

Comité Technique pour le Recyclage des Emballages Plastiques

# Recyclability of plastic pots, trays and other rigid\* packaging items

January 2025 (version 3.1)

COTREP \*This guide is intended for all rigid plastic packaging except bottles and dispenser bottles

## Which packaging is covered by this guide?

"Plastic pots and trays", i.e. all rigid plastic household packaging except bottles and dispenser bottles\*



#### Please note

As far as **cling film**, **heat-shrink** and **non-heat-shrink flow packs** are concerned, we consider that flexible packaging is not associated with the tray and will be sorted separately. The eco-design recommendations for flow packs are therefore the same as those for flexible packaging items (*not included in this guide*)



\* Non-exhaustive images

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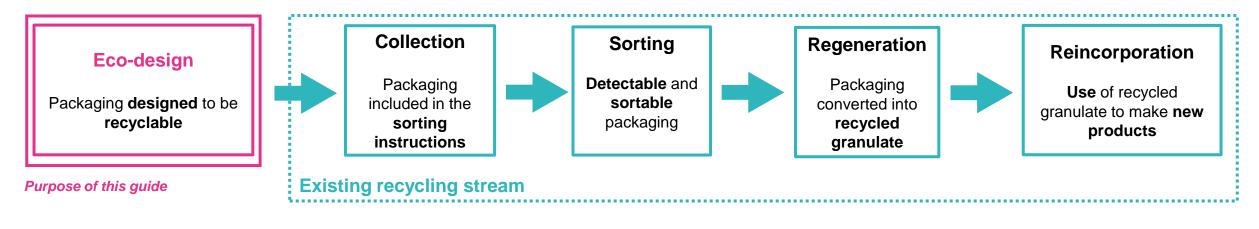
#### 3 Focus

- □ <u>Change in density</u>
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### Introduction

What conditions must be met for a packaging item to be recyclable?



This document summarises the COTREP eco-design recommendations to date aimed at improving the recyclability of plastic pots and trays. It sets out the design principles that should be adopted to ensure that packaging can be integrated into existing or emerging recycling streams.

- These recommendations are based on the operating conditions that currently exist (for existing streams) and those planned for 2027-2028 (for streams under development) for collection, sorting and recycling in France, where sorting and recycling streams for plastics are being consolidated or developed. These recommendations may therefore change to take these developments into account.
- Some of the solutions presented in this guide are already "recyclable" in France, but not necessarily all of them (for example clear PET/PE pots and trays for which a stream is under development).

## **Context – Collection of plastic pots and trays in France**

Following the extension of sorting instructions, as of 2023 <u>all household packaging, including pots and trays, is disposed of in sorting bins</u> throughout France.

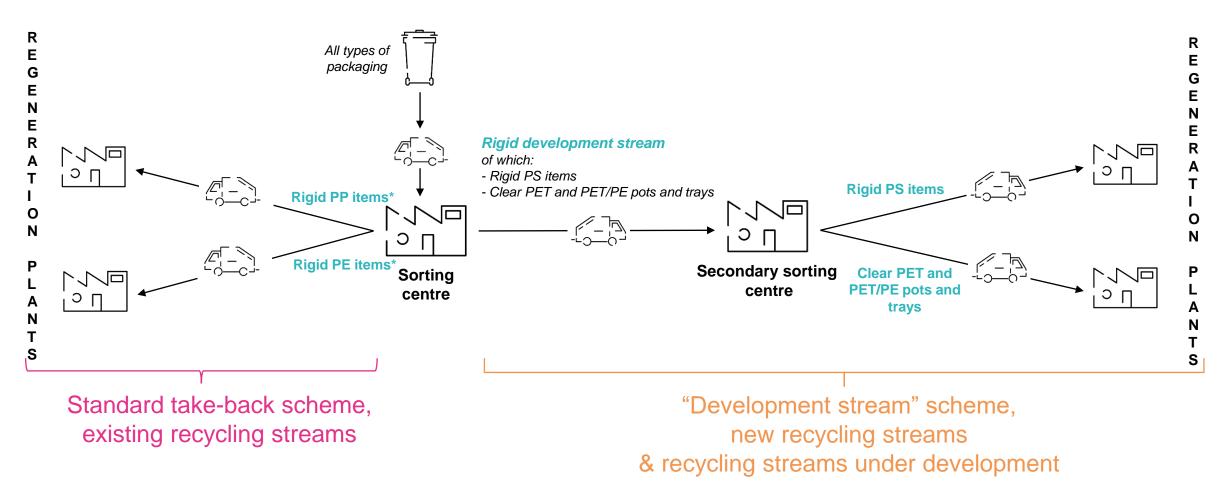


Due to the extension of sorting instructions and consumer waste sorting, the tonnage of pots and trays disposed of in sorting bins is on the rise.

The packaging is then collected and transported to a sorting centre.

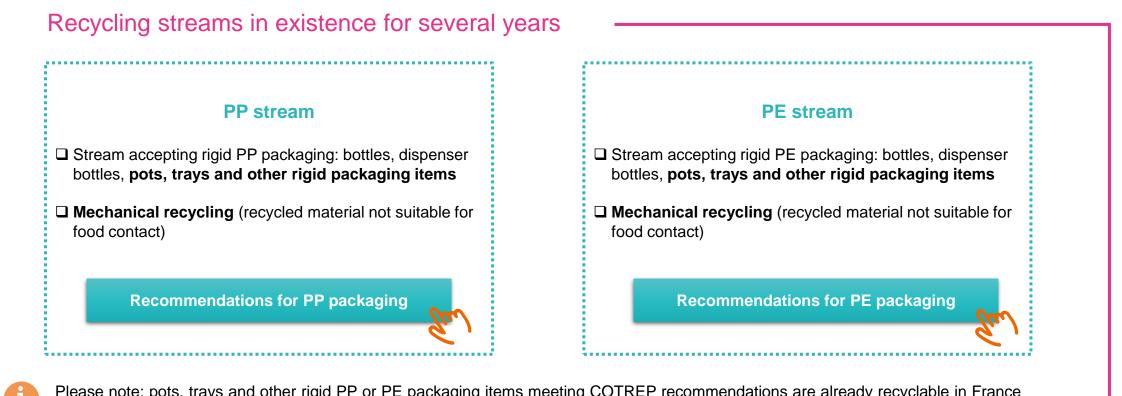
## **Context – Sorting of plastic pots and trays in France**

Plastic pot and tray sorting differs according to the resin used for the pot or tray body:



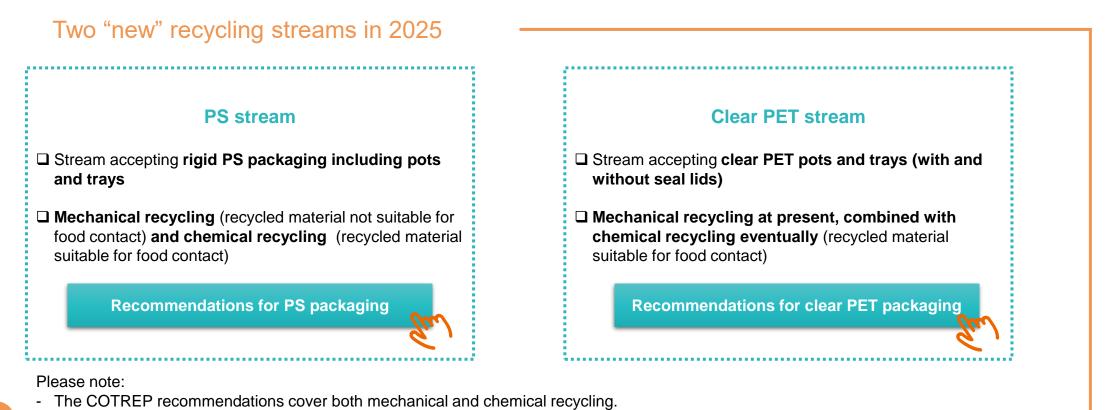
\* Rigid PP and rigid PE items are generally separated at the regeneration plant for different recovery processes.

