

ADOPTED: 18 May 2022

doi: 10.2903/j.efsa.2022.7363

Safety assessment of the process SGR Société Générale de Recyclage, based on EREMA Basic technology, used to recycle post-consumer PET into food contact materials

EFSA Panel on Food Contact Materials, Enzymes and Processing Aids (CEP),
Claude Lambré, José Manuel Barat Baviera, Claudia Bolognesi, Andrew Chesson,
Pier Sandro Cocconcelli, Riccardo Crebelli, David Michael Gott, Konrad Grob,
Marcel Mengelers, Alicja Mortensen, Gilles Rivière, Inger-Lise Steffensen, Christina Tlustos,
Henk Van Loveren, Laurence Vernis, Holger Zorn, Vincent Dudler, Maria Rosaria Milana,
Constantine Pappaspyrides, Maria de Fátima Tavares Poças, Katharina Volk and Evgenia Lampi

Abstract

The EFSA Panel on Food Contact Materials, Enzymes and Processing Aids (CEP) assessed the safety of the recycling process SGR Société Générale de Recyclage (EU register number RECYC195), which uses the EREMA Basic technology. The input material is hot caustic washed and dried poly(ethylene terephthalate) (PET) flakes originating from collected post-consumer PET containers, including no more than 5% PET from non-food consumer applications. The flakes are heated in a continuous reactor under vacuum before being extruded. Having examined the challenge test provided, the Panel concluded that the continuous reactor (step 3, for which a challenge test was provided) is critical in determining the decontamination efficiency of the process. The operating parameters to control the performance of this step are temperature, pressure and residence time. It was demonstrated that this recycling process is able to ensure a level of migration of potential unknown contaminants into food below the conservatively modelled migration of 0.1 µg/kg food, derived from the exposure scenario for infants when such recycled PET is used at up to 100%. Therefore, the Panel concluded that the recycled PET obtained from this process is not considered to be of safety concern when used at up to 100% for the manufacture of materials and articles for contact with all types of foodstuffs, including drinking water, for long-term storage at room temperature. Articles made of this recycled PET are not intended to be used in microwave and conventional ovens and such uses are not covered by this evaluation.

© 2022 European Food Safety Authority. *EFSA Journal* published by Wiley-VCH GmbH on behalf of European Food Safety Authority.

Keywords: EREMA Basic, SGR Société Générale de Recyclage, food contact materials, plastic, poly(ethylene terephthalate) (PET), recycling process, safety assessment

Requestor: Direction générale de la concurrence, de la consommation et de la répression des fraudes, France

Question number: EFSA-Q-2019-00488

Correspondence: fip@efsa.europa.eu

Panel members: José Manuel Barat Baviera, Claudia Bolognesi, Andrew Chesson, Pier Sandro Cocconcelli, Riccardo Crebelli, David Michael Gott, Konrad Grob, Claude Lambré, Evgenia Lampi, Marcel Mengelers, Alicja Mortensen, Gilles Rivière, Vittorio Silano (until 21 December 2020†), Inger-Lise Steffensen, Christina Tlustos, Henk Van Loveren, Laurence Vernis and Holger Zorn.

Note: The full opinion will be published in accordance with Article 10(6) of Regulation (EC) No 1935/2004 once the decision on confidentiality, in line with Article 20(3) of the Regulation, will be received from the European Commission. Details of the performed challenge test (Sections 3.3.2 and 3.4) as well as the text and table on the operational parameters (Appendix C) have been provided under confidentiality and they are redacted awaiting the decision of the Commission.

Declarations of interest: The declarations of interest of all scientific experts active in EFSA's work are available at <https://ess.efsa.europa.eu/doi/doiweb/doisearch>.

