



WEBINAR: GUIDANCE ON MECHANICAL PET RECYCLING

20 FEBRUARY 2024

INTRODUCTION AND OUTLINE OF WEBINAR

- **Objectives**

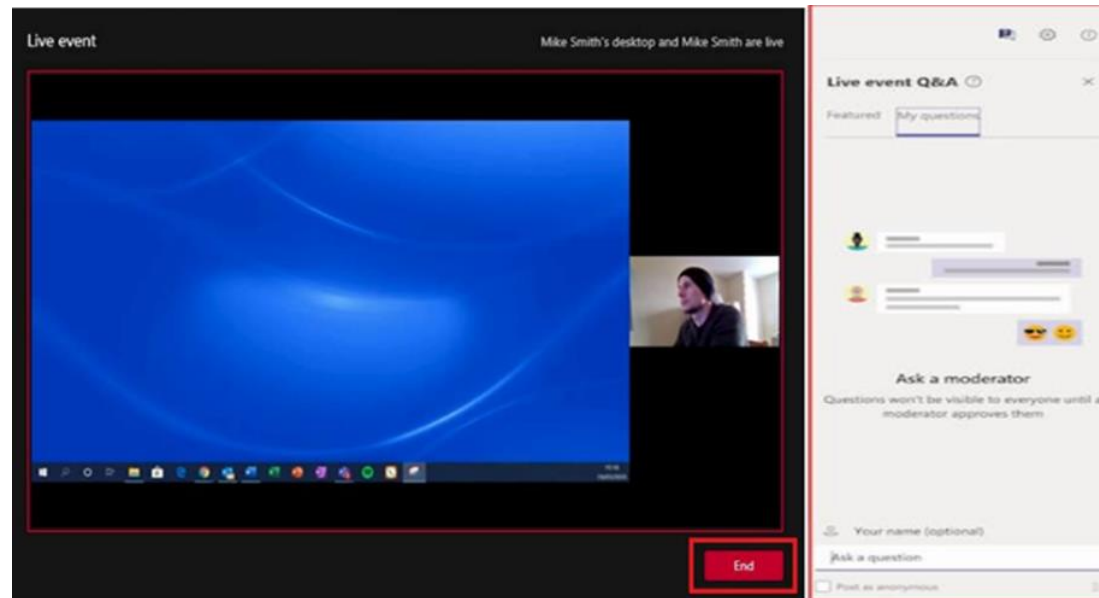
- To present the draft guidance document on post-consumer mechanical PET recycling processes, focusing mainly on
 - the criteria for the evaluation of such recycling processes, and
 - the requirements for the content of the technical dossier to be submitted by an applicant in the context of an application for authorization
- To provide context for the public consultation on this draft scientific guidance document
 - endorsed by the EFSA Panel on Food Contact Materials, Enzymes and Processing Aids (CEP Panel) on 31 January 2024
 - made available for public consultation from 7 February until 20 March 2024.



HOUSE KEEPING RULES

- You are **automatically connected** to the audio broadcast. One-way audio (**listen only** mode).
- The **event is in English**. Questions should be submitted in **English** via the **Q&A chat**;
- This event is **being recorded** and recordings will be published on EFSA's website; log of questions and answers will not be published;
- After the event, attendees will receive a **link to a survey** to evaluate the EFSA's event & services

Presentation
window



Q&A box:
For any questions related to the topic or unexpected IT issues



OUT OF SCOPE - WEBINAR AND Q&A

- Interpretation of Regulation (EU) 2022/1616. *For instance:*
 - Authorisation process;
 - Declaration of compliance for single batch;
 - Role of Member State Competent Authorities (e.g. audit, controls);
 - Role of converters/recyclers
 - Levels of contaminants in input materials
- Limit to the content of recycled PET (rPET)
- Novel technologies and other polymers than PET
- Functional barriers
- Questions related to specific case for submission of applications (**Ask a Question or General pre-submission advice, GPSA**)
- Any other risk management topic/questions not in the EFSA's remit (**European Commission**)
- Comments that should be submitted during the public consultation. *Examples:*
 - Proposals/comments on how to rinse the contaminated flakes to remove surface contamination
 - Infant/drinking water scenario applied to tray-to-tray recycling



AGENDA



Time



Topic



Speaker

Time	Topic	Speaker
10:00-10:05	Opening of the event: introduction and outline of webinar	Sandra Rainieri
10:05-10:15	Introduction to the mandate and scope of the draft guidance	Katharina Volk
10:15-10:35	Evaluation criteria	Evgenia Lampi
10:35-10:45	Q&A session 1	Evgenia Lampi Alexis Lioupis Katharina Volk
10:45-11:05	Content of the technical dossier	Alexis Lioupis
11:05-11:10	Public consultation	Katharina Volk
11:10-11:25	Q&A session 2	Evgenia Lampi Alexis Lioupis Katharina Volk
11:25-11:30	Closing of the event: wrap-up and farewell	Sandra Rainieri

• Who are we

• Presenters

Katharina Volk, Evgenia Lampi, Alexandros Lioupis

• Moderator

Sandra Rainieri

• Contributors

Costanza Casiraghi,
Gianluca Colombo,
Remigio Marano,
Emmanouil Tsochatzis





INTRODUCTION TO THE MANDATE AND SCOPE OF THE DRAFT GUIDANCE

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BACKGROUND

- Core documents related to EFSA's work on the safety evaluation of recycling processes:
- **Scientific guidance:**
 - Criteria for safety evaluation of PET recycling processes (2011):
<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2011.2184>
 - Guidelines on recycling plastics (2008; administrative update in 2021 for alignment with the Transparency Regulation):
<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2008.717>
- **Administrative guidance (2021):**
<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2021.EN-6512>



BACKGROUND

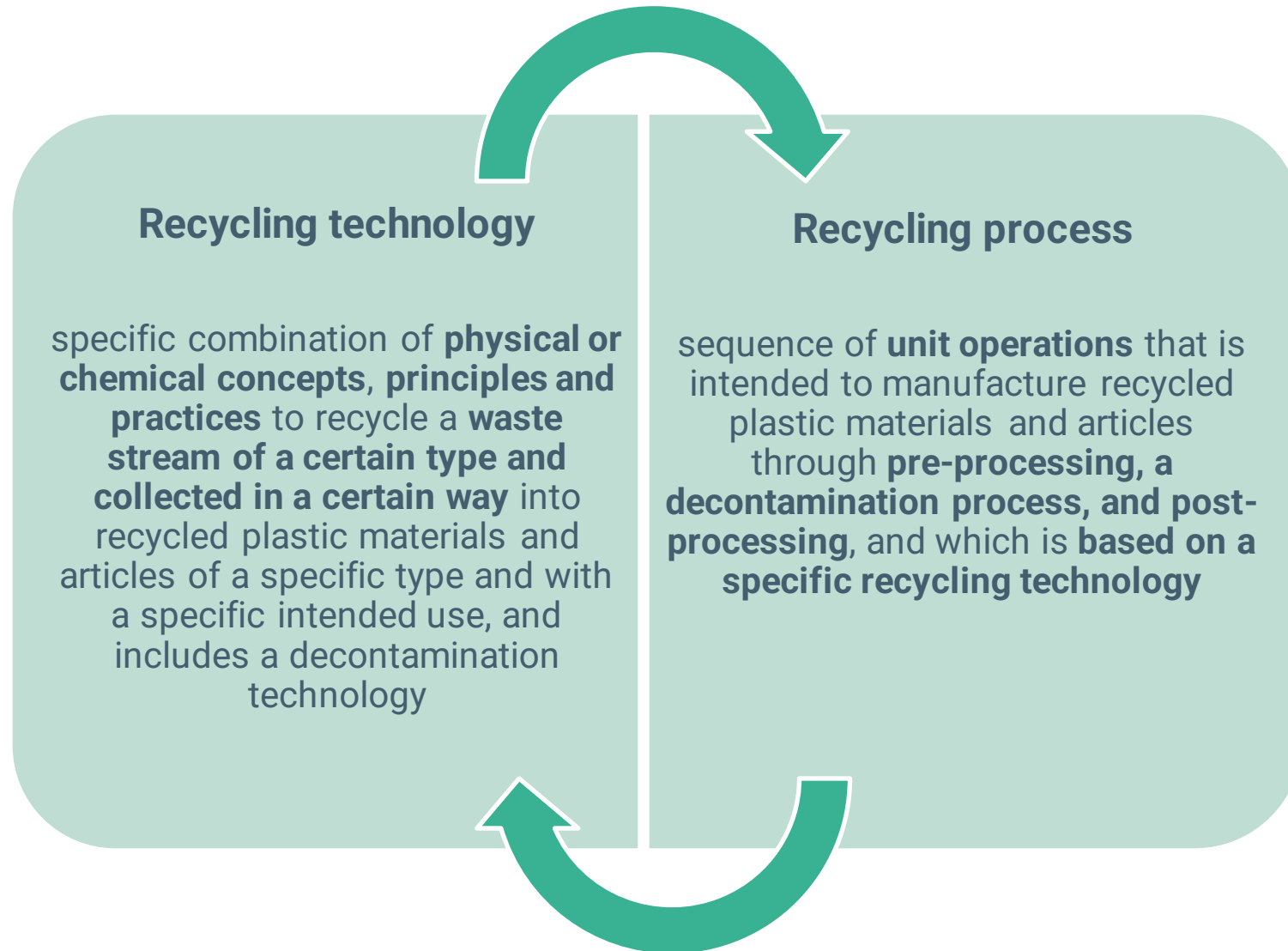
- October 2022: entry into force of [Regulation \(EU\) 2022/1616](#) on recycled plastics for food contact, and repealing Regulation (EC) No 282/2008
- New concepts and terminologies
- New procedures (suitable vs novel technologies)
- New requirements for the technical dossier to be submitted by an applicant