### **Context – Recycling streams for plastic pots and trays**



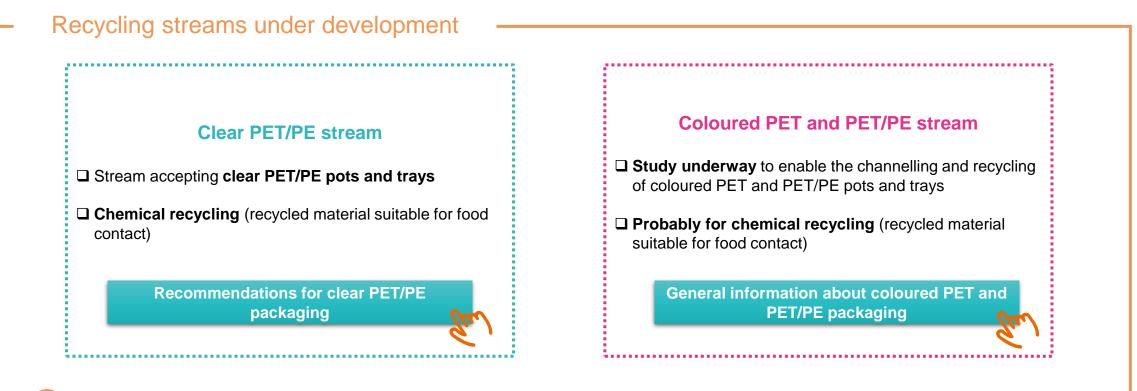
Please note: pots, trays and other rigid PP or PE packaging items meeting COTREP recommendations are already recyclable in France under the terms of the <u>QCE Decree</u>.

### **Context – Recycling streams for plastic pots and trays**



- Since the extension of sorting instructions has been in place, a small quantity of pots, trays and other rigid PS and clear PET items placed on the market has been recycled.
- Starting in 2025, PS and clear mono-PET pots and trays (with or without seal lids) meeting COTREP recommendations will be recyclable in France under the terms of the <u>QCE Decree</u>.

## **Context – Recycling streams for plastic pots and trays**



Please note: coloured PET or (clear or coloured) PET/PE pots and trays are not recyclable in 2025 under the terms of the <u>QCE Decree</u>. Switch to "recyclable" foreseen by 2027-2028.

### Three eco-design rules to follow to make a pot or tray easier to recycle

1. Priority for recycling should be given to the heaviest element of the packaging, i.e. the tray or pot body

As such, the body must be **mono-material, and if possible mono-resin**\*, and made of a resin which has a recycling stream: **rigid PP, PE, PS, clear PET, coloured PET**\*\* and **PET**/PE\*\*.

#### 2. Barriers, colorants, fillers and additives in the body should not compromise sorting and recycling

For example, the pots and trays should not contain dark colorants that are undetectable by optical sorting. Compatible functional barriers should be used.

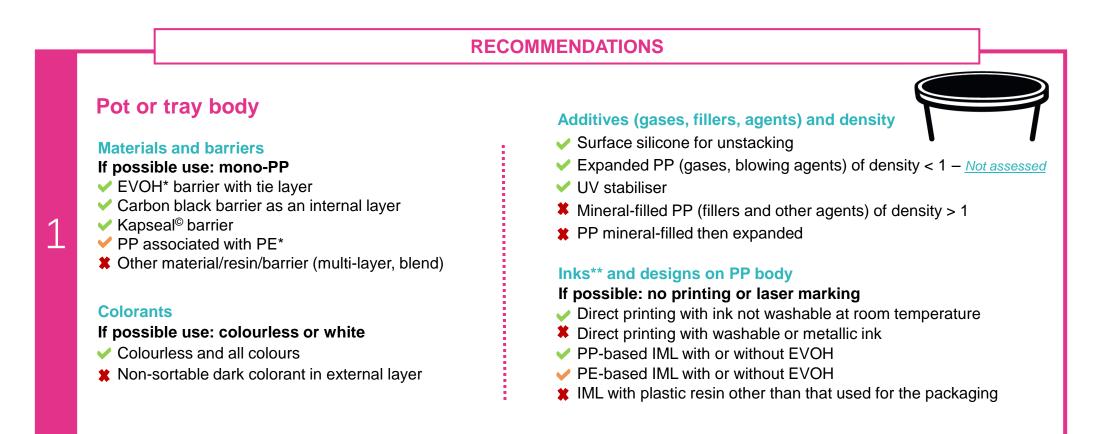
#### 3. The associated elements should not disrupt recycling of the tray or pot body

**Design choices** for associated elements (covers, lids, absorbent pads, labels, etc.) should be based on the resin used in the body.

The **associated elements**, such as labels, lids and absorbent pads are not generally intended to be recycled together with the pot or tray as they can lead to problems in the process and/or lower recycled material quality, particularly during mechanical material recycling. Their design should generally enable them to be separated from the pot or tray during the collection, sorting and recycling stages.

#### **Recommendations for a pot or tray:**



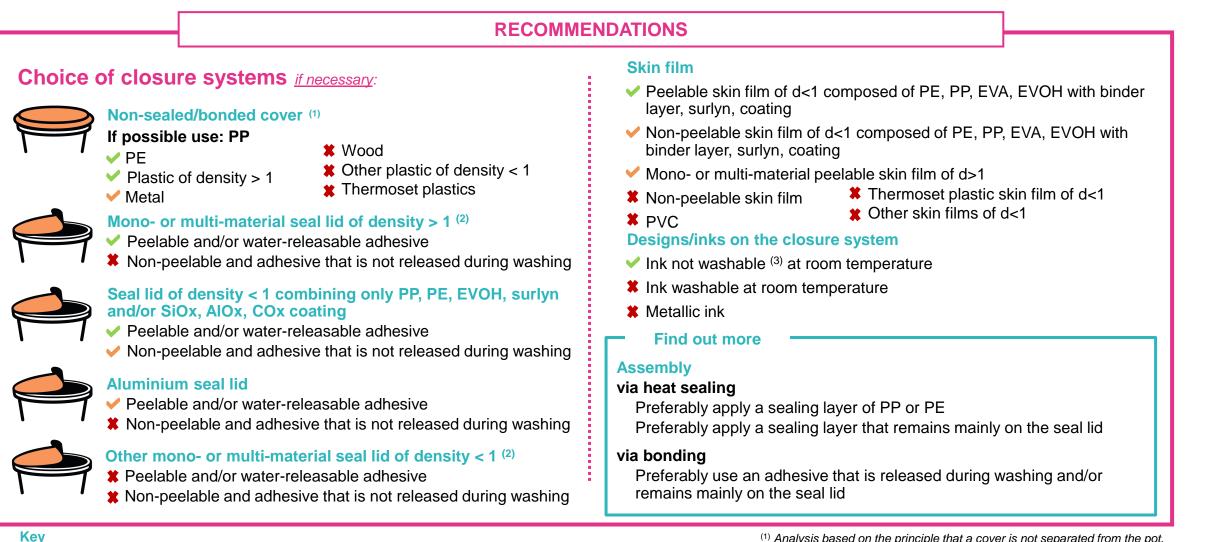


\* Quantities of EVOH and PE should be limited <u>as much as possible</u>, i.e. use the minimum quantity to ensure that the packaging is functional. To date, the impact of tie layers between PP (or PE) and EVOH has not been studied and does not seem to be an obstacle. \*\* EuPIA Best Practices

#### For further details

Kev

Dark colorants Fillers and density Designs



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(1) Analysis based on the principle that a cover is not separated from the pot.
 (2) Examples: seal lid with several plastic resins, plastic/paper, plastic with a thin layer of aluminium.
 (3) Examples: sandwich printing or surface printing with varnish.

