COTREP

Comité Technique pour le Recyclage des Emballages Plastiques

PE

AT 22-16

TECHNICAL NOTICE - SORTING

Detectability and sorting of the colorant solution PLASTIKA KRITIS / KRITILEN BLACK 92001-1 at sorting centers

APPLICATION DESCRIPTION

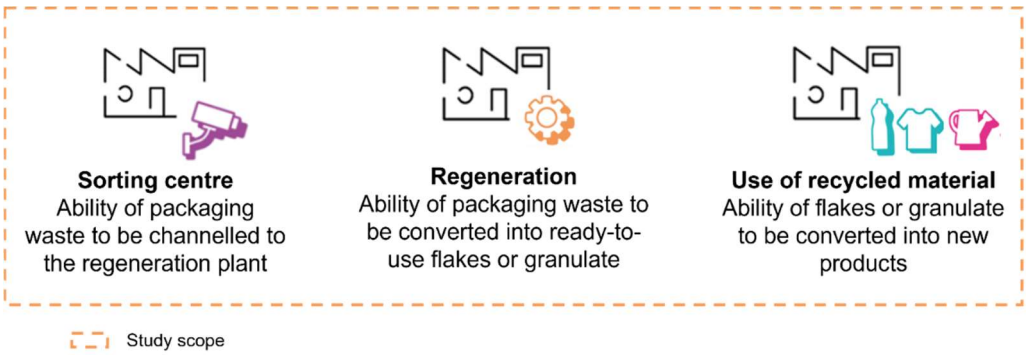
GENERAL INFORMATION	
APPLICANT	PLASTIKA KRITIS
APPLICATION DATE	2022
REFERENCE OF THE COLORANT SOLUTION	KRITILEN BLACK 92001-1
MAX LIMIT FOR CONCENTRATION OF THE COLORANT SOLUTION	2 %

DESCRIPTION OF THE COLORANT SOLUTION	
COLOR	Black
SOLUTION SUITABLE FOR	Rigid PE packaging

PURPOSE OF THE APPLICATION

To test the detectability at French sorting centers of the black colorant solution KRITILEN BLACK 92001-1 which is provided by PLASTIKA KRITIS and used to color rigid PE 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, PLASTIKA KRITIS black colorant solution KRITILEN BLACK 92001-1 used to color rigid PE 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 less than or equal to 2% of this colorant solution in rigid PE packaging will enable it to be detected and channeled to the PE packaging stream with a satisfactory level of performance.

Although COTREP is issuing a positive opinion regarding the detectability and sortability PLASTIKA KRITIS black colorant solution KRITILEN BLACK 92001-1, 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 rigid PE packaging;
- has a maximum proportion of 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.

PLASTIKA KRITIS black colorant solution KRITILEN BLACK 92001-1 used to color rigid PE 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. Rigid PE packaging containing 2% of black colorant solution KRITILEN BLACK 92001-1 was detected and channeled to the PE stream with the same level of performance (quality, capture rate) as other rigid PE 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.

PLASTIKA KRITIS 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, October 17th 2022

[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