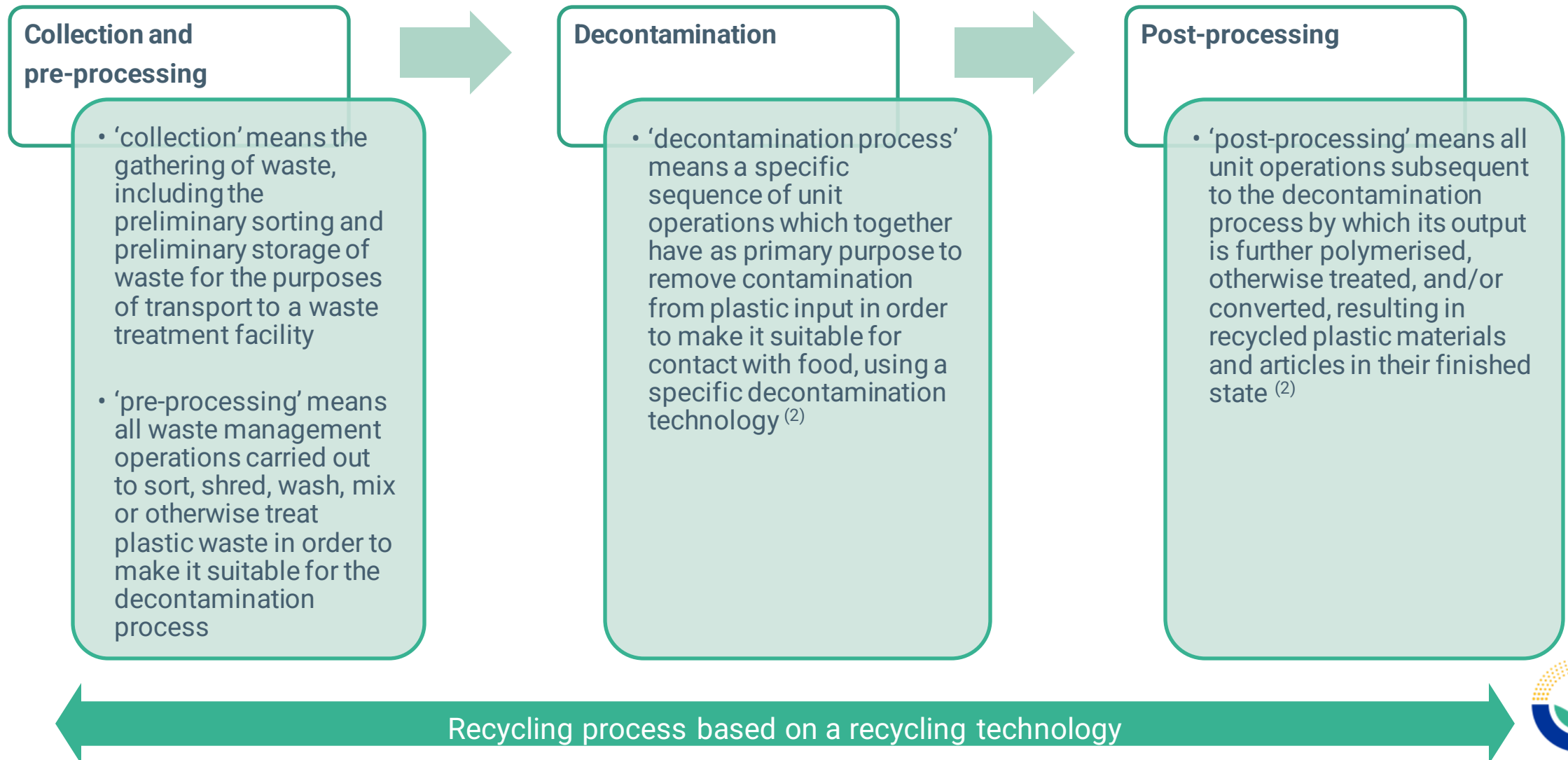
Need for updating EFSA's guidance documents for the area of recycling plastics



SCOPE OF THE GUIDANCE: DEFINITIONS



SCOPE OF THE GUIDANCE: DEFINITIONS



MANDATE

- Request for EFSA to prepare guidance documents laid down in **Article 20** of Regulation (EU) 2022/1616

Article 20

Guidance published by the Authority

1. The Authority shall publish detailed guidance, following the agreement with the Commission, concerning the preparation and the submission of the application, taking into account standard data formats, where they exist in accordance with Article 39f of Regulation (EC) No 178/2002, which shall apply *mutatis mutandis*.
2. For each suitable recycling technology for which the authorisation of individual recycling processes is required, the Authority shall publish scientific guidance describing the evaluation criteria and the scientific evaluation approach it will use to evaluate the decontamination capability of those recycling processes. The guidance shall specify the information required to be included in an application dossier for the authorisation of a recycling process applying that specific technology.



MANDATE

- EFSA internal mandate for the preparation of a **scientific guidance on post-consumer mechanical PET recycling** processes intended to be used for manufacture of materials and articles in contact with food

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Recycling technology number	Technology name	Polymer type (detailed specification in Table 2)	Short description of the recycling technology (detailed specification in Table 3)	Specification of plastic input	Specification of output	Subject to the authorisation of individual processes
1	Post-consumer mechanical PET recycling	PET (2.1)	Mechanical recycling (3.1)	Only PET PCW containing maximum 5 % of materials and articles that were used in contact with non-food materials or substances.	Decontaminated PET, final materials and articles not to be used in microwave and conventional ovens; additional specifications may apply to output from individual processes	Yes

- The development of guidance for other technologies and/or plastics may be considered in the future, in line with the procedures set out for novel technologies in Regulation (EU) 2022/1616



TERMS OF REFERENCE

- Prepare a **scientific guidance on post-consumer mechanical PET recycling processes intended to be used for manufacture of materials and articles in contact with food.**
- Starting point: the **previously published scientific outputs** providing the context for the evaluation of recycling processes (i.e. guidelines on recycling plastics (EFSA, 2008) and criteria for safety evaluation of PET recycling processes (EFSA CEF Panel, 2011)) **should be**

1) **updated**, taking into account the new legislative context of Regulation (EU) 2022/1616 as well as new scientific evidence, if available, and

2) **integrated into one scientific guidance**, presenting

- the evaluation criteria and the scientific evaluation approach that will be used to evaluate the decontamination capability of such recycling processes, and
- the requirements for the content of the technical dossier.

- The task should be completed by **30 June 2024**.