#### RECOMMENDATIONS

#### Label affixed to the body or cover *if necessary*

#### Label materials

#### If possible use: PP, OPP, PE with water-releasable adhesive\*

- Paper with water-releasable adhesive\*
- ✓ Paper wrap with a line of adhesive that is not released during washing\*
- PP, OPP with adhesive that is not released during washing\*
- ✓ Plastic with a density > 1 (e.g. PET, PETg, PS) with water-releasable adhesive\*
- Paper PSL with adhesive that is not released during washing\*
- PE with adhesive that is not released during washing\*

#### **X** PVC

- **X** Other plastic of density < 1
- Plastic of density > 1 with adhesive that is not released during washing\*
- **X** Complex with aluminium layer (*e.g. PP/AL*)

#### Other

- ✓ PP IML with or without EVOH **≭** IML with plastic resin other than that used
- ✓ PE IML with or without EVOH
  - RFID tag

for the packaging

#### Adhesive

- Released during washing\* without leaving residue on the packaging
- Not released during washing\*

#### **Designs/inks on labels**

- ✓ Non-washable ink\*
- Washable ink\*
- Ketallic ink

#### Size of the labels



- Restrict the coverage and size of associated elements to maximise the chances of the pot or tray being detected at sorting centres
  - For packaging > 500 mL: surface area of < 70%
  - For packaging < 500 mL: surface area of < 50%

Reminder: the labels (element associated with the packaging body) are not intended to be recycled, but they should not disrupt recycling of the pot or tray body. The aim is to separate them from the pot or tray during the recycling stages.

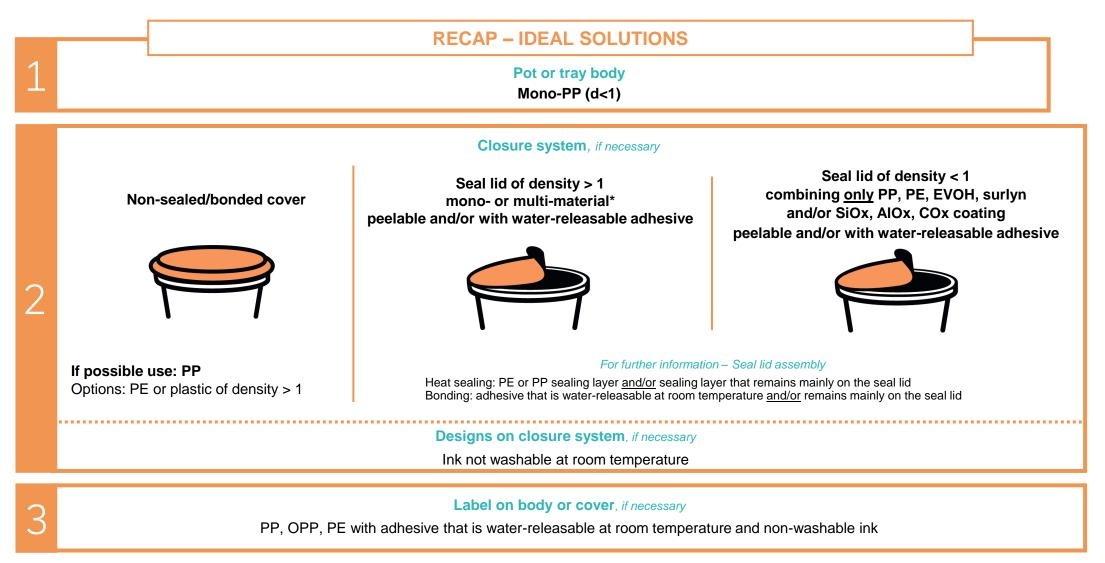
#### Key

#### For further details

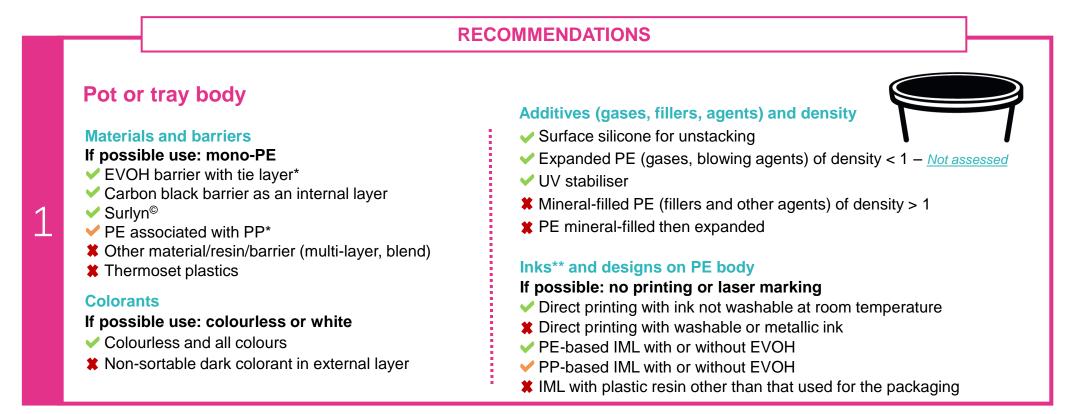
Other associated element: absorbent pad

\* Washing at room temperature.

## Pots and trays with a PP body (4/4) (based on the latest information available to COTREP in 2025)



\*Examples: seal lid with several plastic resins, plastic/paper, plastic with a thin layer of aluminium.



\* Quantities of EVOH and PP should be limited <u>as much as possible</u>, i.e. use the minimum quantity to ensure that the packaging is functional. To date, the impact of tie layers between PE (or PP) and EVOH has not been studied and does not seem to be an obstacle. \*\* EuPIA Best Practices

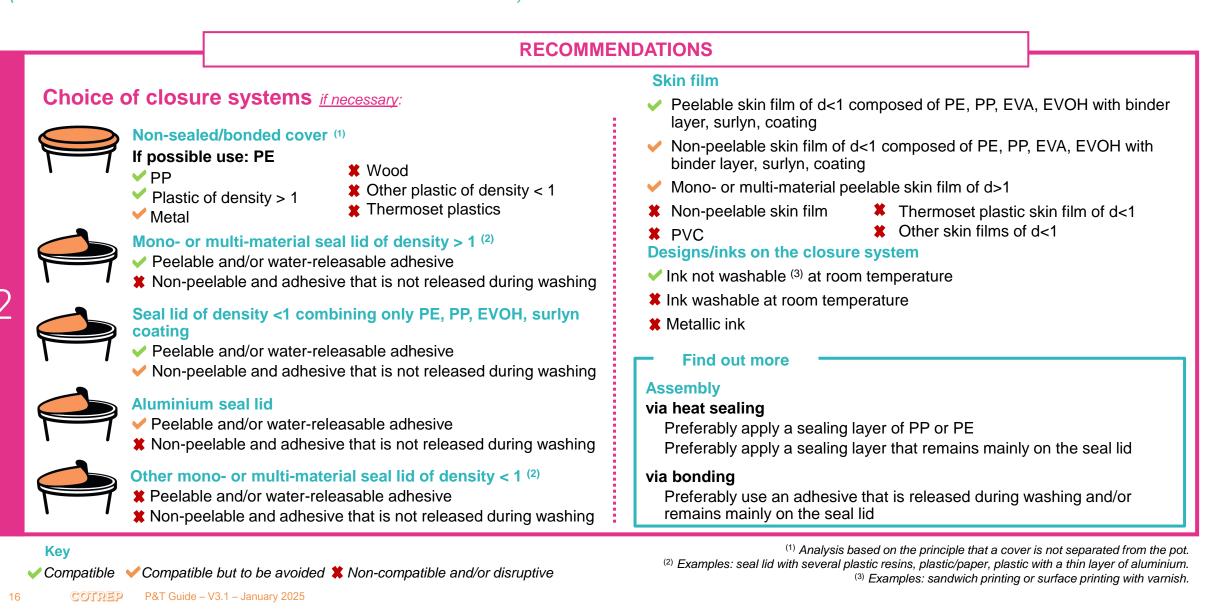
#### Key

✓ Compatible ✓ Compatible but to be avoided **≭** Non-compatible and/or disruptive

#### For further details

Dark colorants Fillers and density Designs





#### RECOMMENDATIONS

#### Label affixed to the body or cover *if necessary*

#### Label materials

#### If possible use: PP, OPP, PE with water-releasable adhesive\*

- Paper with water-releasable adhesive\*
- ✓ Paper wrap with a line of adhesive that is not released during washing\*
- PE with adhesive that is not released during washing\*
- ✓ Plastic with a density > 1 (e.g. PET, PETg, PS) with water-releasable adhesive\*
- ✓ Paper PSL with adhesive that is not released during washing\*
- PP, OPP with adhesive that is not released during washing\*
- **X** PVC
- Other plastic of density < 1</p>
- Plastic of density > 1 with adhesive that is not released during washing\*
- **X** Complex with aluminium layer (e.g. PP/AL)

