Meeting

Position Paper by the Joint Expert Group on Food Contact Materials (FCMJEG): Ocean Bound Plastic (OBP)

This is a paper for discussion.

This does not represent the views of the Committee and should not be cited.

Background

1. In 2021, the UK's Food Standards Agency (FSA) has become aware of environmental plastic and/or plastic materials intercepted before entering the oceans (henceforward referred to as ocean bound plastic) being used in food contact applications on the UK market. Colleagues in the food contact materials (FCM) policy team sought an initial opinion of the Joint Expert Group on Food Contact Materials (FCMJEG) as to whether ocean bound plastic (OBP) could safely be utilised in food packaging, either directly in contact with food or behind a functional barrier. They were especially concerned regarding substances that are mutagenic, carcinogenic or toxic to reproduction (CMR) and whether their absence could be guaranteed.

2. Following discussions held by the FCMJEG in 2021, the Group published an interim position paper on OBP in February 2022.

3. The COT had reviewed the FCMJEG draft interim position paper at their meeting in May 2021 and a discussion paper on OBP, providing background on the concept of OBP, its current uses on UK market and its potential safety implications on human health at their meeting in June 2021. The COT were updated on progress in July 2021.

4. To aid the FCMJEG with their assessment of environmental and OBP, the FSA undertook a call for evidence between March and October 2022, this was followed by additional data from the companies that engaged with the call, upon enquiry by the FCMJEG. Additional companies were also identified as suppliers of these materials between November 2022 and January 2024, and were contacted for any information they may hold.

5. The following paper (Annex A) provides the draft position paper by the FCMJEG. All information submitted to the FSA by end of January 2024 was considered in their evaluation of environmental and OBP.

6. A background paper (TOX/2024/15a) has been circulated to the Committee separately. The paper provides information on the data received from the call for evidence and the considerations of the data by the FCMJEG. Due to commercial interest of the information and data provided, this background paper is reserved.

Questions to the Committee

i. Do the Committee have any comments on the structure or content of the draft position paper.

ii. Do the Committee have any other questions.

Secretariat

March 2024

Annex A to TOX/2024/15

Background

1. The Food Standards Agency (FSA) is currently undertaking work on the potential use of plastic materials from the open environment in food contact applications, specifically plastic materials intercepted before entering the marine environment. These plastic materials are sourced, recycled and subsequently used in new applications. The FSA thereby sought an opinion from the Joint Expert

Group on Food Contact Materials (FCMJEG) whether such recycled material could be safely utilised in food packaging, either directly in contact with food or behind a functional barrier.

2. To aid the FCMJEG with their assessment of environmental and ocean bound plastics (OBP), the FSA undertook a call for evidence between March and October 2022, this was followed by additional data from the companies that engaged with the call, upon enquiry by the FCMJEG. Additional companies were also identified as suppliers of these materials between November 2022 and January 2024, and were contacted for any information they may hold.

3. All information submitted to the FSA by end of January 2024 was considered in the evaluation of environmental and OBP.

Introduction

4. Plastic pollution is an environmental hazard affecting both terrestrial and marine environments. The majority (80%) of plastic in the ocean originates from land, mostly from coastal areas, and an estimated 0.41 - 4 million tonnes of plastic debris enter the ocean via rivers per year (Smidt et al., 2017; Wayman, 2021).

5. The term OBP currently covers a broad range of plastic disposed of in the environment, i.e. terrestrial, aquatic and marine and there is no international or widely accepted definition of OBP to date.

6. Any virgin or recycled plastic food contact material (FCM) produced has to be compliant with the current EU/UK regulations and legislation (FSA). This includes the requirement that recycled plastic is free from any carcinogenic and mutagenic substances or substances affecting reproduction (CMR substances).

Views of the FCMJEG

7. Under the current legislation, it must be ensured that mechanical recycling processes remove any potential contamination to an acceptable level, i.e. where further use of the material in food contact applications does not pose a risk to consumers. EFSA (2011) considered mechanical recycling processes for polyethylene terephthalate (PET) as efficient if the individual process can reduce an input reference contamination (3 mg/kg) of kerbside collected PET to levels that result in a worst-case dietary exposure not higher than 0.0025 µg/kg bodyweight (bw) per day. Recycled PET manufactured with such recycling

processes are not considered a safety concern. For plastic materials collected from controlled environments, such as UK kerbside collection, substantial work has been undertaken in the past to ensure that the current criteria and standards for mechanical recycling processes are being met. In addition, the starting composition of the plastic materials, i.e. any additives, are known to be suitable for food contact applications.