ADMINISTRATIVE GUIDANCE

TECHNICAL REPORT



APPROVED: 9 March 2021

IMPLEMENTATION DATE: 27 March 2021

doi:10.2903/sp.efsa.2021.EN-6512

Administrative guidance for the preparation of applications on recycling processes to produce recycled plastics intended to be used for manufacture of materials and articles in contact with food

European Food Safety Authority (EFSA)

- Update in consideration of
 - the new legislative requirements of Regulation (EU) 2022/1616
 - the requirements laid down in the draft scientific guidance
- Updated version will be published alongside the scientific guidance in summer 2024





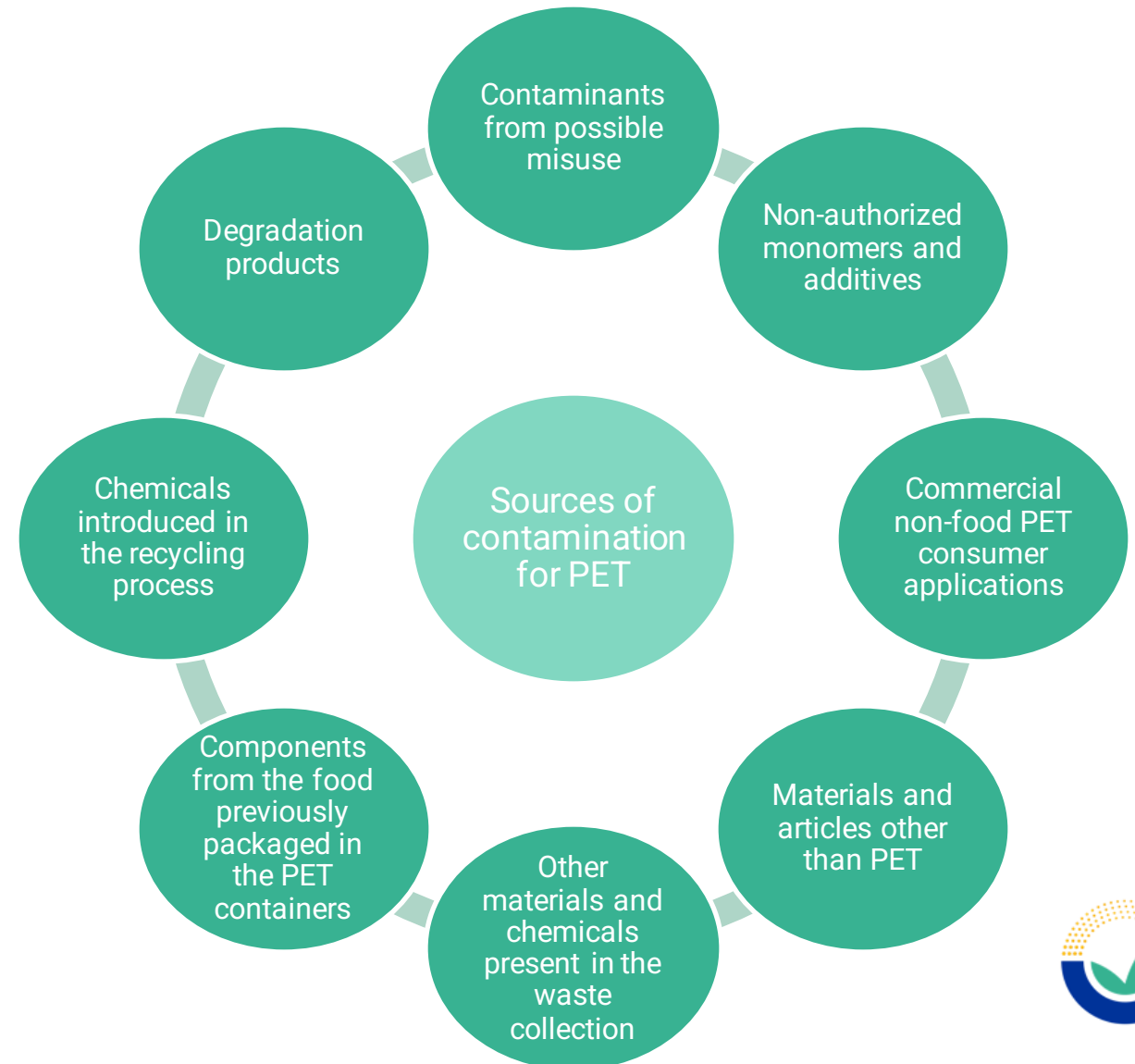
EVALUATION CRITERIA

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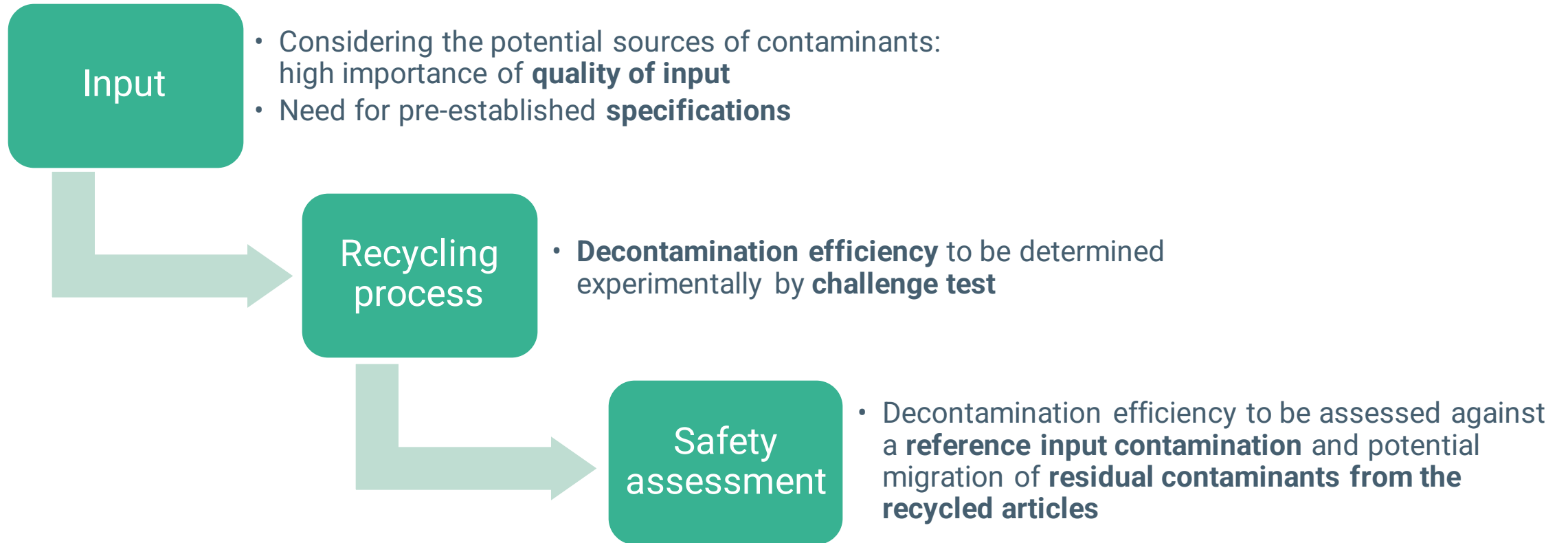


GENERAL PRINCIPLES FOR SAFETY ASSESSMENT OF RECYCLED PLASTICS FOR FOOD CONTACT

- Health risks associated with use of recycled plastic FCMs due to possible migration into the packaged food of contaminants present in the recycled plastic.
- The recycling process must be capable of applying the suitable technology for PET so that **plastic materials and articles manufactured with it meet Article 3 of Regulation (EC) No 1935/2004**, e.g. they do not transfer their constituents to food in quantities which could endanger human health, **and are also microbiologically safe**