#### Other

✓ PE IML with or without EVOH

**#** RFID tag

- ✓ PP IML with or without EVOH
- IML with plastic resin other than that used for the packaging

#### Adhesive

- ✓ Released during washing\* without leaving residue on the packaging
- Not released during washing\*

#### **Designs/inks on labels**

- ✓ Non-washable ink\*
- Washable ink\*
- Ketallic ink



#### Size of the labels

- Restrict the coverage and size of associated elements to maximise the chances of the pot or tray being detected at sorting centres
  - For packaging > 500 mL: surface area of < 70%
  - For packaging < 500 mL: surface area of < 50%

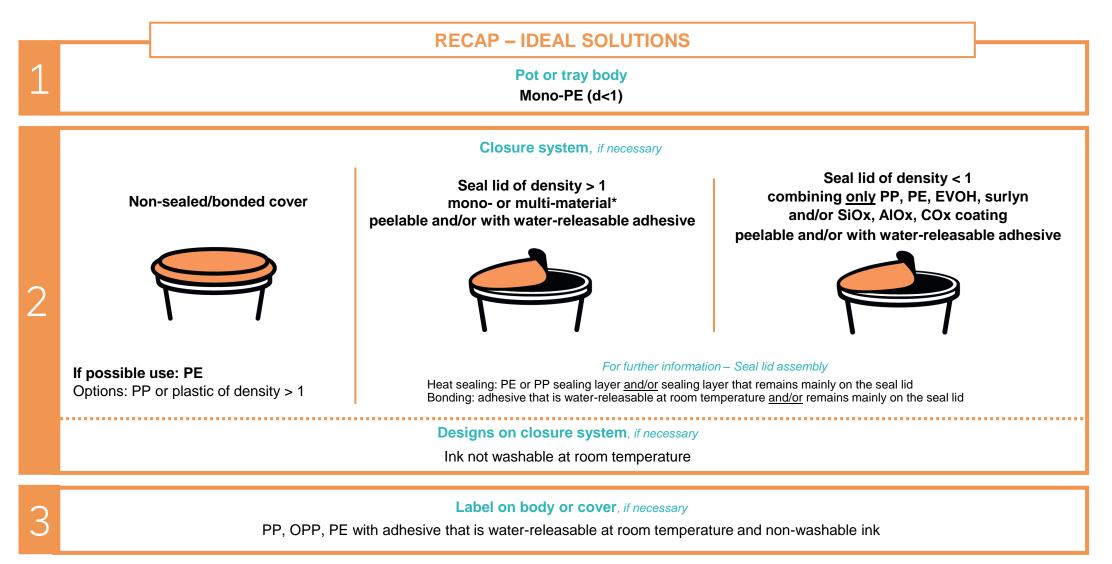
Reminder: the labels (element associated with the packaging body) are not intended to be recycled, but they should not disrupt recycling of the pot or tray body. The aim is to separate them from the pot or tray during the recycling stages.

#### Key

✓ Compatible ✓ Compatible but to be avoided 🗰 Non-compatible and/or disruptive

\* Washing at room temperature.

## Pots and trays with a PE body (4/4) (based on the latest information available to COTREP in 2025)

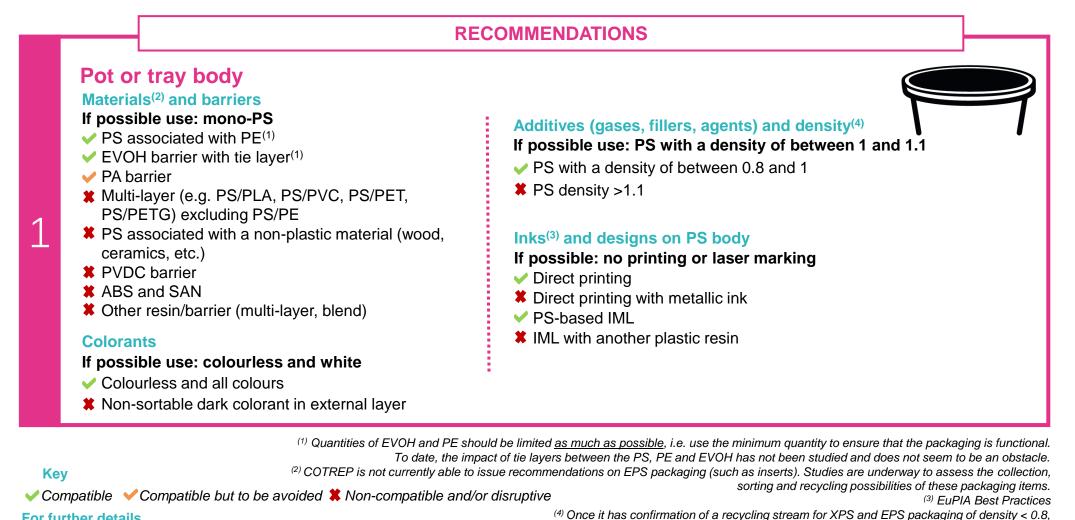


\*Examples: seal lid with several plastic resins, plastic/paper, plastic with a thin layer of aluminium.

## Pots and trays with a PS body (1/4) (based on the latest information available to COTREP in 2025)

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COTREP will update its recommendations.



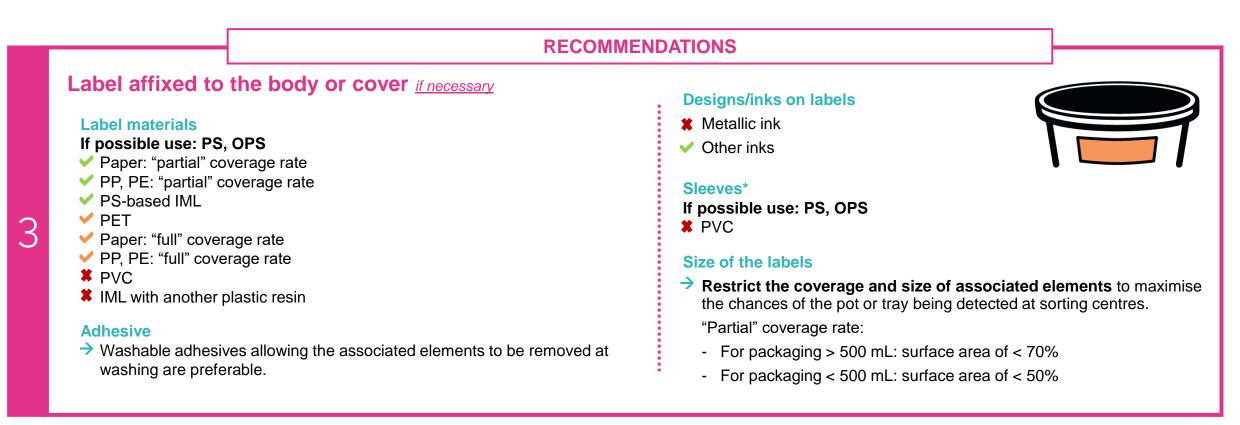
For further details

#### **Dark colorants** Fillers and density Designs



#### Key Compatible V Compatible but to be avoided X Non-compatible and/or disruptive

<sup>(1)</sup> Analysis based on the principle that a cover is not separated from the pot. <sup>(2)</sup> Examples: seal lid with several plastic resins, plastic/paper, metallised plastic



Reminder: the labels (element associated with the packaging body) should not disrupt recycling of the pot or tray body. If chemical recycling is used and they are made of PS or OPS they can be recycled.