Suggested citation: EFSA CEF Panel (EFSA Panel on Food Contact Materials, Enzymes and Processing Aids), Lambré C, Barat Baviera JM, Bolognesi C, Chesson A, Cocconcelli PS, Crebelli R, Gott DM, Grob K, Mengelers M, Mortensen A, Rivière G, Steffensen I-L, Tlustos C, Van Loveren H, Vernis L, Zorn H, Dudler V, Milana MR, Papaspyrides C, Tavares Poças MF, Volk K and Lampi E, 2022. Scientific Opinion on the safety assessment of the process SGR Société Générale de Recyclage, based on EREMA Basic technology, used to recycle post-consumer PET into food contact materials. *EFSA Journal* 2022;20(6):7363, 13 pp. <https://doi.org/10.2903/j.efsa.2022.7363>

ISSN: 1831-4732

© 2022 European Food Safety Authority. *EFSA Journal* published by Wiley-VCH GmbH on behalf of European Food Safety Authority.

This is an open access article under the terms of the [Creative Commons Attribution-NoDerivs](https://creativecommons.org/licenses/by/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited and no modifications or adaptations are made.



The EFSA Journal is a publication of the European Food Safety Authority, a European agency funded by the European Union.



† Deceased.

Table of contents

Abstract.....	1
1. Introduction.....	4
1.1. Background and Terms of Reference as provided by the requestor.....	4
2. Data and methodologies.....	4
2.1. Data.....	4
2.2. Methodologies.....	5
3. Assessment.....	5
3.1. General information.....	5
3.2. Description of the process.....	5
3.2.1. General description.....	5
3.2.2. Characterisation of the input.....	6
3.3. EREMA basic technology.....	6
3.3.1. Description of the main steps.....	6
3.3.2. Decontamination efficiency of the recycling process.....	6
3.4. Discussion.....	7
4. Conclusions.....	9
5. Recommendations.....	9
6. Documentation provided to EFSA.....	9
References.....	9
Abbreviations.....	10
Appendix A – Technical specifications of the washed flakes as provided by the applicant.....	11
Appendix B – Relationship between the key parameters for the evaluation scheme (EFSA CEF Panel, 2011)....	12
Appendix C – Table on operational parameters (Confidential Information).....	13

1. Introduction

1.1. Background and Terms of Reference as provided by the requestor

Recycled plastic materials and articles shall only be placed on the market if the recycled plastic is from an authorised recycling process. Before a recycling process is authorised, the European Food Safety Authority (EFSA)'s opinion on its safety is required. This procedure has been established in Article 5 of Regulation (EC) No 282/2008¹ on recycled plastic materials intended to come into contact with foods and Articles 8 and 9 of Regulation (EC) No 1935/2004² on materials and articles intended to come into contact with food.

According to this procedure, the industry submits applications to the competent authorities of Member States, which transmit the applications to EFSA for evaluation.

In this case, EFSA received from the Competent Authority of France (Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes), an application for evaluation of the recycling process SGR Société Générale de Recyclage, European Union (EU) register No RECYC195. The request has been registered in EFSA's register of received questions under the number EFSA-Q-2019-00488. The dossier was submitted on behalf of SGR Société Générale de Recyclage, France.

According to Article 5 of Regulation (EC) No 282/2008 of the Commission of 27 March 2008 on recycled plastic materials intended to come into contact with foods, EFSA is required to carry out risk assessments on the risks originating from the migration of substances from recycled food contact plastic materials and articles into food and deliver a scientific opinion on the recycling process examined.

According to Article 4 of Regulation (EC) No 282/2008, EFSA will evaluate whether it has been demonstrated in a challenge test, or by other appropriate scientific evidence, that the recycling process is able to reduce the contamination of the plastic input to a concentration that does not pose a risk to human health. The poly(ethylene terephthalate) (PET) materials and articles used as input of the process as well as the conditions of use of the recycled PET are part of this evaluation.

2. Data and methodologies

2.1. Data

The applicant has submitted a dossier following the 'EFSA guidelines for the submission of an application for the safety evaluation of a recycling process to produce recycled plastics intended to be used for the manufacture of materials and articles in contact with food, prior to its authorisation' (EFSA, 2008).