GENERAL PRINCIPLES FOR SAFETY ASSESSMENT OF RECYCLED PLASTICS FOR FOOD CONTACT



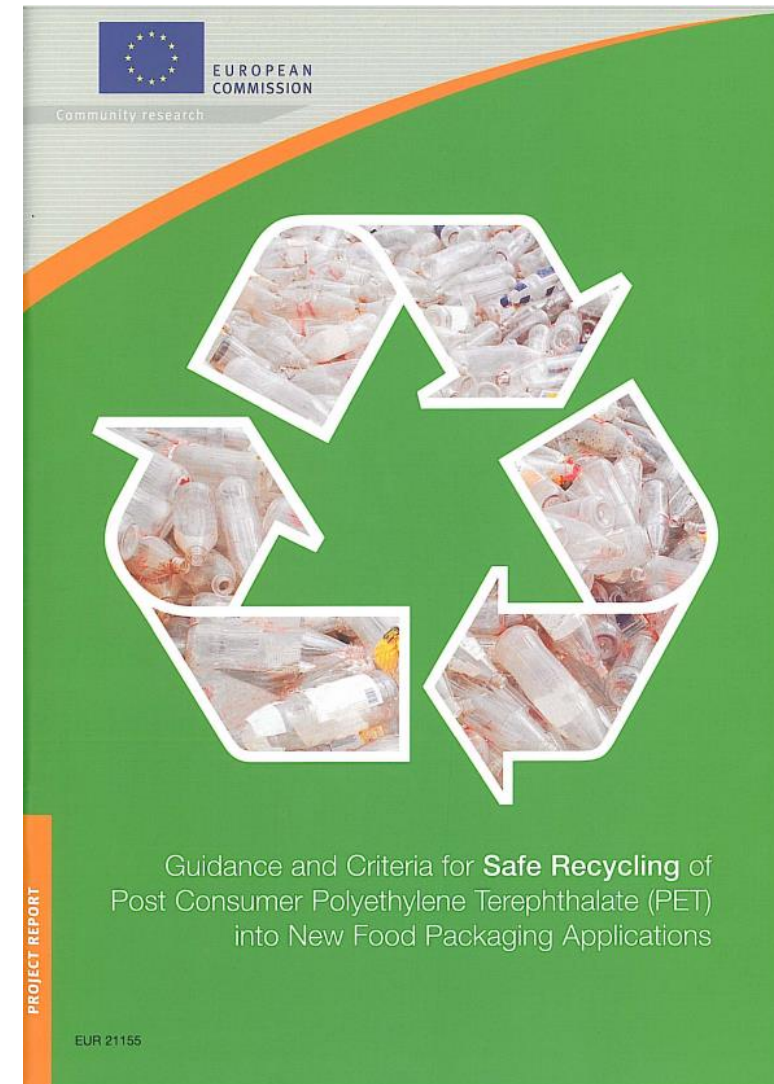
REFERENCE CONTAMINATION LEVEL

Main source of data/information:

EU project FAIR-CT98-4318 'Recyclability'

- **washed and dried post-consumer PET flakes** obtained from thousands (7,000-10,000) of soft drink bottles collected in 12 European countries
- most typical post-consumer contaminant: limonene at an average concentration of 2.9 mg/kg and at a maximum of about 20 mg/kg
- **Misuse** contamination in **three cases** of washed and dried PET flakes:
 - Xylene: 2,000-3,000 mg/kg, Toluene: 2,000-3,000 mg/kg and 4,500-6,750 mg/kg
- Incidence of misuse: 0.03-0.04% → highest concentration of toluene: 1.4 to 2.7 mg/kg PET

Reference contamination level: 3 mg/kg PET



NON-FOOD CONTACT APPLICATIONS

- Possible presence of containers for non-food applications in the input stream, e.g. mouthwash, detergents, shampoos, household cleaning products → contained chemicals can be absorbed into the PET → introduction of non-food substances

- Requirements regarding collection and input (Regulation (EU) 2022/1616):

1. Waste management operators that participate in the supply chain of plastic input shall ensure that the collected plastic waste meets the following requirements:

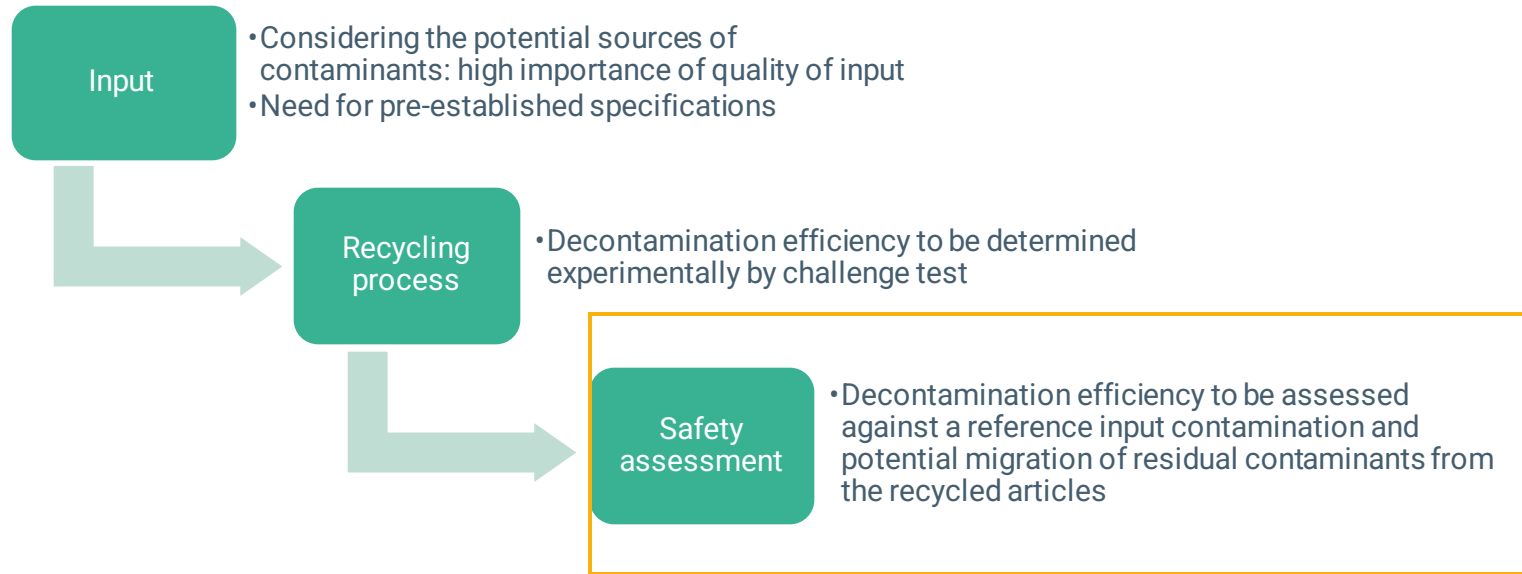
- (a) the plastic waste originates only from municipal waste, or from food retail or other food businesses if it was only intended and used for contact with food, including waste discarded from a recycling scheme in accordance with Article 9(6);
- (b) the plastic waste originates only from plastic materials and articles manufactured in accordance with Regulation (EU) No 10/2011 or recycled plastic materials and articles manufactured in accordance with this Regulation;
- (c) the plastic waste is subject to separate collection;
- (d) the presence of plastic materials and articles that are different from the plastic for which the decontamination process is intended, including caps, labels and adhesives, other materials and substances, and remaining food is reduced to a level specified in the requirements for the plastic input provided by the recycler and which shall not compromise the achieved level of decontamination.

Specification of plastic input

Only PET PCW containing maximum 5 % of materials and articles that were used in contact with non-food materials or substances.



MIGRATION CRITERION



- Dietary exposure via migration into food of a potential unknown contaminant shall not exceed a level of dietary exposure below which the risk to human health would be negligible.
- It is impossible to predict the identity of contaminants potentially present in post-consumer PET used as input of a recycling process and to ensure that they are not genotoxic.
- Therefore, a level of dietary exposure that can be considered of negligible risk to human health must take this possibility into account.