\* Other sleeve resins have not been tested and could affect sorting and/or recycling efficiency

Key

✓ Compatible ✓ Compatible but to be avoided **X** Non-compatible and/or disruptive

For further details

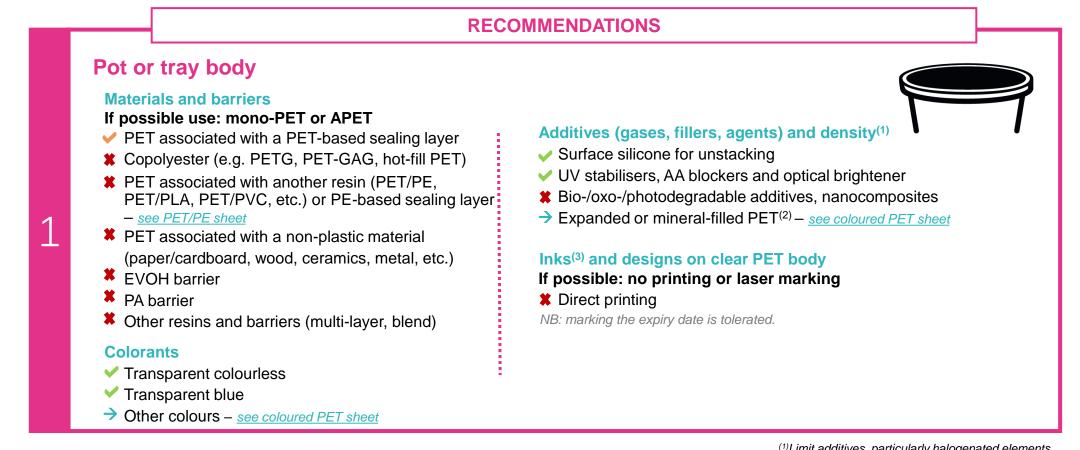
Other associated element: absorbent pad

## Pots and trays with a PS body (4/4) (based on the latest information available to COTREP in 2025)

1	RECAP – IDEAL SOLUTIONS Pot or tray body Mono-PS (1< d <1.1)	
2	Closure system, if necessary Non-sealed/bonded cover Ef possible use: PS	PS or OPS seal lid
	<b>Designs on closure system</b> , <i>if necessary</i> All inks except metallic ones	
3	Label on body or cover, if necessary PS, OPS and PS-based IML	

## Pots and trays with a clear PET body (1/6) (based on the latest information available to COTREP in 2025)

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#### Key

<sup>(1)</sup>Limit additives, particularly halogenated elements <sup>(2)</sup>Mineral-filled, expanded PET materials are not translucent. They are not currently included in the stream.

<sup>(3)</sup>EuPIA Best Practices

#### For further details

#### **Fillers and density**

Designs

## Pots and trays with a clear PET body (2/6) (based on the latest information available to COTREP in 2025)



#### RECOMMENDATIONS

#### Choice of closure system: cover *if necessary*



Non-sealed/bonded cover (1)

- Unprinted transparent PET
- ✓ PP or PE or other plastic of density < 1</p>

#### Sealed/bonded cover <sup>(2)</sup>

- Unprinted transparent PET that is peelable and/or with waterreleasable adhesive<sup>(4)</sup>
- ✓ PP or PE or other plastic with a density < 1, that is peelable</p> and/or with water-releasable adhesive<sup>(4)</sup>
- Unprinted transparent PET that is non-peelable and includes non water-releasable adhesive<sup>(4)</sup>

X Wood

**X** PVC

PET associated with a PET-based sealing layer, unprinted

#### Non-compatible closure systems

- **X** Coloured, opague or printed PET <sup>(3)</sup>
- Copolyester (PETG, PET-GAG, hot-fill PET) **X** Thermoset plastics
- Other plastic of density > 1
- Metal

#### **Designs/inks on cover**

- No printing
- Von-washable ink <sup>(4)</sup> Examples: sandwich printing or surface printing with varnish.
- X Washable ink (4)
- **X** Metallic ink

#### Find out more

#### Assembly via heat sealing

Preferably apply a polyester-based sealing layer <sup>(5)</sup> that remains mainly on the seal lid

#### Assembly via bonding

Preferably use an adhesive that is released during washing and/or remains mainly on the seal lid

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<sup>(1)</sup> Analysis based on the principle that a cover is not separated from the pot. Studies could be carried out to assess sorting potential.

<sup>(2)</sup> Studies need to be carried out to assess sorting and regeneration potential. <sup>(3)</sup>Sealed/bonded printed mono-PET covers require studies to assess their potential at sorting centres.

<sup>(4)</sup> Washing in water at 60-80° in alkaline conditions (with soda).

<sup>(5)</sup> Additional studies should be conducted on the sealing agents and their potential impact on the quality of rPET, particularly for food contact.

## Pots and trays with a clear PET body (3/6) (based on the latest information available to COTREP in 2025)



#### RECOMMENDATIONS

#### Choice of closure system: seal lid heat-sealed or bonded *if necessary*



#### **Unprinted transparent PET seal lid**

- ✓ Peelable and/or with water-releasable adhesive <sup>(2)</sup>
- Non-peelable and/or adhesive that is not released during washing<sup>(2)</sup>



#### Mono- or multi-material seal lid of density d<1 <sup>(1)</sup>, without metal

- Peelable and/or water-releasable adhesive<sup>(2)</sup>
- X Non-peelable and/or adhesive that is not released during washing<sup>(2)</sup>

#### Non-compatible seal lids

- **X** Seal lid of density < 1 with metal (aluminium layer, metallisation)
- X Mono- or multi-material seal lid of density >1 (excl. unprinted transparent PET)
- **X** Aluminium seal lid (peelable or not)
- Seal lid containing PVDC
- **\*** Thermoset plastics

#### Designs/inks on the closure system

- ✓ Non-washable ink<sup>(2)</sup> Examples: sandwich printing or surface printing with varnish.
- X Washable ink <sup>(2)</sup>
- **X** Metallic ink

#### Find out more

#### Assembly via heat sealing

Preferably apply a polyester-based sealing layer <sup>(3)</sup> that remains mainly on the seal lid

#### Assembly via bonding

Preferably use an adhesive <sup>(3)</sup> that is water-releasable and/or remains mainly on the seal lid

Key

<sup>(1)</sup> Examples: seal lid with several plastic resins, plastic/paper.

<sup>(2)</sup> Washing in water at 60-80° in alkaline conditions (with soda).

<sup>(3)</sup> Additional studies should be conducted on the sealing agents and adhesives

and their potential impact on the quality of rPET, particularly for food contact.

## Pots and trays with a clear PET body (4/6) (based on the latest information available to COTREP in 2025)



#### RECOMMENDATIONS

#### Labels

#### On body, cover or unprinted, transparent PET seal lid if necessary

- ✓ PP, OPP, PE with water-releasable adhesive\*, **partial** coverage rate
- ✓ PP, OPP, PE with water-releasable adhesive\*, full coverage rate
- ✓ Paper with water-releasable adhesive\*, **partial** coverage rate
- Paper with water-releasable adhesive\*, full coverage rate
- \* Paper, PP, OPP, PE with adhesive that is not released during washing
- **X** PVC
- Conter plastic with a density > 1 (e.g. PET on clear PET, PETg, PS, PLA packaging)
- **X** Multi-layer with aluminium layer (e.g. PP/aluminium, paper/aluminium)

#### On mono- or multi-material seal lid of d<1, without metal if necessary

- PP, OPP, PE and partial coverage rate
- ✓ PP, OPP, PE and full coverage rate
- Paper with water-releasable adhesive\*, partial coverage rate
- Paper with water-releasable adhesive\*, full coverage rate
- Paper with adhesive that is not released during washing
- ★ PVC
- Other plastic with a density > 1 (e.g. PET on clear PET, PETg, PS, PLA packaging)
- X Multi-layer with aluminium layer (e.g. PP/aluminium, paper/aluminium)

#### **Designs/inks on labels**

- Von-washable ink\*
- Washable ink\*





#### Size of the labels

- $\rightarrow$  Restrict the coverage and size of associated elements to maximise the chances of the pot or tray being detected at sorting centres
  - "Partial" coverage rate:
  - For packaging > 500 mL: surface area of < 70%
  - For packaging < 500 mL: surface area of < 50%

Reminder: the labels (element associated with the packaging body) should not disrupt recycling of the pot or tray body. If chemical recycling is used and they are made of PET they can be recycled.

\*Washing at 60-80°C in alkaline conditions (with soda).