Additional information was provided by the applicant during the assessment process in response to requests from EFSA sent on 22 October 2020, 24 February 2021, 17 December 2021 and 28 February 2022 (see '[Documentation provided to EFSA](#)').

Following the request for additional data sent by EFSA on 22 October 2020, the applicant requested a clarification teleconference, which was held on 13 November 2020.

The following information on the recycling process was provided by the applicant and used for the evaluation:

- General information:
 - general description,
 - existing authorisations.
- Specific information:
 - recycling process,
 - characterisation of the input,
 - determination of the decontamination efficiency of the recycling process,
 - characterisation of the recycled plastic,
 - intended application in contact with food,

¹ Commission Regulation (EC) No 282/2008 of 27 March 2008 on recycled plastic materials and articles intended to come into contact with foods and amending Regulation (EC) No 2023/2006. OJ L 86, 28.3.2008, p. 9–18.

² Regulation (EC) No 1935/2004 of the European parliament and of the council of 27 October 2004 on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC. OJ L 338, 13.11.2004, p. 4–17.

- compliance with the relevant provisions on food contact materials and articles,
- process analysis and evaluation,
- operating parameters.

2.2. Methodologies

The principles followed for the evaluation are described here. The risks associated with the use of recycled plastic materials and articles in contact with food come from the possible migration of chemicals into the food in amounts that would endanger human health. The quality of the input, the efficiency of the recycling process to remove contaminants as well as the intended use of the recycled plastic are crucial points for the risk assessment (EFSA, 2008).

The criteria for the safety evaluation of a mechanical recycling process to produce recycled PET intended to be used for the manufacture of materials and articles in contact with food are described in the scientific opinion developed by the EFSA Panel on Food Contact Materials, Enzymes, Flavourings and Processing Aids (EFSA CEF Panel, 2011). The principle of the evaluation is to apply the decontamination efficiency of a recycling technology or process, obtained from a challenge test with surrogate contaminants, to a reference contamination level for post-consumer PET, conservatively set at 3 mg/kg PET for contaminants resulting from possible misuse. The resulting residual concentration of each surrogate contaminant in recycled PET (C_{res}) is compared with a modelled concentration of the surrogate contaminants in PET (C_{mod}). This C_{mod} is calculated using generally recognised conservative migration models so that the related migration does not give rise to a dietary exposure exceeding 0.0025 $\mu\text{g}/\text{kg}$ body weight (bw) per day (i.e. the human exposure threshold value for chemicals with structural alerts for genotoxicity), below which the risk to human health would be negligible. If the C_{res} is not higher than the C_{mod} , the recycled PET manufactured by such recycling process is not considered to be of safety concern for the defined conditions of use (EFSA CEF Panel, 2011).

The assessment was conducted in line with the principles described in the EFSA Guidance on transparency in the scientific aspects of risk assessment (EFSA, 2009) and considering the relevant guidance from the EFSA Scientific Committee.

3. Assessment

3.1. General information³

According to the applicant, the recycling process SGR Société Générale de Recyclage is intended to recycle food grade PET containers using the EREMA Basic technology. The recycled PET is intended to be used at up to 100% by converters for the manufacture of materials and articles to be in direct contact with all kinds of foodstuff, such as bottles for mineral water, carbonated drinks, fruit juices, beer, etc. and thermoformed food trays, for long-term food storage at room temperature, with or without hotfill. The final articles are not intended to be used in microwave or conventional ovens.

3.2. Description of the process

3.2.1. General description⁴

The recycling process SGR Société Générale de Recyclage produces recycled PET pellets from PET containers from post-consumer collection systems (kerbside and deposit systems).

The recycling process comprises the four steps below.

Input

- In step 1, the post-consumer PET containers are processed into hot caustic washed and dried flakes. This step is performed by third parties.
- In step 2, the flakes are mixed and sorted.

