



# Environmental Foam Facts

## Polystyrene foam can be recycled as part of an integrated solid waste management strategy.

Many cities throughout the United States are implementing recycling programs for polystyrene foam that include post-consumer foam cups and take-out containers. Unlike some popular alternative packaging, foam products are only made with one material, polystyrene. This simplicity helps make foam recycling more efficient. For a list of drop-off and curbside recycling programs for foam, go to [www.dart.biz/recycle](http://www.dart.biz/recycle) or [www.HomeForFoam.com](http://www.HomeForFoam.com).

## The manufacture of Dart polystyrene foam products does not deplete the ozone layer.

Dart polystyrene foam products are not manufactured with chlorofluorocarbons (CFCs) or any other ozone-depleting chemicals. Moreover, Dart Container Corporation never used CFCs in the manufacture of foam cups. Those foodservice manufacturers of polystyrene foam that employed CFCs in their manufacturing processes ceased using them by 1990.<sup>1</sup>

According to the EPA, polystyrene foam foodservice products constitute less than 1 percent, by both weight and volume, of our country's municipal solid waste and according to a 1992 study published in Smithsonian Magazine, only about 10% of all foam manufactured during the past decade was used for fast food packaging.<sup>2</sup>

## Polystyrene foam is composed of carbon and hydrogen. When properly incinerated polystyrene foam leaves only carbon dioxide, water, and trace amounts of ash.<sup>3</sup>

In modern waste-to-energy incinerators, the energy generated by the incineration of polystyrene foam cups and other solid waste can provide heat and light for neighboring communities.<sup>4</sup>

## Hot Cup Comparison Summary<sup>5</sup>

EPS Vs. Polyethylene Coated Paper Hot Cup (PE/Paper)		EPS Vs. PE/Paper and Corrugated Sleeve
+	Energy Usage	+
+	Solid Waste weight	+
=	Solid Waste volume	+
+	Air Emissions	+
+	Water Emissions	+
=	GHG Emissions	+

Key: + Advantage EPS    = No significant difference    - Disadvantage EPS

In summary, EPS overwhelmingly wins all 6 out of 6 categories against a paper cup with a sleeve, and wins 4 out of 6 against a paper cup without a sleeve while tying the remaining 2 categories.

> According to a study researched by Franklin Associates, Ltd., a widely respected firm that has conducted other research for the US EPA, polystyrene foam compares favorably to paper cups when life cycle inventory data for energy usage, solid waste, air emissions and greenhouse gas emissions is evaluated over their entire life cycle.



# Notes

<sup>1</sup> Judd H. Alexander, *In Defense of Garbage* (Westport, CT: Praeger Publishers, 1993) p. 55.

<sup>2</sup> According to a 1998 report by Franklin Associates, Ltd., polystyrene and other plastic products do not comprise the largest volume of material within the waste stream. Indeed, the report concludes that paper and yard trimmings together constitute about 51.6 percent of generation. Thus, while it may be preferable to divert all materials from landfills whenever possible, polystyrene foam does not present the paramount problem for municipal solid waste or, for that matter, landfill capacity. In fact, when polystyrene foam products are buried in landfills, they are as stable and harmless as rocks, concrete, and other inert materials. William Rathje and Cullen Murphy, "Five Major Myths About Garbage, and Why They're Wrong," *Smithsonian*, July 1992, p. 3. See also: Franklin Associates, Ltd., *Waste Management and Reduction Trends in the Polystyrene Industry, 1974–1994*, June 1996, p. 7; Updated August 1999; and *Municipal Solid Waste in the United States, 2009 Facts and Figures*. United States Environmental Protection Agency Office of Solid Waste, December, 2010.

<sup>3</sup> The Polystyrene Packaging Council, *Polystyrene and Its Raw Material, Styrene: Manufacture and Use*, November 1993, pp. 27–28.

<sup>4</sup> In past years, waste-to-energy has been viewed negatively by persons concerned about the environmental effects of incinerations. As technology has improved, however, modern incinerators have become a safe and effective method of handling many post-consumer materials. According to Franklin Associates, Ltd., a leading solid waste consulting firm, "At some point after 2000, the use of finite resources, e.g. fossil fuels, may lead to a more welcoming climate for expansion of waste-to-energy as an alternative solid waste management technique." Franklin Associates, Ltd., *Solid Waste Management at the Crossroads*, December 1997, p. 1-24.

<sup>5</sup> Franklin Associates, Ltd., Final Peer-Reviewed Report: Life Cycle Inventory of Polystyrene Foam, Bleached Paperboard, and Corrugated Paperboard Foodservice Products (Prepared for The Polystyrene Packaging Council, March 2006), Chapter 2, p. 7 (Table 2-2), Chapter 2, p. 33 (Table 2-10), Chapter 2, p. 34 (Table 2-14), Chapter 2, p. 38 (Table 2-18).

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