#### Key ✓ Compatible ✓ Compatible but to be avoided Non-compatible and/or disruptive P&T Guide – V3.1 – January 2025

## Pots and trays with a clear PET body (5/6) (based on the latest information available to COTREP in 2025)





Key

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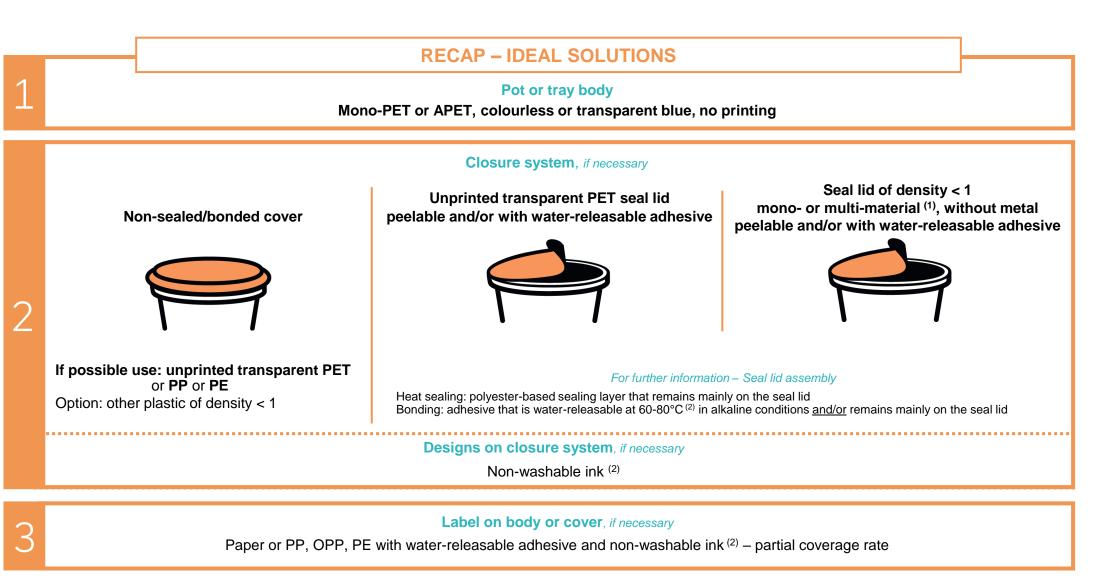
✓ Compatible ✓ Compatible but to be avoided **X** Non-compatible and/or disruptive

For further details

Other associated element: absorbent pad

\* Refer to the previous page for coverage rates. A full sleeve reduces capture efficiency at sorting centres.

## Pots and trays with a clear PET body (6/6) (based on the latest information available to COTREP in 2025)



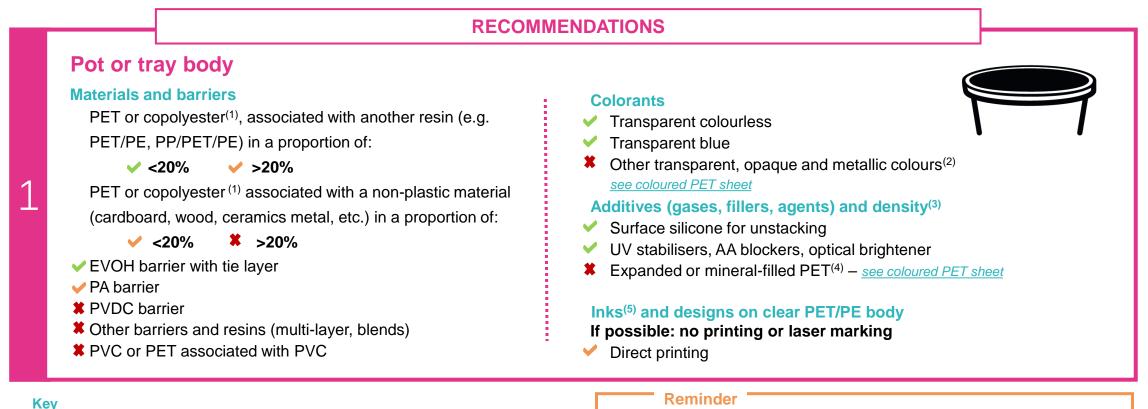
<sup>(1)</sup> Examples: seal lid with several plastic resins, plastic/paper. <sup>(2)</sup> 60-80°C in alkaline conditions (with soda).

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## Pots and trays with a clear PET/PE body (1/4)

(based on the latest information available to COTREP in 2025)





Designs

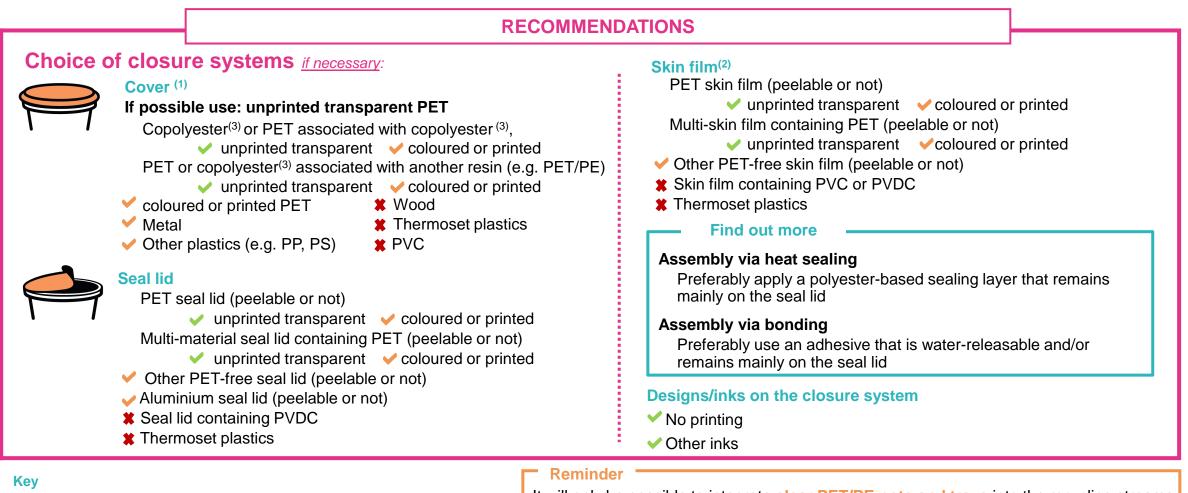
#### For further details

**Fillers and density** 

It will only be possible to integrate clear PET/PE pots and trays into the recycling streams if they are well designed and once the designated streams have been set up.

<sup>(1)</sup> Copolyester: PETG, PET-GAG, hot-fill PET. For PET, copolyester and clear PET/copolyester, refer to section "Pots and trays with a clear PET body". <sup>(2)</sup> Coloured and opague packaging items are not currently included in the stream. Research is underway to assess the possibility of including them in the medium/long term. <sup>(3)</sup> Limit additives, particularly halogenated elements. <sup>(4)</sup> Mineral-filled, expanded PET materials are not translucent. <sup>(5)</sup> EuPIA Best Practices

## Pots and trays with a clear PET/PE body (2/4) (based on the latest information available to COTREP in 2025)



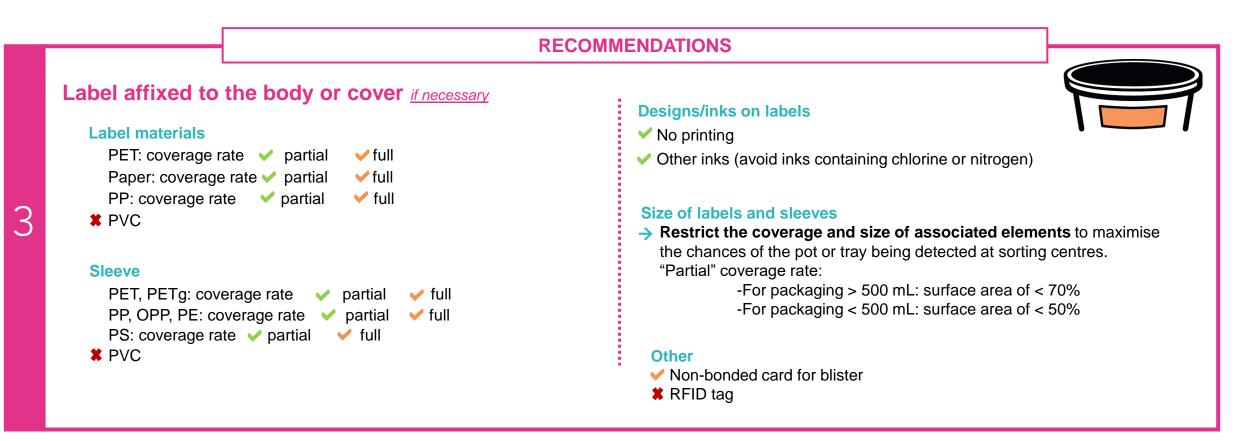
✓ Compatible ✓ Compatible but to be avoided **X** Non-compatible and/or disruptive

It will only be possible to integrate clear PET/PE pots and trays into the recycling streams if they are well designed and once the designated streams have been set up.