DIETARY EXPOSURE – NEGLIGIBLE RISK TO HUMAN HEALTH

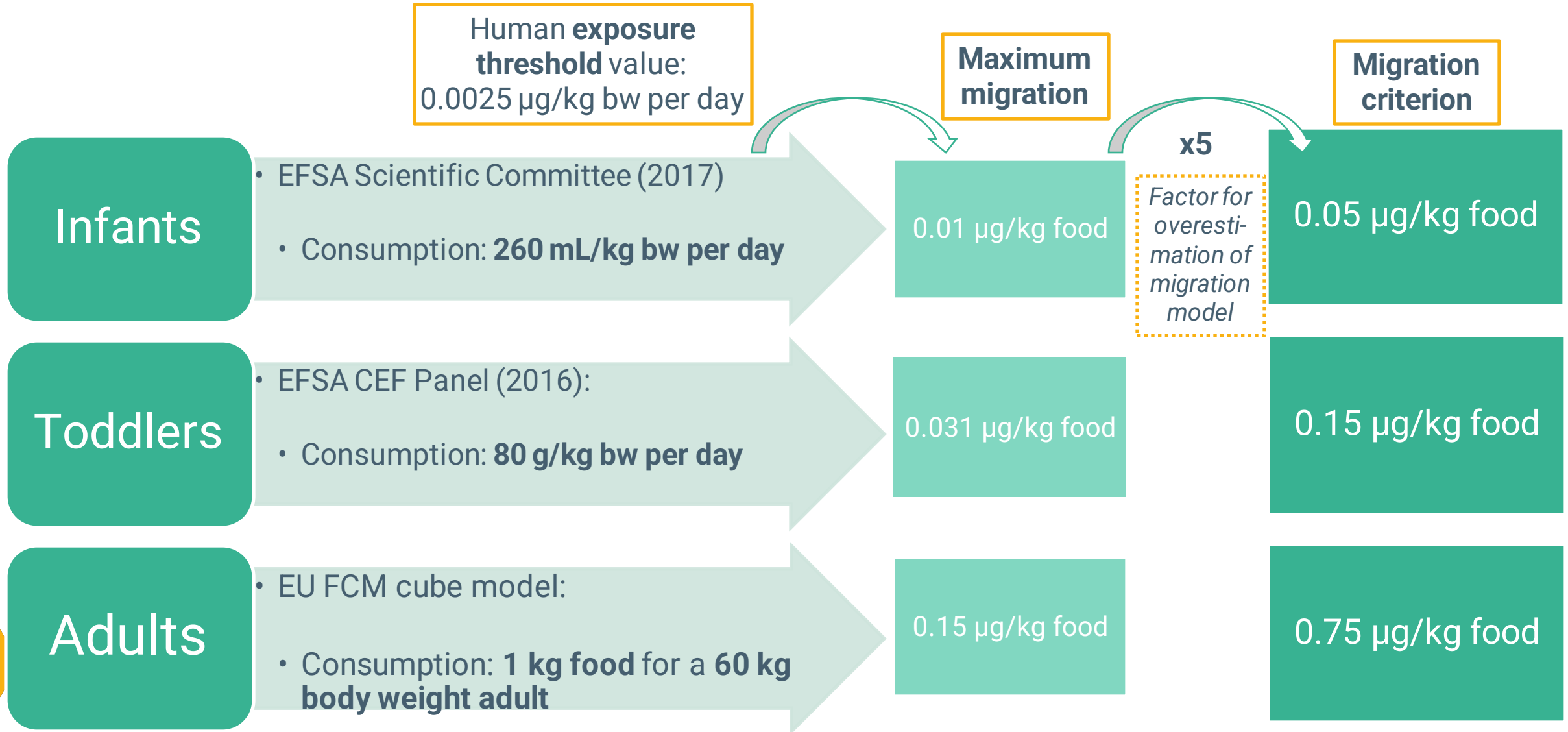
- Exposure level for chemicals with structural alerts that raise concern for **potential genotoxicity** based on **human exposure threshold value below which the probability for adverse effect for human health is negligible**

0.15 µg/person/day for a person of 60 kg body weight (bw),
corresponding to **0.0025 µg/kg bw per day**

- Generally considered low enough to address concern over all toxicological effects
- Low probability of contamination of post-consumer PET by misuse with substances classified as genotoxic
- Reactivity of functional groups associated with genotoxicity → reaction during recycling process at high temperatures → decrease of concentration/migration



EXPOSURE SCENARIOS AND MIGRATION CRITERIA



CMOD - MIGRATION MODELLING

- Use of generally recognised migration models in order to estimate the concentration in PET (Cmod), which corresponds to the migration criterion
- Modelling parameters:
 - Migration criterion (infants): 0.05 µg/kg food
 - Long term ambient storage, a shelf life of 1 year at 25°C
 - Good solubility of the migrant in food simulant is assumed, (KP/F =1)
 - FCM made entirely with 100% recycled PET
 - Surface/volume ratio: 6 dm² PET to 1 kg food/drink
 - Material thickness: 300 µm
 - PET density: 1.375 g/cm³
 - Modelling parameters $Ap' = 3.1$ and $\tau = 1577$ (used to estimate the diffusion coefficient in PET)

European Commission

JRC TECHNICAL REPORTS

Practical guidelines on the application of migration modelling for the estimation of specific migration

In support of Regulation (EU) No 10/2011 on plastic food contact materials

Eddo J. Hoekstra (Ed.), Rainer Brandsch, Claude Dequatre, Peter Mercea, Maria-Rosaria Milana, Angela Störmer, Xenia Trier, Olivier Vitrac, Annette Schäfer and Catherine Simoneau

2015

$$\frac{C_i^{n+1} - C_i^n}{\Delta t} = D \frac{C_{i+1}^n - 2C_i^n + C_{i-1}^n}{h^2}$$

Migration of hexanoic acid from a two-layer food packaging into food simulant D2

Conclusion: The packaging is compliant with the Regulation (EU) 10/2011

Joint Research Centre

EUR 27529 EN

COMPARISON CRES VS CMOD

- Cmod:

Surrogate	MW (Da)	Cmod (mg/kg PET) for infant scenario	Cmod (mg/kg PET) for toddler scenario
Toluene	92	0.04	0.12
Chlorobenzene	113	0.05	0.14
Chloroform	119	0.05	0.15
Methyl salicylate	152	0.06	0.19
Phenylcyclohexane	160	0.07	0.20
Benzophenone	182	0.08	0.23
Lindane	291	0.15	0.44
Methyl stearate	298	0.15	0.46

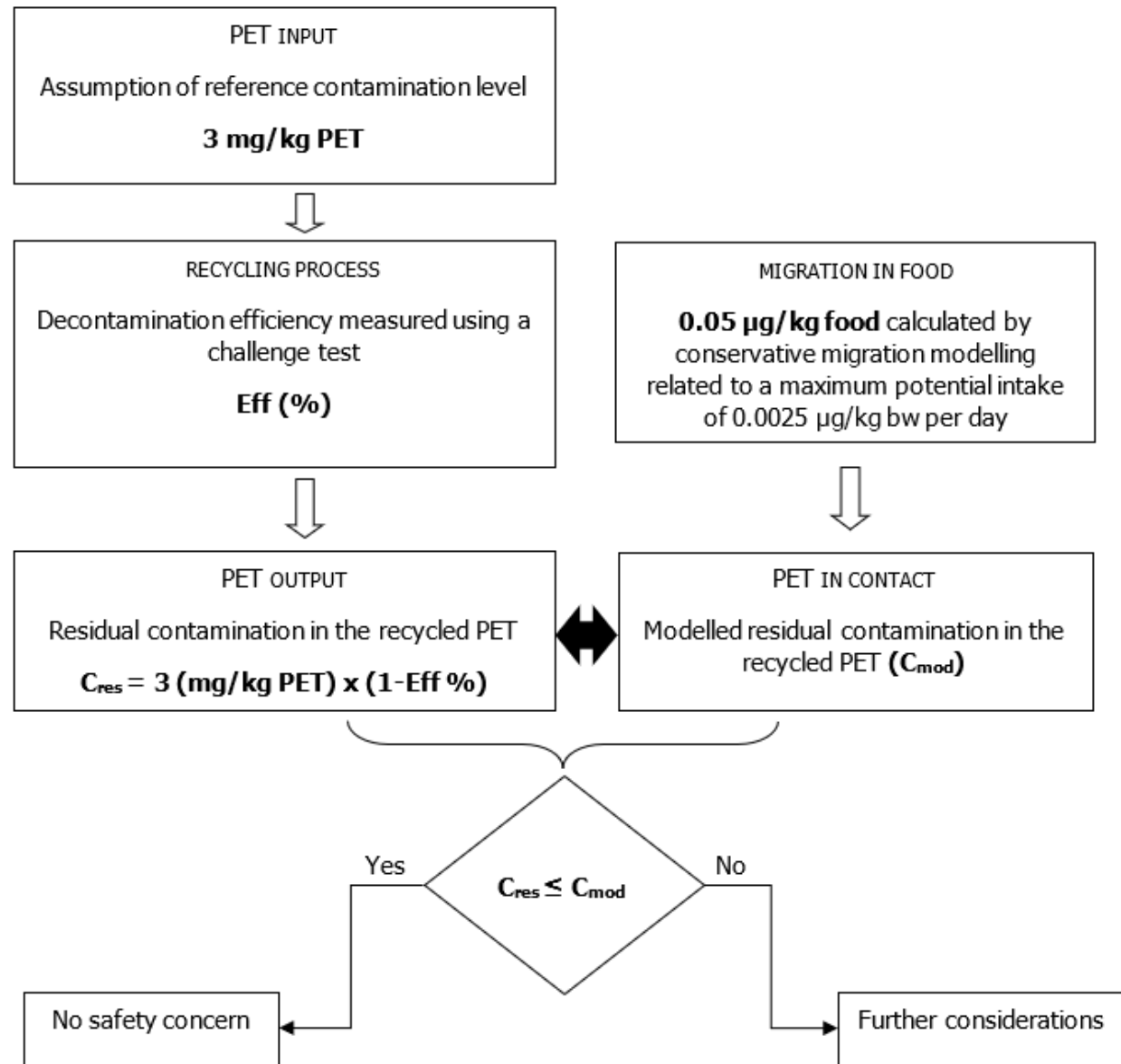
- Cres: by applying the decontamination efficiency to the reference contamination (3 mg/kg)
- Example: Phenylcyclohexane (molecular mass 160 Da)
 - Decontamination efficiency: 98.5%
 - $Cres = 3 \text{ mg/kg} \times (1 - 0.985) = 0.05 \text{ mg/kg PET}$

