

Eastar™ copolyester EB062 resin ID code

Position statement

Resin identification coding and recyclability are two related but separate concepts. Resin identification codes (RIC), the 1–7 numbers displayed on the bottom of most containers, were developed by the Society of the Plastics Industry (SPI) simply to identify the resin type used in a package to help facilitate the sorting of packaging materials during the recycling process. By contrast, recyclability implies that a package is currently collected, separated, or recovered from the solid waste stream and used again in its original or new application. Unfortunately, since a system to indicate recyclability was never developed, consumers often mistakenly assume that all packages marked with a resin ID code are recycled. It is important to note that some packages marked with a resin identification code may not actually become recycled for a variety of reasons, and thus the presence of an RIC code is not intended to guarantee that the package is recyclable. ASTM administers and is responsible for this standard now, D7611. Information on the proper use of the ASTM resin identification code can be found at <https://www.astm.org/Standards/D7611.htm>.

Eastman Chemical Company is a large supplier of resins used for plastic packaging, most notably polyethylene terephthalate (PET) grades used in injection stretch blow molding (ISBM) applications. PET is identified by resin identification code 1. Eastar™ copolyester EB062 is a modified PET product that is chemically and aesthetically similar to the PET resins used in ISBM applications. However, EB062 is modified so that it can be processed by extrusion blow molding (EBM) and not by ISBM. The vast majority of bottles made with EB062 are used in clear handleware applications in the food, beverage, and consumer packaging markets.

Eastman has conducted technical and marketplace studies to assist customers of Eastar™ copolyester EB062 in identifying the proper RIC for their products. As indicated in the accompanying white paper, it is anticipated that the concentration of EB062 in the overall PET packaging market will not exceed 1%. Extensive internal and external recycle studies conducted by Eastman Chemical Company have shown that Eastar™ EB062 copolyester, when present at 5% relative to the overall amount of PET (i.e., 5 X higher than the amount anticipated in the marketplace), is compatible with the PET PCR ("1") stream when respecting the market conditions highlighted in the accompanying white paper. Our internal technical evaluation utilized test methods suggested in the Association of Post Consumer Plastics Recyclers Critical Issues Guidance for PET Innovations, as well as additional flake dryer tests. This 5% level is notably higher than the level at which other resins are tolerated in the PET stream.

Eastman Chemical Company has also asked Comité Technique pour le Recyclage des Emballages Plastiques (COTREP), a representative member of the European Association of Plastics Recycling and Recovery Organizations (EPRO), to assess the compatibility of Eastar™ copolyester EB062 with recycling of the PET stream. Tests were carried out by COTREP and Phoenix Technologies Incorporated (PTI) following the COTREP and Petcore protocols. Test concentrations were based on expected market penetration of copolyesters in the niche market for extrusion blow molded handleware containers as well as on agreed safety or accumulation factors. Based on the test results, COTREP has concluded that EB062 does not disturb the recycling of PET post consumer bottles.

Eastman's technical and marketplace studies have shown that Eastman Eastar™ copolyester EB062 is compatible with the PET PCR stream when respecting the market conditions highlighted in the EB062 recycling white paper. However, brand owners and/or converters are ultimately responsible for determining which resin identification code to place on their packaging. Because Eastman cannot know the specific market characteristics of each EB062 customer, it is important that our customers evaluate the applicability of this approach to their unique markets before determining if a resin identification code of 1 is appropriate. While some brand owners and converters have chosen to place a RIC 7 (Other), or even "7 compatible with 1" resin identification code on their EB062 bottles, a "1" code may also accurately reflect the ability of an EB062 package to be recycled in the current PET PCR stream.*

Eastman also emphasizes that it is important for all members of the value chain to be responsible in discarding their Eastar™ EB062 copolyester post-industrial material. If this material cannot be recycled into their own manufacturing system, converters should not introduce large bales of highly concentrated EB062 bottles into the PET post industrial recovery stream as this could cause problems in some recycling systems. EB062 regrind has a high market value and should be reused for high end applications.

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**As of October 2018, Eastar EB062 cannot be labeled as RIC 1 for California sales according to California Public Resources Code 18013. The aforementioned ASTM standard has not changed so Eastar EB062 can still be labeled as RIC 1 in all other US states.*

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