Decontamination and production of recycled PET material

- In step 3, the flakes are crystallised and decontaminated under high temperature and vacuum.
- In step 4, the decontaminated flakes are extruded to produce pellets.

³ Technical dossier, Section 3.2.4.

⁴ Technical dossier, Sections 3.1.1, 3.2.1 and 3.2.3.3.

The operating conditions of the process have been provided to EFSA.

Pellets, the final product of the process, are checked against technical requirements, such as moisture, intrinsic viscosity, bulk density, black spots, weight, colour and acetaldehyde.

3.2.2. Characterisation of the input⁵

According to the applicant, the input material for the recycling process SGR Société Générale de Recyclage consists of hot washed and dried flakes obtained from PET containers, e.g. bottles, previously used for food packaging, from post-consumer collection systems (kerbside and deposit systems). A small fraction may originate from non-food applications. According to the applicant, the proportion will be no more than 5%.

Technical specifications on the hot washed and dried flakes are provided, such as information on physical properties and on residual contents of poly(vinyl chloride) (PVC), metal, wood, bulk density, moisture and colour (see Appendix A).

3.3. EREMA Basic technology

3.3.1. Description of the main steps⁶

The general scheme of the EREMA Basic technology, as provided by the applicant, is reported in Figure 1. The steps are:

- Decontamination in a continuous reactor (step 3):

The flakes are continuously fed into a reactor equipped with a rotating device, running under high temperature and vacuum for a pre-defined minimum residence time.

- Extrusion of the decontaminated flakes (step 4):

The flakes, continuously introduced from the previous reactor, are molten in the extruder. Residual solid particles are filtered out of the extruded plastic before the melt is converted into pellets.

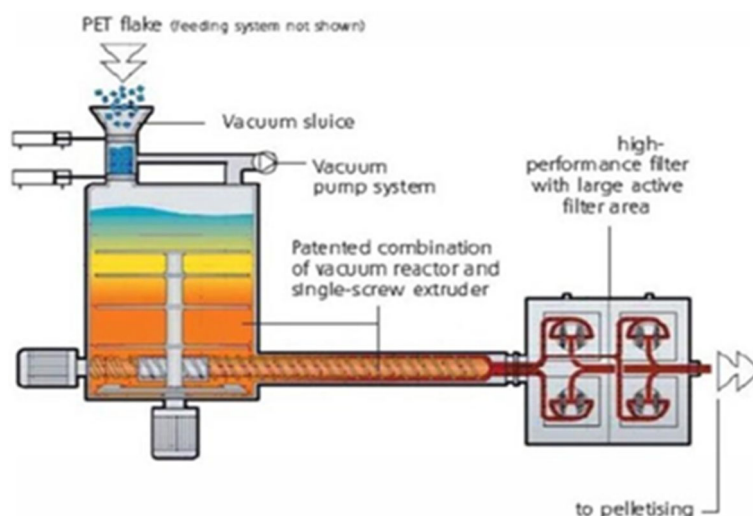


Figure 1: General scheme of the technology (provided by the applicant)

The process is run under defined operating parameters⁷ of temperature, pressure and residence time.

3.3.2. Decontamination efficiency of the recycling process⁸

To demonstrate the decontamination efficiency of the recycling process SGR Société Générale de Recyclage, a challenge test on step 3 was submitted to the EFSA.

⁵ Technical dossier, Sections 3.2.2 and 3.2.3.1.

⁶ Technical dossier, Sections 3.1.1 and 3.2.1.

⁷ In accordance with Art. 9 and 20 of Regulation (EC) No 1935/2004 the parameters were provided to EFSA by the applicant and made available to the Member States and the European Commission (see Appendix C).

⁸ Technical dossier, Section 3.2.2.5, Appendix III and Appendix VIII.