- Cres: 0.05 mg/kg
- Cmod infant scenario: 0.07 mg/kg

→ **Cres < Cmod**

→ Decontamination efficiency for phenylcyclohexane is sufficient for infant scenario

EVALUATION SCHEME



$C_{res} \leq C_{mod}$

→ potential migration of contaminants does **not** give rise to a dietary exposure exceeding the threshold of toxicological concern for substances with a structural alert for **genotoxicity** (0.0025 µg/kg bw per day)



ASSUMPTIONS AND UNCERTAINTIES IN THE APPROACH

No recent surveys on the frequency and severity of the contamination of post-consumer PET waste streams
(other than the EU FAIR project)

Overestimation of migration from PET by the migration model due to the inbuilt conservative parameters

Migration calculations based on the assumption that all food consumed each day is in contact with 100% rPET and has been in contact for 12 months at 25°C before consumption

Sporadic, if any, presence of unknown and possibly genotoxic contaminants in recycled PET (taking into account the collection systems)





Q&A

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QUESTIONS - REGISTRATION FORM

Questions	Number
Mechanical rPET	19
Novel technologies	8
Risk management	20
Content of technical dossier for mechanical rPET	6
Other	2

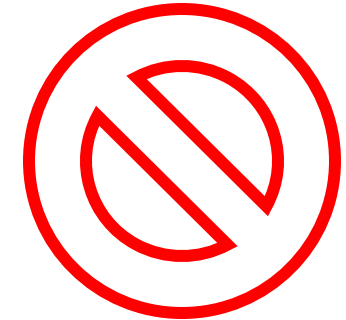
Questions regarding mechanical recycling of PET and about the content of an application to be submitted to EFSA have been addressed throughout the presentation.



QUESTIONS - REGISTRATION FORM

Risk management questions: → SANTE-FCM-RECYCLING-REGISTER@ec.europa.eu

- interpretation of Reg. (EU) 2022/1616
- DoC for single batch
- limit to the content of rPET
- role of MS competent authorities
- novel technologies, other polymers and functional barriers
- procedure for changing the operating parameters



Comments to the guidance → [Public consultation here](#)

- Proposals/comments on how to rinse the contaminated flakes to remove surface contamination
- Infant/drinking water scenario applied to tray-to-tray recycling

Applicants-specific questions → [GPSA here](#) or [Ask a Question here](#)



QUESTIONS - REGISTRATION FORM

1. Has any data been developed as to the number of times material can be rerun through a recycling process before it becomes nonviable? Have controlled studies been carried out on the behavior of rPET (and the development of NIAS) as a function of the number of recycling cycles?
2. Why does EFSA approve decontamination process available only considering that the input material must be at least 95% from food contact packaging materials? Why Regulation 2022/1616 consider also the input that must come from selective sorting (Yellow bin) or from deposit system? For trays collection will there be different position about the input?
3. BPA in recycled PET





Q&A

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CONTENT OF THE TECHNICAL DOSSIER

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PREMISE

Regulation (EU) 2022/1616:

(25) Since this Regulation requires the individual authorisation of recycling processes in certain cases, a procedure should be laid down to this end. This procedure should be similar to the procedure for authorisation of a new substance laid down in Regulation (EC) No 1935/2004, adapted as necessary for the individual authorisation of recycling processes. In particular, since preparing an application for authorisation requires of the applicant an intricate knowledge of the recycling process concerned, and in order to avoid that several applications for the same recycling process are submitted, it is appropriate to lay down that only the business operator who developed the recycling process, and not any recycler using it, may apply for authorisation. Furthermore, as authorised recycling processes may be subject to minor and major technical and administrative changes over their life-cycle, this Regulation should ensure clarity over the procedures applicable to changes to authorised recycling processes.

Intricate knowledge as the basis for the preparation of an application → **only the developer** of the decontamination process of a recycling process **can apply for authorisation**

Article 17

Application for the authorisation of individual recycling processes

1. To obtain authorisation of an individual recycling process, the natural person or legal entity that developed the decontamination process of the recycling process, either exclusively for its own purposes as a recycler or for the sale or licensing of recycling or decontamination installations to recyclers, 'the applicant', shall submit an application in accordance with paragraph 2.

REGULATORY REQUIREMENTS

Article 17.5 of Regulation (EU) 2022/1616 defines the information to be provided by the applicant in the technical dossier

5. The technical dossier shall contain the following information:
 - (a) any information required in the detailed guidance published by the Authority in accordance with Article 20(2);
 - (b) a description of the pre-processing carried out to produce plastic input suitable for being entered into the decontamination process and of the specific quality control procedures applied during collection and pre-processing, including a detailed specification of the pre-processed plastic input;
 - (c) a description of any required post-processing of the recycled plastic and of the intended use of the resulting plastic materials and articles and of uses for which it would not be suitable, including relevant instructions and labelling to be provided to converters and to end-users of the recycled plastic materials and articles;
 - (d) a simple block diagram of all unit operations used in the decontamination process, that provides a reference to the input, output and quality control procedures applied by each operation;
 - (e) a piping and instrumentation diagram of the decontamination process in accordance with section 4.4 of ISO 10628-1:2014, showing only the instrumentation relevant for decontamination;
 - (f) a description of the quality control procedures applied at each unit operation of the decontamination process, including:
 - (i) the values of monitored parameters such as operating temperatures, pressures, flowrates and concentrations, and acceptable ranges thereof;
 - (ii) laboratory analysis and its frequency; if any,
 - (iii) correction and record keeping procedures; and
 - (iv) any other information the applicant deems relevant to fully describe its quality control procedures.



COLLECTION AND PRE-PROCESSING

Why are these steps important?

