RO1 like it is the case for RO2, is also underestimated.

is relevant to assess the likelihood of the reaction of stakeholders in the supply chain within the restriction scenario. In that perspective, it is under the remit of SEAC, but I understand that SEAC members including myself might lack competence. Anyway, even with more information and analysis, predicting societal concerns is probably very difficult, and this is why at least a sensitivity scenario in which societal concerns are not resolved by the proposed restriction would have been helpful.

⁶ For illustration, costs are multiplied by around 100 between RO1 and RO2, that differ by ~10 mg/kg in terms of concentration threshold.

⁷ Between RO1 and RO2, human health benefits are multiplied by 6, whereas costs are multiplied by 100.

Monetized health benefits

The several highly conservative assumptions used in the risk assessment translate into highly overestimated human health benefits. Only relaxing the conservativeness of the assumption on the population at risk, SEAC finds that human health benefits initially of €11 million, are €4 million.

There are many other very conservative assumptions, and bringing them together to more realistic values would bring down the monetized benefits to much lower values. These assumptions are the following :

- All users (and workers in charge of installation and maintenance) are considered professional users, and as goalkeepers (most exposed).
- All users of artificial pitches play only on artificial pitches
- PAH concentration in all these artificial pitches is assumed to be 21mg/kg. This concentration is reached or surpassed in only 1% of sampled pitches or materials, according to statistical data used in the opinion for the cost assessment.
- <2 cancer cases is rounded as 2 cases (the cases being statistical it is conceivable to multiply the expected value of the fractional/decimal number of cases to have a more accurate estimate)
- All cancers are considered fatal
- The highest WTP value for a fatal cancer in ECHA range is used.
- Latency between exposure and cancer is not taken into account.

Environmental benefits

SEAC states that environmental benefits from the proposed restriction are linked to reduced PAH emissions to the environment but recognizes that “benefit may be small under RO1 as ELT infill will continue to be used” and because “the installed shockpad or elastic layer below the turf itself could be made of ELT granules”. Furthermore, this analysis is valid only if the restriction scenario considering no materials substitution holds, which is questionable (see above).

In case there are materials substitution, the information at hand does not allow to assess whether there are environmental benefits or costs, because of the lack of information on alternative materials⁸.

The same considerations apply to the potential environmental benefits in terms of reduced microplastics and reduced metal emissions.

⁸ For instance, for EPDM, there is no data on the 8 restricted PAHs, and data for PAHs in general is very scarce (only between 1 and 11 samples among the few studies found by the Dossier Submitter, to be compared to 1373 samples for ELT). Given also the similar orders of magnitude of concentrations in EPDM and ELT in the reported data, the effect on PAH exposure of a switch from ELT to EPDM appears to be unknown.

Environmental costs

Because the Dossier and SEAC consider (erroneously in my opinion) that there will be no switch to alternative materials due to RO1 restriction, SEAC opinion does not consider the environmental costs of switching from ELT recycled material to virgin materials (bio-based or not). This cost has been assessed under RO2 (regarding GHG emissions, but not on other lifecycle impacts), and an illustrative value for RO1 can be derived from the value for RO2. Since 5% and 86% of ELT infill material do not comply respectively under RO1 and RO2, the CO2 environmental cost of RO1 can be approximated as $(5/86)^9$ of that of RO2, that is €4,6 millions.

This significantly underestimates the environmental cost of switching to virgin materials because :

- As noted in SEAC opinion, much of the alternative virgin material would be imported whereas recycled material was not. It is unclear if the estimate in RO2 has taken into account CO2 emissions of imports from outside the EU
- Other lifecycle impacts of (imported) virgin materials are not accounted for (air and water pollution,...)
- The fraction of non-compliant ELT material under RO1 might be higher (see above “Monetized costs” section)
- The value of one ton of CO2 adopted for the monetization appears to be very underestimated, possibly by a factor of 4 to 5. RO2 calculation is using ~€ 40 /t value for CO2, based on marginal abatement costs dating back from 2006. Since then, views about necessary ambition level and urgency of abating CO2 emissions and therefore on abatement costs have changed. Also to be considered is that marginal abatement costs can underestimate social costs, since current agreed climate policies only aim at limiting to an acceptable level but not at cancelling damages. More recent reviews from various (inter)governmental organisms point to higher or much higher costs of carbon : Stieglez and Stern (2017) recommend a range between ~€35 and €70 in 2020, UBA (2018 & 2019) recommends between ~€ 200/t (1% discounting) and ~600€/t (no discounting) for the time period of the proposed restriction, (EC, 2019) recommends between ~€ 60/t and ~189€/t, and (Quinet, 2019) € 242 in 2016 prices in 2030.

If considering a value of €100/t CO2, the environmental costs in terms of CO2 emissions of RO1 would be ~€ 10 million.

Even if one would adopt SEAC view that there is no switch to alternative materials, using non-compliant ELT material on other markets would imply in

⁹ Same reasoning as above.

particular to use it on energy markets (cement kilns, power plants, urban heating,...) and therefore cause also additional CO2 emissions compared to the baseline scenario (however it seems the Background Document and SEAC opinion do not provide ways to easily estimate these emissions).

Summary of costs and benefits

Given the above discussion, an alternative and in my view more realistic picture of costs and benefits is the following :

Costs	Benefits
€30 to €55 millions Very uncertain, might be underestimated.	Monetized health benefits : €4 million (after SEAC relaxation worst case assumption on population at risk. Still highly overestimated
Monetized environmental costs (CO2) Illustrative value €10 million, possibly still underestimated.	Environmental benefits Limited and uncertain

In view of this summary of costs and benefits of the proposed restriction, my conclusion is that it is more likely that costs outweigh the benefits. Therefore, the fact that the proposed restriction is affordable further indicates it seems to be an inadequate RMO¹⁰.

¹⁰ Should the final decision conclude, without considering affordability, but based on SEAC opinion and on other criteria such as risk acceptability that the proposed restriction is the best RMO, then affordability would appear as a supporting argument to this final decision.

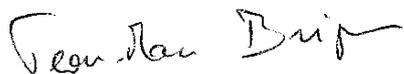
Additional comments on possible other approaches to manage the risks of ELT infill material.

Another option could be to wait for the ECHA study to see if addressing more chemicals can improve proportionality. Given the current known risks associated to PAHs, delaying action to wait for this study would not entail significant human health impacts.

Wider-ranging and upstream action through managing chemicals in tyres could provide incomparably higher environmental benefits (avoided emissions during abrasion and incineration, not only during recycling). It could serve not only objectives of protection of human health through direct exposure of recyclates, but also provide major achievements regarding water pollution, and air pollution. I agree benefits would be delayed, but the current magnitude of human health risks in pitches does not seem to call for urgent action.

Communication on good practice also requires more attention, and I agree with SEAC that “It could be possible that, in this case, voluntary measures espousing good hygiene are a useful and low-cost approach.”

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