PET flakes were contaminated with toluene, chlorobenzene, chloroform, methyl salicylate, phenylcyclohexane, benzophenone and methyl stearate, selected as surrogate contaminants in agreement with the EFSA guidelines (EFSA CEF Panel, 2011) and in accordance with the recommendations of the US Food and Drug Administration (FDA, 2006). The surrogates include different molecular masses and polarities to cover possible chemical classes of contaminants of concern and were demonstrated to be suitable to monitor the behaviour of PET during recycling (EFSA, 2008).

Solid surrogates (benzophenone and methyl stearate) and liquid surrogates (toluene, chlorobenzene, chloroform, methyl salicylate and phenylcyclohexane) were added to [REDACTED] of conventionally recycled⁹ post-consumer PET flakes. [REDACTED]

[REDACTED] the concentrations of the surrogates in the flakes were determined.

Step 3 of the EREMA Basic technology was challenged at an [REDACTED]. The contaminated flakes ([REDACTED]) were fed into the decontamination reactor. Samples were taken during the filling and at the outlet of the reactor, then analysed for their concentrations of the applied surrogates.

Instead of being operated continuously (as in the industrial process), the challenge test was run in batch mode. The Panel considered that the reactor ran at the same temperature and pressure as foreseen for the industrial process. [REDACTED]

[REDACTED] Based on the results, the Panel concluded that the residence time in the challenge test batch reactor corresponded to the minimum residence time in the industrial continuous reactor.

The decontamination efficiency of the process was calculated from the concentrations of the surrogates measured in the washed contaminated flakes introduced and those exiting the EREMA Basic reactor (step 3). The results are summarised in Table 1.

Table 1: Efficiency of the decontamination of the continuous reactor (step 3) in the challenge test

Surrogates	Concentration of surrogates before step 3 (mg/kg PET)	Concentration of surrogates after step 3 (mg/kg PET)	Decontamination efficiency (%)
Toluene	391.3	0.9	99.8
Chlorobenzene	699.5	3.0	99.6
Chloroform	166.7	4.2	97.5
Methyl salicylate	982.6	6.4	99.3
Phenylcyclohexane	625.3	15.4	97.5
Benzophenone	927.1	22.4	97.6
Methyl stearate	1,599.1	15.8	99.0

PET: poly(ethylene terephthalate).

The decontamination efficiency ranged from 97.5% for chloroform and phenylcyclohexane up to 99.8% for toluene.

3.4. Discussion

Considering the high temperatures used during the process, the possibility of contamination by microorganisms can be discounted. Therefore, this evaluation focuses on the chemical safety of the final product.

Technical specifications, such as information on physical properties and residual contents of PVC, metal, wood, bulk density, moisture and colour, were provided for the input materials (hot caustic washed and dried flakes, step 1). These are produced from PET containers, e.g. bottles, previously used for food packaging, collected through post-consumer collection systems. However, a small fraction may originate from non-food applications, such as bottles for soap, mouth wash or kitchen

⁹ Conventional recycling commonly includes sorting, grinding, washing and drying steps and produces washed and dried flakes.

hygiene agents. According to the applicant, the collection system and the process are managed in such a way that in the input stream, this fraction will be no more than 5%, as recommended by the EFSA CEF Panel in its 'Scientific opinion on the criteria to be used for safety evaluation of a mechanical recycling process to produce recycled PET intended to be used for manufacture of materials and articles in contact with food' (EFSA CEF Panel, 2011).

The process is adequately described. The washing and drying of the flakes from the collected PET containers (step 1) is conducted by third parties and, according to the applicant, this step is under control. The EREMA Basic technology comprises the continuous decontamination reactor (step 3) and extrusion (step 4). The operating parameters of temperature, pressure and residence time have been provided to EFSA.