<sup>(1)</sup> Analysis based on the principle that a cover is not separated from the pot. Studies could be carried out to assess sorting potential. <sup>(2)</sup> Not much information is available about skin films yet. A specific study needs to be carried out.

## Pots and trays with a clear PET/PE body (3/4) (based on the latest information available to COTREP in 2025)





Reminder: as chemical recycling is used, PET labels can be recycled. Non-PET labels will not be recycled: they should not disrupt recycling of the pot or tray body.

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✓ Compatible ✓ Compatible but to be avoided **X** Non-compatible and/or disruptive

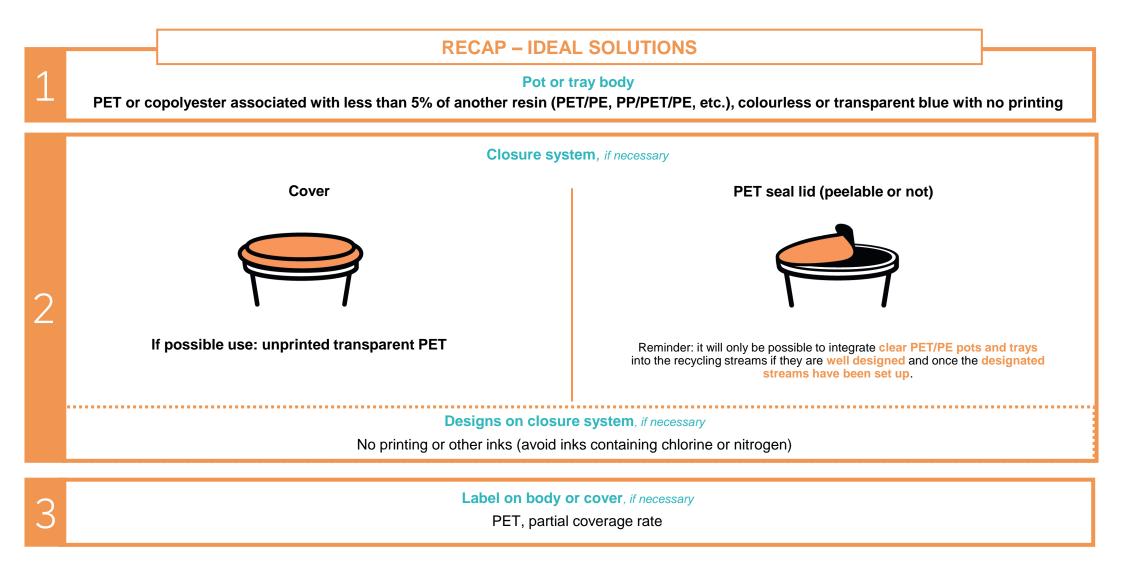
#### For further details

Other associated element: absorbent pad

#### Reminder

It will only be possible to integrate clear PET/PE pots and trays into the recycling streams if they are well designed and once the designated streams have been set up.

## Pots and trays with a clear PET/PE body (4/4) (based on the latest information available to COTREP in 2025)

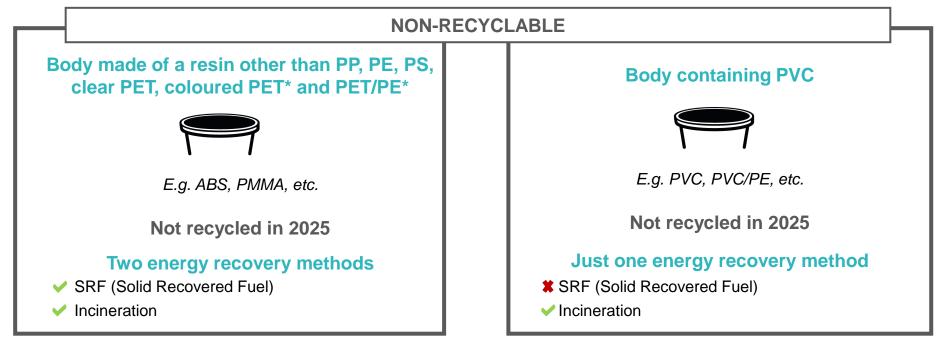


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### Pots and trays with a body made of PVC, ABS, etc.

(based on the latest information available to COTREP in 2025)

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#### Recommendation

Replace with a PP, PE, PS, clear PET, coloured PET\* or PET/PE\* resin

\* Streams under development/review

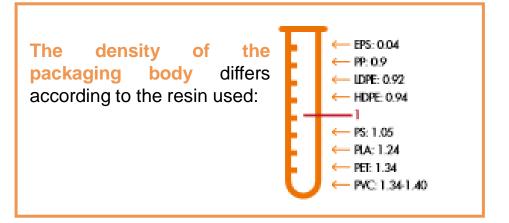


PEF, PHA, etc. New streams could emerge if the following conditions are met:

- There are sufficient quantities of material to open an industrial stream
- The material is collectable, sortable and recyclable with value-added outlets
- The material must have an economic and environmental benefit

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### **Focus on changes in density** (based on the latest information available to COTREP in 2025)



For mechanical recycling, all regeneration plants handling plastic packaging in Europe sort waste by density on their regeneration lines to purify the material to be recycled. Concerning recycling of French streams:

• For PET, PP and PE, sink-float tanks with a density of 1 are used.

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• For **PS**, a sink-float tank with a density of **1.1** is used.

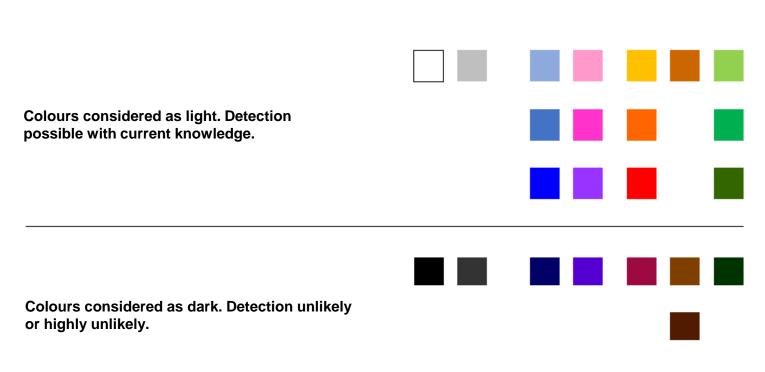
#### Consequences of a change in packaging body density

- □ The use of gases, blowing agents and fillers may alter the density of the pot or tray above or below the flotation limit (1 or 1.1 according to the recycling stream) and compromise recycling. For example:
  - Expanded PET (d<1) floats and may not be recycled</li>
  - Mineral-filled PP or PE (d>1) sinks and may not be recycled
  - Mineral-filled PS (d> 1.1) sinks and may not be recycled
- Even if the density does not go above or below the tank flotation level, the presence of gases, blowing agents and fillers in the plastic could also have an impact on sorting or regeneration and/or on the mechanical and rheological properties of the recycled material. This impact on the properties of the recycled material has not been evaluated by COTREP to date.



#### Explanation

The use of certain **colorant solutions** in dark, rigid plastic packaging, e.g. certain solutions containing carbon black, **can render dark packaging items undetectable by optical sorting** at sorting centres. These pigments absorb infrared radiation, which means that the packaging returns no signal and therefore cannot be identified at sorting centres and directed towards a recycling stream.



