Customer Information Note

The acceptability of using carbon black pigment in inks for plastic packaging which is destined to be recycled

For plastic packaging placed onto the market it is important that there is an end-of-life plan, which should involve a strategy to collect, sort and ultimately create value from the recycling stream. In Municipal Recycling Facilities (MRFs), where recycled waste is sorted, the plastic waste is normally sorted into different chemical classes by its near-infra-red (NIR) signature. The typical recyclate streams that this creates are LDPE, HDPE, PP and PET.

Black ink typically uses carbon black pigment (CI Pigment Black 7 CAS # 1333-86-4) which reduces the NIR reflection, but it is very unusual for packaging to be 100% covered with an ink containing carbon black. If the printing on the package includes some black ink there is still enough NIR reflection for the sorting equipment to identify and correctly sort the plastic. There is therefore no need to eliminate carbon black pigments, or black inks, used to print plastic packaging.

In contrast, if plastic packaging is bulk coloured with carbon black pigment, then there is insufficient NIR reflection from the black packaging and it is often not possible for the sorting equipment to determine which kind of plastic it is. If the sorting equipment cannot determine the type of plastic, then the packaging cannot be recycled. Typically, when this happens the black packaging is burned with energy recovery, which is less beneficial for the environment than recycling. There is therefore a move in the industry to reduce the use of bulk coloured black plastic (such as black PET trays).

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