

**GENERAL NOTICE**  
*Technical Sheet*

**SUBJECT**

Behaviour of a pump with steel parts in HDPE and PP bottles recycling.

**SUMMARY OF RECLAIMING / RECYCLING IMPACTS**

Recycling steps	Impact	Description	Consequences
Sorting of bottles		1 bottle with steel part detected, ⇒ up to 5 bottles with no steel parts ejected.	<ul style="list-style-type: none"> <li>Higher losses</li> <li>➤ Increase in waste to be processed</li> </ul>
Pre-washing (optional)	∅		
Grinding	∅		
Washing	∅		
Flake floating and separation		One steel particle stuck on HDPE flakes ⇒ Steel remains in the HDPE stream	<ul style="list-style-type: none"> <li>HDPE stream polluted</li> </ul>
		Steel particles not stuck ⇒ Separation by flotation	<ul style="list-style-type: none"> <li>Higher losses</li> <li>➤ Increase in waste to be processed</li> </ul>
Granulation (optional) and Recycling		Presence of steel particles: ⇒ - Filters plugging - Extrusion die plugging - Visual defects - Holes, etc	Process disruption - increase in machine stoppages - higher losses <ul style="list-style-type: none"> <li>Quality defects</li> <li>➤ Increase in waste to be processed</li> </ul>

Caution ∅ No impact ⌚ Under examination ➤ Environmental consequences

**GENERAL OPINION**

Based on the equipment and technologies currently used and available in Europe, the presence of this closure system increases the amount of waste to be processed.

To improve recycling efficiency, COTREP recommends studying alternative systems that take into account the compatibility of materials between each other.