A challenge test to measure the decontamination efficiency was conducted at [REDACTED] on the process step 3 (decontamination reactor). The reactor was operated under pressure and temperature conditions as well as residence time equivalent to or less severe than those of the commercial process. Since step 3 was conducted with only contaminated flakes, cross-contamination could not occur. The Panel considered that this challenge test was performed correctly according to the recommendations of the EFSA guidelines (EFSA, 2008) and that step 3 was critical for the decontamination efficiency of the process. Consequently, temperature, pressure and residence time of step 3 of the process should be controlled to guarantee the performance of the decontamination (Appendix C).

The decontamination efficiencies obtained for each surrogate, ranging from 97.5% to 99.8%, have been used to calculate the residual concentrations of potential unknown contaminants in PET (C_{res}) according to the evaluation procedure described in the 'Scientific opinion on the criteria to be used for safety evaluation of a mechanical recycling process to produce recycled PET' (EFSA CEF Panel, 2011; Appendix B). By applying the decontamination percentages to the reference contamination level of 3 mg/kg PET, the C_{res} for the different surrogates was obtained (Table 2).

According to the evaluation principles (EFSA CEF Panel, 2011), the dietary exposure must not exceed 0.0025 $\mu\text{g}/\text{kg}$ bw per day, below which the risk to human health is considered negligible. The C_{res} value should not exceed the modelled concentration in PET (C_{mod}) that could result, after 1 year at 25°C, in a migration giving rise to a dietary exposure exceeding 0.0025 $\mu\text{g}/\text{kg}$ bw per day. Because the recycled PET is intended for the manufacture of trays and bottles (also for drinking water), the exposure scenario for infants has been applied (water could be used to prepare infant formula). A maximum dietary exposure of 0.0025 $\mu\text{g}/\text{kg}$ bw per day corresponds to a maximum migration of 0.1 $\mu\text{g}/\text{kg}$ of the contaminant into the infant's food and has been used to calculate C_{mod} (EFSA CEF Panel, 2011). C_{res} reported in Table 2 is calculated for 100% recycled PET, for which the risk to human health is demonstrated to be negligible. The relationship between the key parameters for the evaluation scheme is reported in Appendix B.

Table 2: Decontamination efficiency from the challenge test, residual concentrations of the surrogates in the recycled PET (C_{res}) and calculated concentrations of the surrogates in PET (C_{mod}) corresponding to a modelled migration of 0.1 $\mu\text{g}/\text{kg}$ food after 1 year at 25°C

Surrogates	Decontamination efficiency (%)	C_{res} for 100% rPET (mg/kg PET)	C_{mod} (mg/kg PET)
Toluene	99.8	0.01	0.09
Chlorobenzene	99.6	0.01	0.09
Chloroform	97.5	0.08	0.10
Methyl salicylate	99.3	0.02	0.13
Phenylcyclohexane	97.5	0.08	0.14
Benzophenone	97.6	0.07	0.16
Methyl stearate	99.0	0.03	0.32

PET: poly(ethylene terephthalate); rPET: recycled poly(ethylene terephthalate).

On the basis of the provided data from the challenge test and the applied conservative assumptions, the Panel considered that under the given operating conditions the recycling process SGR Société Générale de Recyclage using the EREMA Basic technology is able to ensure that the level of migration of unknown contaminants from the recycled PET into food is below the conservatively modelled migration of 0.1 $\mu\text{g}/\text{kg}$ food. At this level, the risk to human health is considered negligible

when the recycled PET is used at up to 100% to produce materials and articles intended for contact with all types of foodstuffs including drinking water.

4. Conclusions

The Panel considered that the SGR Société Générale de Recyclage recycling process using the EREMA Basic technology is adequately characterised and that the critical step to decontaminate the PET is identified. Having examined the challenge test provided, the Panel concluded that temperature, pressure and residence time in the continuous reactor of step 3, are critical for the decontamination efficiency.

