



Green Care: Environmental Facts about Dart Foam Products

Most paper foodservice products are coated with wax, polyethylene plastic, or other non-biodegradable materials and are, therefore, essentially no more degradable than foam.

Polystyrene foam, like most plastics, does not biodegrade.¹ The lack of biodegradation may be a positive feature of plastics, according to Dr. William L. Rathje, an archaeologist with the University of Arizona's Garbage Project and one of the nation's foremost authorities on solid waste and landfills. "The fact that plastic does not biodegrade, which is often cited as one of its great defects, may actually be one of its great virtues," Dr. Rathje has written.² In fact, biodegradation can lead to the release of harmful methane gas or leachate, which can contaminate groundwater.³

The manufacture of polystyrene foam hot beverage cups requires less energy than the manufacture of comparable plastic-coated paperboard hot cups with sleeves, and the manufacturing of polystyrene foam cold beverage cups requires less energy than the manufacture of representative-weight wax-coated paperboard cold cups.

An average-weight polystyrene hot beverage cup requires less than half as much energy to produce as an average-weight polyethylene (PE) plastic-coated paperboard hot cup with a corrugated cup sleeve.⁴

An average-weight polystyrene cold beverage cup requires just over one-third as much energy to produce as a representative-weight wax-coated paperboard cup.⁵

Plastic-coated paperboard cups don't insulate as efficiently as foam cups.

Plastic-coated paper cup users frequently use two cups together for hot beverages to protect their hands. This "double cupping" of an average-weight polyethylene (PE) plastic-coated paperboard cup results in over twice as much energy use and solid waste by volume, over five times as much solid waste by weight, and nearly twice as much greenhouse gas emissions as the use of a single average-weight polystyrene cup.⁶

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 1990.⁷

Polystyrene foam can be recycled as part of an integrated solid waste management strategy.⁸

Paper foodservice disposables, on the other hand, are rarely recycled. To assist in improving polystyrene recycling rates, Dart Container Corporation established several polystyrene foam recycling facilities in the US and one in Canada. For information on any polystyrene recycling programs that may be available in your area, please visit the Environment section of our website at <http://www.dart.biz> or call 1-800-288-CARE.

Polystyrene foam is composed of carbon and hydrogen. When properly incinerated polystyrene foam leaves only carbon dioxide, water, and trace amounts of ash.⁹

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.¹⁰

Polystyrene foam foodservice products do not "clog" landfills.

Polystyrene foam foodservice products constitute less than 1 percent, by both weight and volume, of our country's municipal solid waste.¹¹

For additional environmental information, visit our website at www.dart.biz



Notes

¹ The Polystyrene Packaging Council, *Polystyrene And Its Raw Material, Styrene: Manufacture and Use*, November 1993, p. 1.

² William L. Rathje, “Rubbish!” *The Atlantic Monthly*, December 1989, p. 103.

³ William Rathje and Cullen Murphy, “Five Major Myths About Garbage, and Why They’re Wrong,” *Smithsonian*, July 1992, p. 5.

⁴ 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), Table 2-2, p. 2-7.

⁵ *Ibid*, Table 2-3, p. 2-8.

⁶ *Ibid*, pp. 2-7, 2-23, 2-43, 2-60.

⁷ Judd H. Alexander, *In Defense of Garbage* (Westport, CT: Praeger Publishers, 1993) p. 55.

⁸ The rate of recovery for recycling of polystyrene disposables and protective packaging more than doubled from 1989 to 1994. Since 1994, outlets for recycling polystyrene foam have declined for a number of reasons, including poor economics and an increasing awareness by many consumers that other methods of solid waste management exist. For example, foam loosefill packing material may be reused and polystyrene and other plastic products can be easily and safely incinerated. Franklin Associates, Ltd., *Waste Management and Reduction Trends in the Polystyrene Industry, 1974–1994*, June 1996, pp. 17–18; Updated August 1999.

⁹ The Polystyrene Packaging Council, *Polystyrene and Its Raw Material, Styrene: Manufacture and Use*, November 1993, pp. 27–28.

¹⁰ 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.

¹¹ Moreover, 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 Franklin Associates, Ltd., *Municipal Solid Waste in the United States 2003 Facts and Figures* (Prepared for the U.S. Environmental Protection Agency, April, 2005).

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