#### Find out more

Further information is available at:

https://www.cotrep.fr/etude-technique/

<u>https://www.citeo.com/le-mag/emballages-</u> <u>sombres-en-plastique-comment-les-</u> <u>rendre-detectables-en-centre-de-tri-pour-</u> <u>mieux/</u>

- A standard testing method for validating the detectability of your colorant solutions and/or dark packaging items
- Tried-and-tested solutions available



#### Context

- □ The tonnage of **pots and trays made of coloured PET and PET/PE, including CPET,** is low (~12kT placed on the market). There is currently no **dedicated recycling stream** for this packaging.
- □ In early 2021, COTREP published <u>recommendations</u> for pots, trays and other coloured and opaque rigid PET items. These recommendations were developed based on mechanical recycling of coloured PET trays.
- Approximately 4% of coloured PET pots, trays and other rigid packaging items placed on the market are currently recycled together with coloured PET bottles; this concerns mono-PET packaging without seal lids. The recommendations available on COTREP's website remain valid to prevent a negative effect on coloured PET bottle recycling.
- Where packaging items with a coloured PET/PE body are concerned, these items are currently not recyclable and are therefore rejected. COTREP has not yet issued recommendations for this packaging.

#### Study underway

Pots, trays and other rigid coloured PET and PET/PE items are undergoing assessment to envisage a potential switch to "recyclable", under the terms of the <u>QCE Decree</u> by 2027-2028. This consists of:

1/ Assessing the technical feasibility of channelling this packaging to recycling in sorting and secondary sorting centres.

2/ Checking the technical and economic feasibility of recycling this packaging in recycling streams under development, probably for chemical recycling.

Once it has confirmation of a recycling stream for this packaging, COTREP will update its recommendations for coloured PET and publish its recommendations for coloured PET/PE.

A series of tests performed by COTREP assessed the impact of absorbent pads on sorting and regeneration (particularly on clear PP and PET trays).

#### **Summary of recommendations**

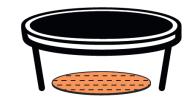
- □ Absorbent pads are associated elements and are not intended to be recycled. They should be designed so as **not to disrupt recycling of the tray** on which they are placed, particularly during mechanical recycling.
- In terms of capture at sorting centres, tests show that <u>an absorbent pad with a coverage rate of under 70%</u> facilitates tray channelling to the correct recycling stream.

#### - Recommendations for cellulose/PE absorbent pads

#### If possible: no adhesive or sealing

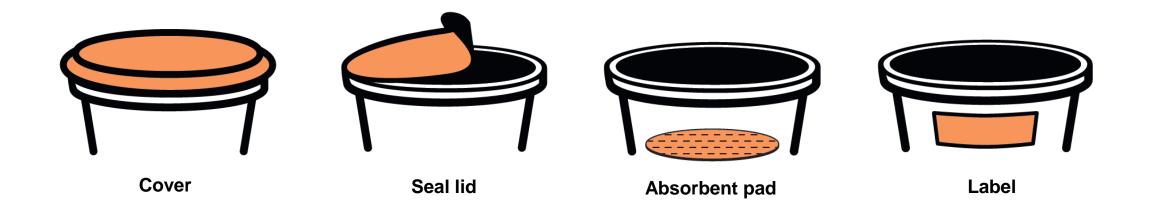
- Absorbent pad on PP tray, with or without adhesive, released during washing or not
- Absorbent pad on PS tray
- Absorbent pad on clear PET tray
- Absorbent pad on clear PET/PE tray
- ? Absorbent pad on coloured PET or PET/PE tray: see coloured PET sheet







- Multi-material packaging is the combination of at least two materials from the following six: plastic, paper/cardboard, cartons, glass, steel, aluminium.
- □ A multi-resin packaging item is a mono-material plastic packaging item (100% plastic) composed of several plastic resins (e.g. PET/PE trays).
- A mono-resin or "mono" packaging item is a mono-material plastic packaging item (100% plastic) composed of a single plastic resin.
- Associated elements are packaging elements connected to the main element (i.e. the body) and not automatically separated from the main element during consumption of the product and/or sorting by consumers. For pots and trays, the main associated elements are covers, seal lids, absorbent pads and labels. Inks and adhesives are associated materials.



#### Seal lid: refers to the "flexible top film" attached to the pot or tray.

NB: the seal lids available on the market are complex/multi-layer elements. "Mono-PET" seal lids are also multi-layer ("PET/sealing agent") made up of several PET grades.

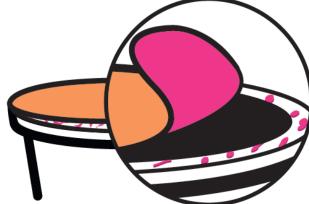
- A non-peelable seal lid is a seal lid in which the part sealed to the tray cannot be separated by the consumer. The seal lid and the tray are joined together too tightly (*i.e. the two parts are melted together*).
- A peelable seal lid is a seal lid that, once sealed to the tray, may be removed from it by the consumer (*i.e. the sealed part of the lid can also be detached from the tray*).

There are two types of peelability:

- Adhesive peelability: the seal lid is completely separated from the tray. Nothing remains on the tray, or at the most small residues of sealing agent or adhesive on the tray (preferred)
- Cohesive peelability or peelability that involves "breaking the sealing layer": the seal lid is separated from the tray but a layer of the lid remains on the tray



Non-peelable seal lid



Peelable seal lid Adhesive peelability



Peelable seal lid Cohesive peelability

#### Adhesive refers to:

- The adhesives used to assemble the associated elements (labels, absorbent pads, etc.)
- o The adhesives added to a heat-sealed seam to attach a seal lid to a preformed tray

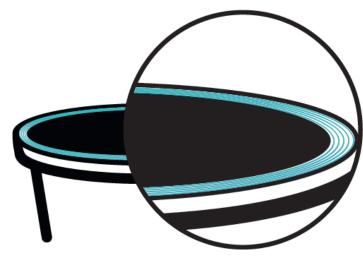
#### Please note, the word "adhesive" does not refer to:

- Sealing agents (i.e. the sealing layer) used on some seal lids to assemble/seal them to the tray.
- The "tie layer" between two layers of multi-layer packaging (e.g.: *PE/tie layer/EVOH/tie layer/PE*)

#### □ Seal lid assembly:

There are two types of seal lid/tray assembly:

- Bonding: firstly, an adhesive is added to the edge of the tray, then the lid is sealed to the tray by applying heat.
- Heat sealing: no adhesive is added between the tray and the seal lid.
  The seal lid and tray are joined together by applying heat to the sealing agent initially present on the seal lid.

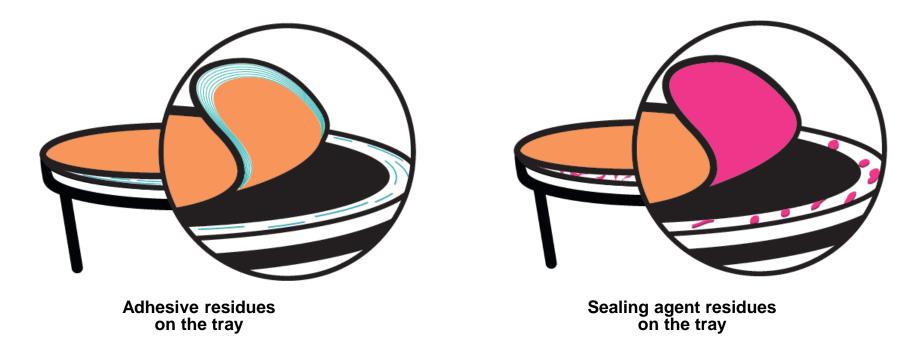


Tray before bonding



Tray before heat sealing

"Leaving no residue on the packaging" means "which leaves as little adhesive/sealing agent residue as possible on the pot or tray"



IML or in-mould labelling: a pre-printed label that is placed directly into the packaging mould before it is manufactured by injection moulding, blow moulding or thermoforming. The label is an integral part of the packaging after the fusion between the plastic resin and the label. No adhesive is used in this process.