COTREP

Comité Technique pour le Recyclage des Emballages Plastiques

PET
AT 23-14

# TECHNICAL NOTICE - SORTING

## Detectability and sorting of the colorant solution HOLLAND COLOURS / Holcobatch Black 115076 at sorting centers

### APPLICATION DESCRIPTION

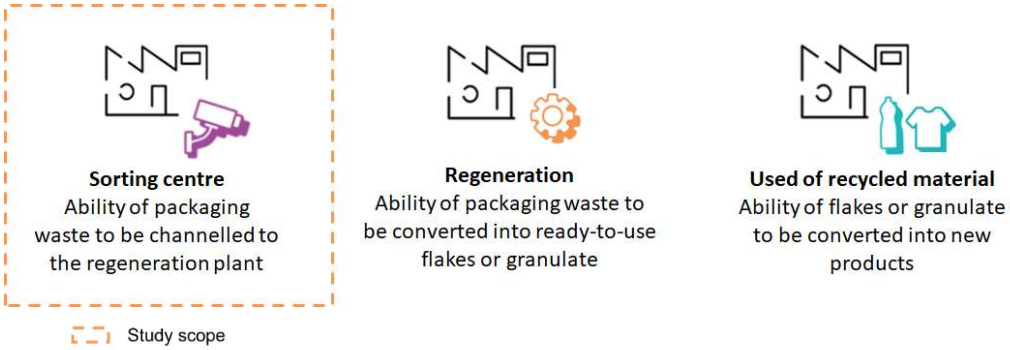
| GENERAL INFORMATION | |
|---|---|
| APPLICANT | HOLLAND COLOURS |
| APPLICATION DATE | 2023 |
| REFERENCE OF THE COLORANT SOLUTION | Holcobatch Black 115076 |
| MIN AND MAX LIMIT FOR CONCENTRATION OF THE COLORANT SOLUTION | 1% to 1,2% |

| DESCRIPTION OF THE COLORANT SOLUTION | |
|---|---|
| COLOR | Black |
| SOLUTION SUITABLE FOR | PET rigid packaging |

**PURPOSE OF THE APPLICATION**

To test the detectability at French sorting centers of the black colorant solution Holcobatch Black 115076, which is provided by HOLLAND COLOURS and used to color PET rigid packaging.

**This notice relates to the detectability and sortability of the colorant solution and not the recyclability of the packaging as a whole.**




## TECHNICAL CONCLUSIONS

Given the evidence provided to COTREP, and in view of the results presented in the test reports from optical sorting (O.S.) equipment manufacturers, HOLLAND COLOURS black colorant solution Holcobatch Black 115076 used to color PET rigid packaging is detectable by optical sorting in conditions representative of the technology used in French household packaging waste sorting centers. Use of a proportion of between 1% and 1,2% of this colorant solution in PET rigid packaging will enable it to be detected and channeled to the colored PET packaging stream with a satisfactory level of performance. Although COTREP is issuing a positive opinion regarding the detectability and sortability HOLLAND COLOURS black colorant solution Holcobatch Black 115076, this opinion provides no indication of the recyclability of the packaging as a whole.

This notice is valid when the colorant solution:

- is used in the manufacture of PET rigid packaging;
- has a proportion between 1% and 1,2%;
- is not used with production scrap, other colorant solutions or recycled materials potentially containing carbon black.

COTREP reserves the right to review its opinion if the company modifies the composition of the colorant solution.

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## FIND OUT MORE

The extension of sorting guidelines to all plastic packaging has led to the modernization of sorting centers in France. In particular, centers are automating their processes and acquiring optical separators using near infrared technology.

This step in the sorting process is critical to separating plastic packaging. It enables packaging to be sorted by resin and color.
At this step in the sorting process, undetectable packaging is rejected by sorting centers and sent for energy recovery.
Carbon black pigment, which is currently widely used for dark-colored packaging, absorbs infrared light emitted by the optical sorting equipment and returns no signal. Consequently, the packaging is not detected and therefore neither sorted nor recycled.

HOLLAND COLOURS black colorant solution Holcobatch Black 115076 used to color PET rigid packaging offers an alternative to undetectable colorant solutions. The results of static and dynamic tests performed on the premises of two O.S. manufacturers (PELLENC SA and TOMRA) according to the COTREP procedure were positive. PET rigid packaging containing between 1% and 1,2% of black colorant solution Holcobatch Black 115076 was detected and channeled to the colored PET stream with the same level of performance (quality, capture rate) as other rigid PET household packaging waste.

The conclusions set out in this notice are based on a set of commitments undertaken by each of the parties indicated below.

HOLLAND COLOURS undertook to:

- use the sorting procedure provided by COTREP ("COTREP optical sorting test procedure for assessing the detectability of dark packaging at optical sorting stages" - version of November 2021[1]);
- perform tests on the premises of two O.S. manufacturers representative of existing sorting facilities in France;
- submit test reports to COTREP for its analysis and opinion;
- offer a colorant solution that:
    - meets the essential requirements of the Packaging and Packaging Waste Directive (94/62/EC).
    - does not alter the density of the packaging: the density of packaging mainly consisting of PP or PE must be < 1 and > 1 for packaging mainly consisting of PET or PS.

The O.S. manufacturers made an undertaking to COTREP to:

- follow the procedure in its entirety;
- perform tests using technologies and machine settings representative of those used in current sorting centers and under normal operating conditions.

Paris, June 5th 2023

[1] Available on COTREP's website : https://www.cotrep.fr/content/uploads/sites/3/2019/02/2021-cotrep-protocole-test-tri-optique-emballages-sombres-v1-en-2.pdf