











GENERAL NOTICE
Technical Sheet

SUBJECT

Effects of a master batch containing TiO₂ and mica (for colouring PET bottles) on PET bottle recycling.

IMPACT SUMMARY TABLE

Recycling stage	Impact	Description	Consequences
 Pre-washing (optional)	∅		
 Sorting of bottles	∅		
 Grinding	∅		
 Washing	∅		
 Flake floating and separation	∅		
 Flake sorting (optional)		One opaque flake detected ⇒ up to 100 flakes eliminated	• Higher losses ➤ Increase in waste to be processed
 Granulation (optional)	∅	Up to the tested concentration limit of 500 ppm, TiO ₂ and mica do not disrupt material processibility	
 Recycling		For a unit TiO ₂ and mica concentration of 500 ppm and average particle sizes below 50 microns: <ul style="list-style-type: none"> • Material processibility is not disrupted. • Quality of finished fibre product is not affected. • Finished strapping and bottle products are opacified and off-spec ⇒ for these applications, opaque bottles are systematically eliminated.	• Higher losses ➤ Increase in waste to be processed

 Caution ∅ No impact ⌚ Under examination ➤ **Environmental consequences**

GENERAL OPINION

TiO₂ and mica-based opacifying master batches significantly disrupt PET bottle recycling in strapping and bottle applications. However, fibre, the current main application for the coloured stream, is not disrupted (tested concentration: up to 500 ppm TiO₂ and mica, average particle size less than 50 microns).

Opaque bottles containing these master batches are systematically removed by recyclers from the part of the coloured stream intended for strapping and bottle applications.

**In the current state of equipment and techniques used and available in Europe, an increase in opaque packaging would lead to a significant increase in losses.
Consequently, COTREP advises against the use of this type of master batch for PET bottles.**