8. The use of environmental or OBP is a new input material for the production of recycled FCMs. Hence, the FCMJEG raised concern over potential contaminants, and questioned whether the current reference value for PET of 3 mg/kg would be applicable. The value of 3 mg/kg was based on substantial data from EU controlled collection systems, which did not include OBP (EC, 2004; Franz et al., 2004). Additionally, if plastic material is sourced from other parts of the world, additional/unknown plastic additives may have been used in their production, adding to the overall uncertainty. The FCMJEG also noted that there is currently a lack of specific data/studies on the potential presence of CMR substances in environmental and OBP. Information on the potential degradation and what effect such degradation may have on the stability of the material itself or the uptake of contaminants was also lacking. The challenges in the recycling process could differ depending on the source of the input material.

9. The FCMJEG acknowledges the scale of the task to provide sufficient data to assess the safety of environmental, and OBP. Hence the data submitted in response to the call for evidence, including non-intentionally added substance (NIAS) testing, has been welcomed by the FCMJEG. However, the Group has not seen or received sufficient evidence that the current mechanical recycling processes are appropriate for environmental, and OBP, as an input material, especially with a view to reducing potential contamination. The data presented to the FCMJEG to date were not sufficient to demonstrate how companies ensure that additives not currently permitted by EU/UK legislation were not used in the plastic material or what assurance systems are in place, especially for plastic material collected outside of Europe.

10. Data was also lacking on whether packaging applications incorporating environmental, or OBP could be further recycled (depending on the material type).

11. The FCMJEG acknowledges the benefits of recycling environmental and OBPs and is supportive of any initiative to reduce environmental plastic pollution and promote a circular economy. However, as food packaging only accounts for a relatively small percentage (~ 8-16%) of total plastic applications the Group

considered that other more appropriate applications for OBP could be found (Smithers; Nistico, 2020). Given the uncertainties and potential difficulties to obtain compliance, the FCMJEG considered the use of recovered/recycled environmental and/or OBP in food contact applications over virgin or other suitable recycled plastics is unlikely to offer any advantages.

Conclusions and recommendations

12. The sources of the input material classed as environmental or OBP remain unclear and whether plastic obtained from these sources from outside of the UK would contain any additional plastic additives or contamination which differ to UK kerbside collected plastic has not yet been established.

13. While there is currently no guidance on the use of such materials in established recycling processes, evidence is required to inform and ensure compliance with the relevant assimilated UK regulations. To inform compliance it would need to be demonstrated that contamination of environmental or OBP collected for use as input material in established mechanical recycling processes was comparable to that of UK kerbside plastic. At the present time there remains uncertainty as to the overall contamination of environmental or OBP or the appropriate reference standards or contamination levels to use in an assessment. Therefore, it is challenging to carry out an accurate assessment. More work is required to address the data gaps to derive the reference contamination level from this source (e.g. is the 3 mg/kg reference level derived from the FAIR recyclability project for kerbside collections also applicable to environmental and OBP) and to allow an appropriate approach to be undertaken. Work will also be needed to assess the standard of proof/evidence that is required.

14. The FCMJEG acknowledges the benefits of recycling environmental, and OBP. However, based on the current evidence, the FCMJEG could not exclude a safety risk from the use of environmental or OBP in food contact materials, either in direct contact with food or behind a functional barrier.

Abbreviations

CMR	Carcinogenic, mutagenic or toxic to reproduction
EC	European Commission
FCM	Food contact materials
NIAS	Non-intentionally added substance
OBP	Ocean bound plastic
PET	Polyethylene terephthalate
COT	Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment
FCMJEG	Joint Expert Group on Food Contact Materials
FSA	UK’s Food Standards Agency

References

EC (European Commission) - Bayer F, Welle F, Franz R (2004). Guidance and criteria for safe recycling of post consumer polyethylene terephthalate (PET) into new food packaging applications.

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