→ suitability of input material for decontamination → final output quality

1. Collection requirements → **Art. 6 of Regulation (EU) 2022/1616**

a. Input:

- Originates from municipal, food retail/ businesses waste
- Intended to be in contact with food → manufactured in accordance with **Regulation (EU) No 10/2011**
- Subjected to separate collection
- Specifications on: plastic materials & articles other than PET, other materials and substances, remaining food

b. Quality assurance system

**Statement confirming compliance with
Art. 6 of Regulation (EU) 2022/1616**

Points for which quality control is required



COLLECTION AND PRE-PROCESSING

2. Pre-processing requirements:

a. Description of the pre-processing

- Sorting, shredding, washing, drying, mixing etc
- More specific information in case of other pre-treatment performed in a different facility

No detailed description of the equipment needed

b. Statement of compliance with Art. 6 of Regulation (EU) 2022/1616

c. Quality assurance system

Points for which quality control is required

d. Specifications on the pre-processed plastic input:

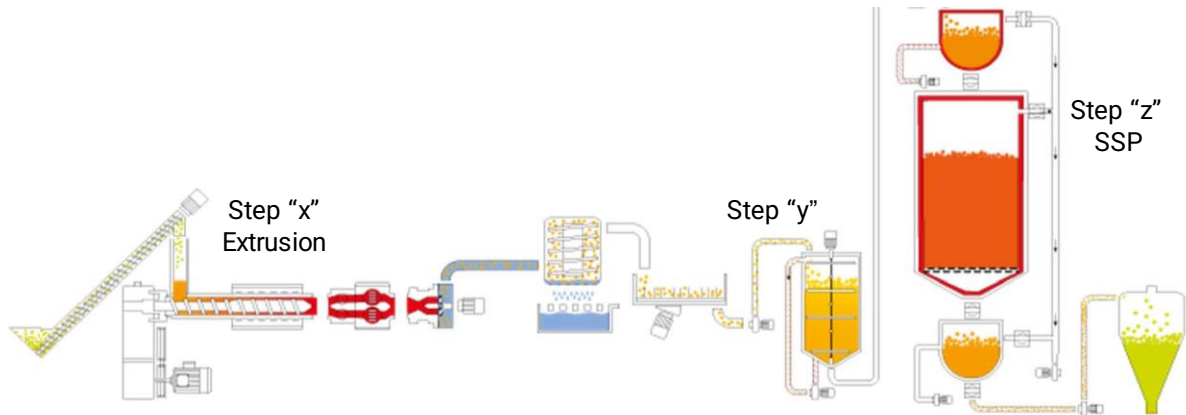
- Compliance with requirement on maximum content of non-food contact PET in the input (5%)
- Flake dimensions (average thickness, size distribution)
- Bulk density (range and average)
- Plastics other than PET (e.g. polyvinyl chloride, polystyrene, polyamide, polyolefins, polycarbonate)
- Glues



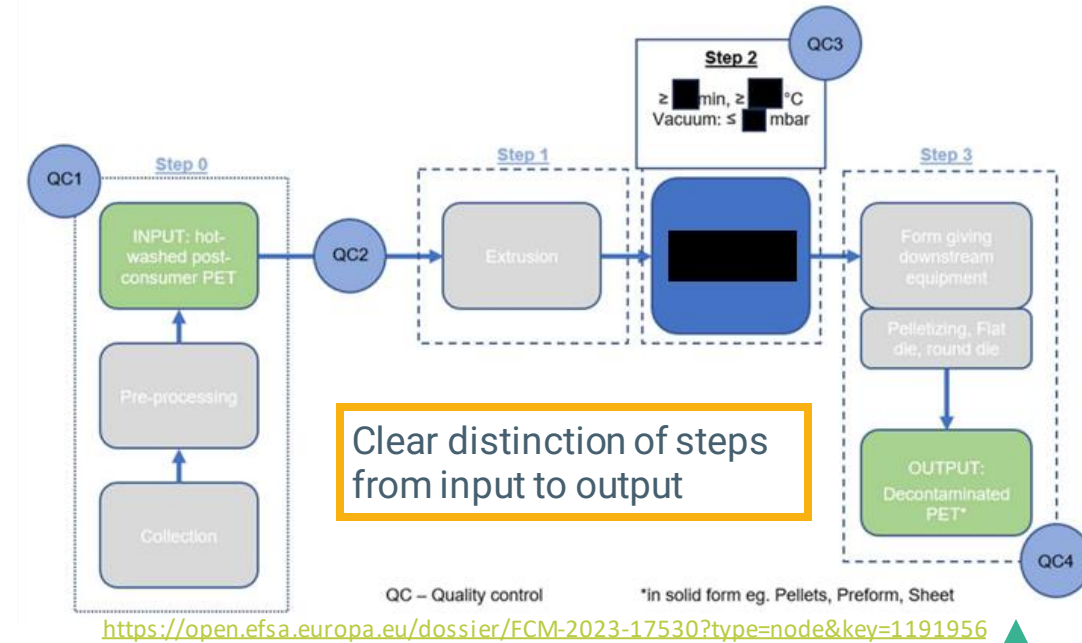
DECONTAMINATION PROCESS

Description of decontamination unit operations and equipment, with information on design details and technical drawings. Critical steps.

- Principal function (e.g. extruder) and type of equipment parts (e.g. stirring tank)
- Heating and cooling systems
- Vacuum and flowing gas incl. design and position of ports
- Stirring tools
- Size of equipment (dimensions and capacity)
- Version and date of installation, details on the producer of equipment



<https://open.efsa.europa.eu/dossier/FCM-2023-14761?type=node&key=1120101>

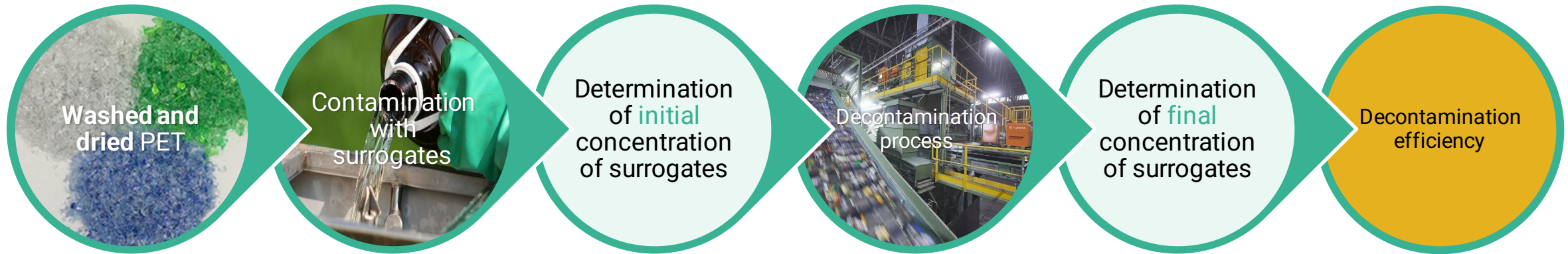


Required schemes for the decontamination process:

- Simple block diagram with unit operations and quality control points
- Process flow diagram with distinct unit operations and their schematic set-up
- Piping and instrumentation diagram (ISO 10628-1:2014, section 4.4)

DETERMINATION OF DECONTAMINATION EFFICIENCY

How? → «Challenge test»



Surrogates

- ✓ Substances whose polarity and molecular weight are representative of possible contaminants of concern

e.g.: toluene, chlorobenzene, chloroform, methyl salicylate, phenyl-cyclohexane, benzophenone, methyl stearate

- ✓ Stable during decontamination process

Obligation for **notification of studies** applies for the **challenge test**

For details see administrative guidance:

<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2021.EN-6512>

2.2. Notification of studies

In accordance with Article 32b of the GFL Regulation, potential applicants commissioning or carrying out studies as of 27 March 2021 to support an application concerning recycling processes (new authorisation, modification of an existing authorisation) have the obligation to notify EFSA without delay of the following information¹⁹ related to those studies:

- title and scope of the study;
- laboratory or testing facility carrying out the study;
- starting and planned completion dates of the study.

CONTAMINATION PROCEDURE

Description of **contamination procedure**:

- Material to be contaminated: origin, type, dimensions, size distribution, bulk density, amount
- Chemicals used as surrogates and amounts added
- Mode of addition of surrogates to the material
- Soaking and storage: time and temperature conditions
- Handling conditions to promote homogenisation
- Washing: Type of liquid used, volume, time and temperature

PET can be contaminated directly or with a masterbatch approach

Contamination conditions

- 250-1000 mg surrogate/kg PET
- Time and temperature equivalent to 1 year at 25°C
- Mixing → homogeneous distribution of surrogates
- Washing
 - Detergents or organic solvents only (no water)
 - Adequate removal of surface contamination to avoid overestimation of the DE
 - May not be needed if contamination happens in extruder!

