



**Current trend to switch
from HDPE to PET in
household packaging:
A recycler's view**

Plastics Recyclers Europe HDPE WG
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Plastics Recyclers Europe's Mission



- ✓ Creation of conditions which enable profitable and sustainable business.
- ✓ Development by initiating recycling projects.
- ✓ Promotion of recycled plastics.
- ✓ Offering service platform.



HDPE/PP

All HDPE/PP containers collected in Europe are being recycled: colored and clear streams.



PET

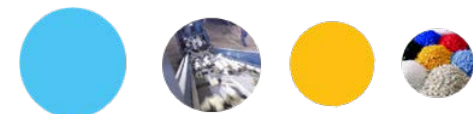
PET is recyclable
because it is clear, light blue and green- **THUS-** closing the loop to food and non food packaging and well defined applications.



Colored and white PET containers introduced into the market are disturbing the clear PET waste stream for packaging and when separated, will not find applications on the short-medium term (5 years).

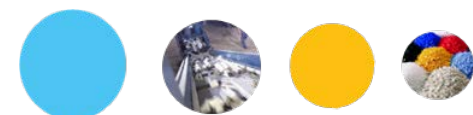
FACTS

- ✓ **HDPE/PP** containers are recycled in pipes, pallets for the colored ones and back to the food industry when natural.
- ✓ **White milk PET bottles** are not recyclable today nor chemically or mechanically.
- ✓ **Non food PET clear bottles** cannot be mixed in the food contact stream for food contact applications. EFSA indicates 5% max.
- ✓ **PET Opaque's** expected to bring additional tonnage 300kt/pa.
Chemical recycling in the mid term?



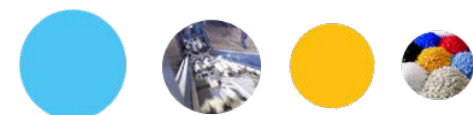
	YES	CONDITIONAL	NO
	Full compatibility – materials that passed the testing protocols with no negative impact OR materials that have not been tested (yet), but are known to be acceptable in PE-HD recycling	Limited compatibility – materials that passed the testing protocols if certain conditions are met OR materials that have not been tested (yet), but pose a low risk of interfering with PE-HD recycling	Low compatibility – materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PE-HD recycling
Container	PE-HD		
Colours	Colourless or light colours	Dark colours, black inner layer	Black
Barrier			EVOH, PA, PVDC
Additives			Additives making the material density >1 g/cm ³
Closure Systems	PE-HD, PE-LD, PP		material with density >1 g/cm ³
Liners, Seals and Valves	PE-HD, PE-LD, PE+EVA, PP		material with density >1 g/cm ³ (e.g. PS, PVC, EVA with aluminium)
Labels	PE-HD, PE-LD, PP	Paper, PET	material with density >1 g/cm ³ Metalised materials

HDPE PRE Bottles Guidelines (part one)



	YES	CONDITIONAL	NO
	Full compatibility – materials that passed the testing protocols with no negative impact OR materials that have not been tested (yet), but are known to be acceptable in PE-HD recycling	Limited compatibility – materials that passed the testing protocols if certain conditions are met OR materials that have not been tested (yet), but pose a low risk of interfering with PE-HD recycling	Low compatibility – materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PE-HD recycling
Sleeves	PE	PE, PET and PET-G, PE stretch sleeves Shrink sleeves with perforations and revealing less than 30% of the HDPE bottle	material with density >1 g/cm ³ (e.g. PVC, PS, PET-G and other materials) Metalised materials; heavily inked sleeves
Tamper Evidence Wrap	PE, PP, OPP, EPS (all with density <1 g/cm ³)	Aluminium than can be peeled out	Metal, foiled paper
Adhesives	water soluble (less than 80°C)		pressure-sensitive labels; self-adhesive labels
Inks	non-toxic; follow EUPIA Guidelines		inks that bleed; toxic or hazardous inks
Direct Printing	laser marked	production or expiry date	any other direct printing
Other Components	base cup, handles or other components which are separated by grinding and have a density <1 g/cm ³ ; PET		materials with density >1 g/cm ³ (e.g. metal, RFID tags); other plastics materials with density >1 g/cm ³

HDPE PRE Bottles Guidelines (part two)



Strategic household waste recycling sector

Innovations

Close loop recycling segment

Unclose loop recycling segment and reuse

Non recyclable and limited applications segment

Food contact (bottles) & clear PET Packaging (trays monolayers)

PET Fibbers

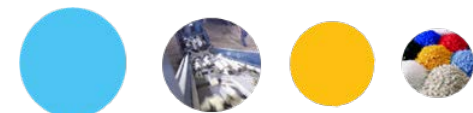
Mixed coloured HDPE (pipes & pallets)

PP/PPT automotive compound

PS

Green coloured PET (strapping)

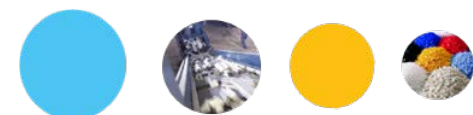
PET: milk bottles, opaque's, non-food, clean PET (impossible to differentiate by automatic sorting)



Solutions & Actions for HDPE/PP



- ✓ **Alert again all the stakeholders and the sector of the situation** (Jointly with PET WG, PETCORE...)..
- ✓ **Think tank to develop the PP collection in Europe.**
- ✓ **Polyolefins Circular Economy Platform**
 - ✓ **PRE, EuPC & PlasticsEurope**
 - ✓ **Launched during K2016**
 - ✓ **Working programme under construction**



Solutions & Actions for HDPE/PP

✓ Guidance to recycling





Plastics Recyclers Europe represent National Associations and Individual Member Companies covering 80% of the European market.

We focus on the promotion of plastics recycling and the creation of conditions which enable profitable and sustainable business.

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