The Panel concluded that the recycling process SGR Société Générale de Recyclage is able to reduce foreseeable accidental contamination of post-consumer food contact PET to a concentration that does not give rise to concern for a risk to human health if:

- i) it is operated under conditions that are at least as severe as those applied in the challenge test used to measure the decontamination efficiency of the process;
- ii) the input material of the process is washed and dried post-consumer PET flakes originating from materials and articles that have been manufactured in accordance with the EU legislation on food contact materials and contain no more than 5% of PET is from non-food consumer applications;
- iii) the recycled PET is used at up to 100% for the manufacture of materials and articles for contact with all types of foodstuff, including drinking water, for long-term storage at room temperature, with or without hotfill.

The final articles made of this recycled PET are not intended to be used in microwave and conventional ovens and such uses are not covered by this evaluation.

5. Recommendations

The Panel recommended periodic verification that the input material to be recycled originates from materials and articles that have been manufactured in accordance with the EU legislation on food contact materials and that the proportion of PET from non-food consumer applications is no more than 5%. This adheres to good manufacturing practice and the Regulation (EC) No 282/2008, Art. 4b. Critical steps in recycling should be monitored and kept under control. In addition, supporting documentation should be available on how it is ensured that the critical steps are operated under conditions at least as severe as those in the challenge test used to measure the decontamination efficiency of the process.

6. Documentation provided to EFSA

- 1) Dossier 'SGR Société Générale de Recyclage'. July 2019. Submitted by SGR Société Générale de Recyclage, France.
- 2) Additional information, December 2020. Submitted by SGR Société Générale de Recyclage, France.
- 3) Additional information, November 2021. Submitted by SGR Société Générale de Recyclage, France.
- 4) Additional information, February 2022. Submitted by SGR Société Générale de Recyclage, France.
- 5) Additional information, March 2022. Submitted by SGR Société Générale de Recyclage, France.

References

- EFSA (European Food Safety Authority), 2008. Guidelines for the submission of an application for safety evaluation by the EFSA of a recycling process to produce recycled plastics intended to be used for manufacture of materials and articles in contact with food, prior to its authorisation. EFSA Journal 2008;6(7):717, 12 pp. <https://doi.org/10.2903/j.efsa.2008.717>
- EFSA (European Food Safety Authority), 2009. Guidance of the Scientific Committee on transparency in the scientific aspects of risk assessments carried out by EFSA. Part 2: general principles. EFSA Journal 2009;7(5):1051, 22 pp. <https://doi.org/10.2903/j.efsa.2009.1051>
- EFSA CEF Panel (EFSA Panel on Food Contact Materials, Enzymes, Flavourings and Processing Aids), 2011. Scientific opinion on the criteria to be used for safety evaluation of a mechanical recycling process to produce recycled PET intended to be used for manufacture of materials and articles in contact with food. EFSA Journal 2011;9(7):2174, 25 pp. <https://doi.org/10.2903/j.efsa.2011.2184>

FDA (Food and Drug Administration), 2006. Guidance for industry: use of recycled plastics in food packaging: chemistry considerations. Available online: <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/guidance-industry-use-recycled-plastics-food-packaging-chemistry-considerations>

Abbreviations

bw	body weight
CEF Panel	Panel on Food Contact Materials, Enzymes, Flavourings and Processing Aids
CEP Panel	Panel on Food Contact Materials, Enzymes and Processing Aids
C_{mod}	modelled concentration in PET
C_{res}	residual concentration in PET
PET	poly(ethylene terephthalate)
PVC	poly(vinyl chloride)
rPET	recycled poly(ethylene terephthalate)
SGR	Société Générale de Recyclage