Surrogates should penetrate PET as deeply as contaminants would in a worst-case scenario (misuse)



CHALLENGE TEST

- ✓ Same level of detail regarding equipment and operation as for the industrial process (ref. slide n.37)

The industrial process must run under conditions at least as severe as those of the challenge test.

If one or more industrial process steps run at **less severe conditions** compared to challenge test
→ consider possible effects on decontamination efficiency

- ✓ Scale of the installation (industrial, small industrial, pilot plant, laboratory scale)
- ✓ Scale-up evaluation → representativeness of industrial scale line



DECONTAMINATION PROCESS - OPERATION

- Table of operating parameters
 - ✓ Operating parameter values
 - ✓ Mode of operation (batch/continuous)
 - ✓ Reactor capacity, actual load and filling level
 - ✓ Throughput/discharge rate
- Other relevant information
 - ✓ Temperature gradients
 - ✓ Rotational parameters
 - ✓ Melt surface area
 - ✓ Degree of mixing
 - ✓ Length and thickness of formed pellets

Operating parameters	Name of the process														
	Step ^(a)					Step ^(a)					Step ^(a)				
	t _(b,e)	P	Gas flow _(d)	T _(e)	Other, if applicable	t _(b,e)	P	Gas flow _(d)	T _(e)	Other, if applicable	t _(b,e)	P	Gas flow _(d)	T _(e)	Other, if applicable
Challenge test (Report No. _____)	(unit)	(mbar)	(unit)	(°C)	(unit)	(unit)	(mbar)	(unit)	(°C)	(unit)	(unit)	(mbar)	(unit)	(°C)	(unit)
Process	(unit)					(unit)					(unit)				

Precise values

		Throughput	Discharge rate ^(g)	Capacity of the reactor	Load of the Reactor	Filling level
		(kg h ⁻¹)	(kg h ⁻¹)	(m ³ and kg PET)	(kg)	(%)
CHALLENGE TEST	Step					
	Step					
	Step					
PROCESS	Step					
	Step					
	Step					



DETERMINATION OF DECONTAMINATION EFFICIENCY

Determination of surrogate levels

- Exhaustive extraction
- Consider possible losses during transportation
- Representativeness and homogeneity of samples
 - **Before decontamination:** at least **10** samples (+ **3** samples in case of temporary storage or transportation to different location)
 - **During/after decontamination:** at least **3** samples in each step
 - Quantity: At least **1 g** per sample
- Considerations on possible cross-contamination phenomena
 - Surrogate transfer between contaminated and non-contaminated flakes → overestimation of DE
- Provide spreadsheet with calculations

Performance characteristics of analytical method (Note for Guidance for Food Contact Materials)

- Considerations on the suitability of the analytical method → should be supported by **raw data** and **chromatograms**



CONCLUSIONS ON THE CHALLENGE TEST

- Self evaluation
- Critical analysis of **Cres** and **Cmod**
- Maximum percentage of rPET in the final article – degree of mixing with virgin PET



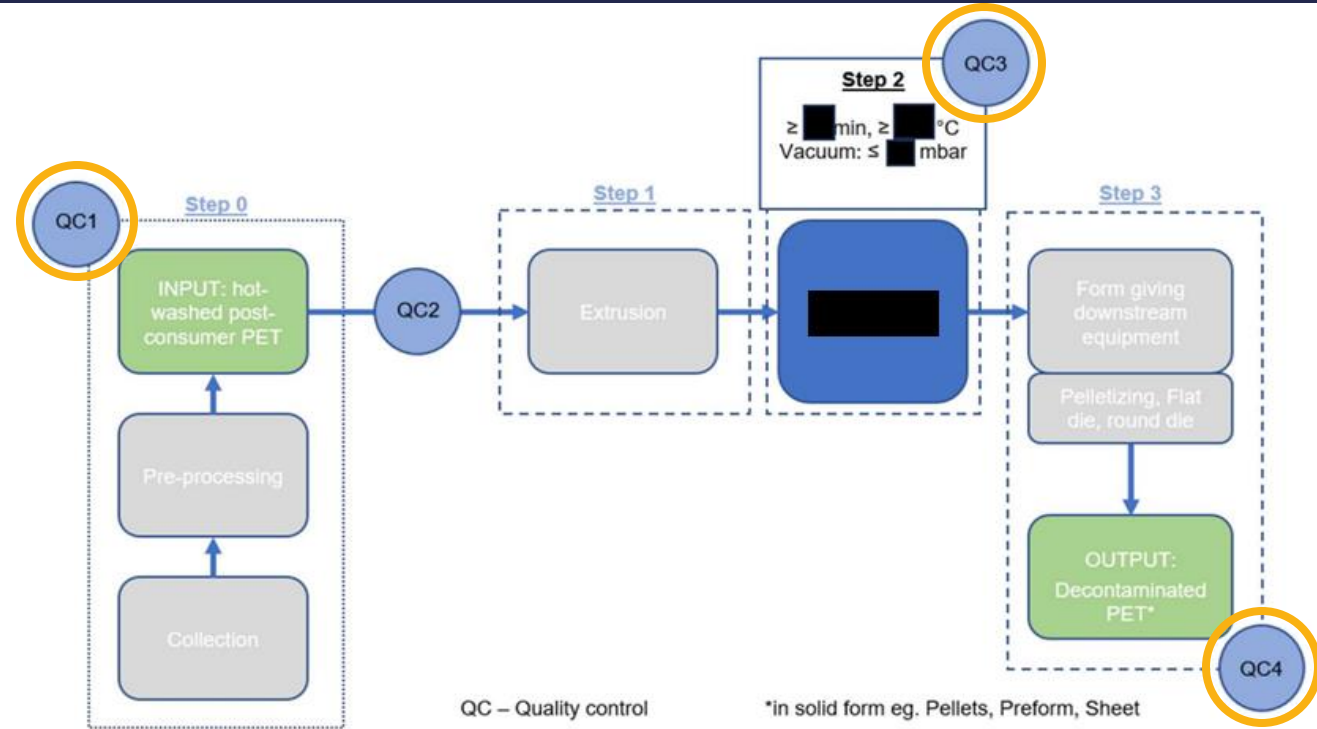
QUALITY CONTROL SYSTEM AND CHARACTERISATION OF OUTPUT

Quality control:

- Critical steps to be covered by quality control
- Possible consequences of “failure”
- Corrective actions
- Laboratory procedures

Characterisation of output:

- Type of output (flakes, pellets, sheets, other)
- Intrinsic viscosity of the output



<https://open.efsa.europa.eu/dossier/FCM-2023-17530?type=node&key=1191956>



POST-PROCESSING AND INTENDED USE

Information flow



- Description of any required post-processing (e.g. pre-form injection, bottle blowing, lamination, thermoforming)
- Type of final material/article
- Surface to volume ratio
- Intended food application and exposure scenario (infant, toddler, adult)
- Time and temperatures allowed for final use
- Instructions for converters/end users, e.g. degree of mixing needed with virgin PET, other restrictions of use

Final materials/articles not be used in microwave/ovens (Table 1, Annex I, Reg. EU 2022/1616)





PUBLIC CONSULTATION

#OpenEFSA



PUBLIC CONSULTATION

7 February 2024:
Start of public
consultation

TODAY
20 February 2024:
webinar

20 March 2024:
closure of public
consultation

Please participate to the public consultation (PC-0797) and share your comments with us:

<https://connect.efsa.europa.eu/RM/s/publicconsultation2/a0ITk0000005wZd/pc0797>

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Public Consultations

In the list below, you can find all **open public consultations**. You can click on the title and leave a comment using the specific form provided.

Upcoming Public Consultations ▼

3 items • Sorted by Start Date • Filtered by All public consultations - Status

Public Consul... ▼	Title ▼	Start Date ↑	Food Domain ▼
1	PC-0784		Pesticides Peer Review (AIR) ▼
	PC-0797	07/02/2024	Food Contact Materials ▼





Q&A

#OpenEFSA



THANK YOU FOR ATTENDING OUR EVENT

- In case we did not manage to answer all your questions, we invite to resubmit them via [Ask a Question here](#)
- The recording of today's event will be available on the EFSA website in few days
- Please take few minutes to fill out the [evaluation survey](#) that you will receive after the event. Your feedback is essential to improve our future events



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FIP / WG on Recycling plastics

Thank you all!



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