



## WHY POLYMER IDENTIFICATION CODES?

The resin / polymer identification code has been developed to provide a consistent national system to facilitate recycling of post-consumer plastics through the normal channels for collecting recyclable materials from household waste. Improper use of the resin / polymer identification code can have serious ramifications for individual manufacturers and could jeopardize the integrity of the coding system.

### **Users of the code are encouraged to adhere diligently to the following guidelines:**

- Use the code on bottles and rigid containers
- Use the code solely to identify resin content.
- Make the code inconspicuous at the point of purchase so it does not influence the consumer's buying decision.
- Do not modify the elements of the code in any way (i.e., do not replace the resin acronym in the code and do not use other types of chasing arrows).
- Do not make recycling claims in close proximity to the code, even if such claims are properly qualified.
- Do not use the term "recyclable" in proximity to the code.
- The code should be molded, formed or imprinted on all containers that are large enough to accept the 1/2" minimum-size symbol and all containers between eight-ounce size and five gallons.
- The code should appear on the bottom of the container, as close to the center as feasible. Placing it in a similar location on all containers allows the code to be quickly located and easily identified.

### **Introduction**

Many manufacturers are positioning their products to meet the public's desire for environmentally responsible products. For those manufacturers working with plastics, this may include facilitating the recovery of plastic products and components through the use of a resin / polymer identification code.

The major resin coding systems established to date were all developed as voluntary. As such, they do not include mechanisms to monitor proper usage of codes or take action against

misuse. The integrity of coding systems is therefore dependent on the good faith efforts of manufacturers to use the codes in keeping with their intended purposes.

This document highlights the issues involved and offers guidelines for the proper use of the resin / polymer identification code.

## **The Value of Resin / Polymer Identification Codes**

Plastic is not any one material. Rather, it is a family of related materials with varying properties that can be engineered to meet the requirements of a broad range of applications. The success of a product often is dependent on matching the right plastic - with the right properties - to the right application.

The same is true when the material in question is a recycled plastic. As a result, there is a premium placed on the purity of post-use plastics. The more uniform the post-use plastics going in, the more predictable the properties of the recycled plastic coming out. Coding enables individuals to perform quality control (i.e., sorting) before recycling, ensuring that the recycled plastic is as homogenous as possible to meet the needs of the end markets.

Another potential benefit of coding is that it may facilitate the recovery of plastics not currently collected for recycling. If there is a readily identifiable supply of a given material in the waste stream, it may drive recycling entrepreneurs to explore means of recovering that material in a cost-effective manner.

These benefits of resin identification have led a number of entities to develop coding systems, including SPI, the Society of Automotive Engineers (SAE), the American Society for Testing and Materials (ASTM) and the International Organization for Standardization (ISO). Except where laws may require the use of a particular code, manufacturers have the option of selecting the coding system most appropriate for their product.

The overwhelming majority of plastic packaging is made with one of six resins: polyethylene terephthalate (PETE); high density polyethylene (HDPE); polyvinyl chloride (PVC or vinyl); low density polyethylene (LDPE); polypropylene (PP); or polystyrene (PS). The resin identification code assigns each of these resins a number from 1 to 6.

The coding system also includes a seventh code, identified as "other." Use of this code indicates that the product in question is made with a resin other than the six listed above, or is made of more than one resin used in combination. The "other" code was developed to address legislative demands that all consumer packages fitting certain size and functional parameters feature a resin identification code.