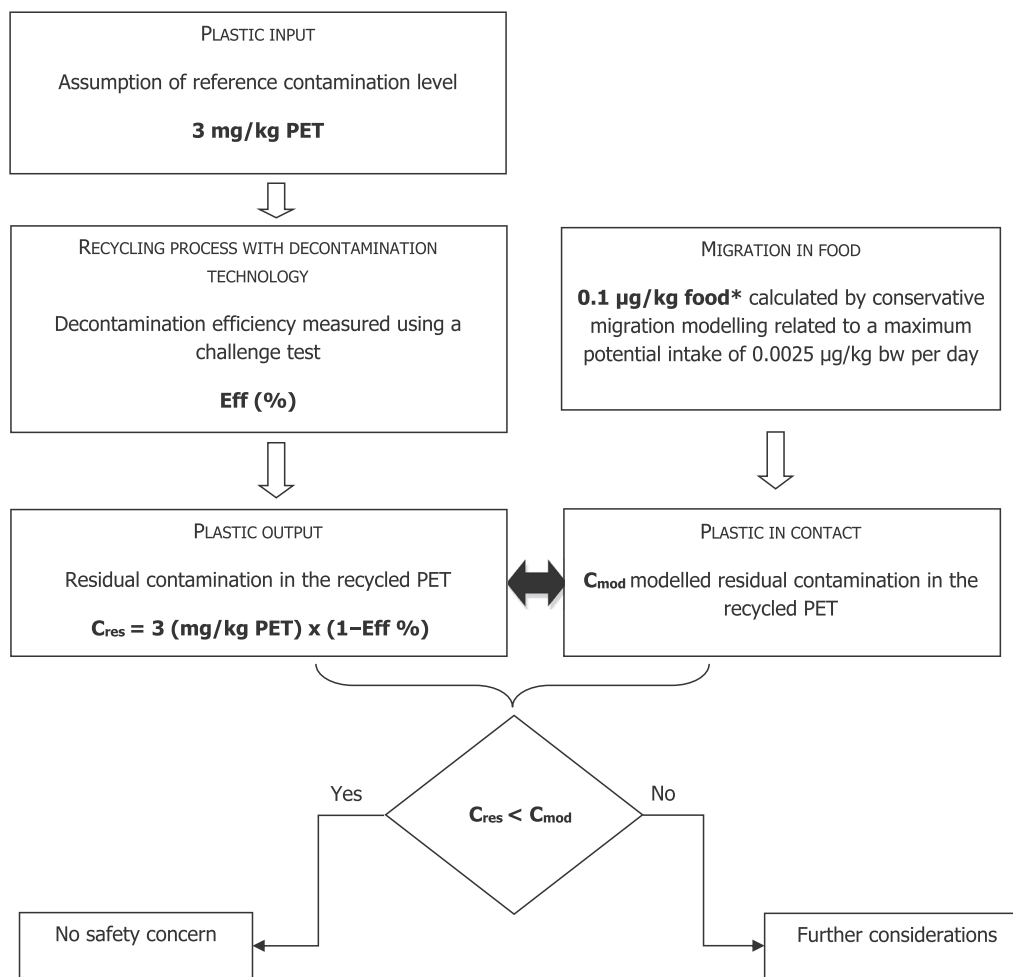
Appendix A – Technical specifications of the washed flakes as provided by the applicant¹⁰

Parameter	Value
Bouchon/Cap	< 5 mg/kg
PVC max.	< 15 mg/kg
Metals max.	< 5 mg/kg
Wood	< 10 mg/kg
Labels	< 5 mg/kg
Others	< 10 mg/kg
Coloured flakes	< 50 mg/kg
Bulk density	290–400 kg/m ³
Moisture max.	1.0%
Colour	Light blue
Type	Flakes 8–12 mm

PVC: poly(vinyl chloride).

¹⁰ Technical dossier, Section 3.2.3.1.

Appendix B – Relationship between the key parameters for the evaluation scheme (EFSA CEF Panel, 2011)



*: Default scenario (infant). For adults and toddlers, the migration criterion will be 0.75 and 0.15 µg/kg food, respectively. The figures are derived from the application of the human exposure threshold value of 0.0025 µg/kg bw per day applying a factor of 5 related to the overestimation of modelling.

Appendix C – Table on operational parameters (Confidential Information)¹¹

[Redacted content]

[Redacted]						
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

¹¹ Technical dossier, Section 3.2.1.2.5 and Appendix III.