

September 28, 2011

*District of Columbia
Bladensburg*
Bowie
College Park
Frederick
Frederick County
Gaithersburg
Greenbelt
Montgomery County
Prince George's County
Rockville
Takoma Park
Alexandria
Arlington County
Fairfax
Fairfax County
Falls Church
Loudoun County
Manassas
Manassas Park
Prince William County*

TO: Climate, Energy and Environment Policy Committee
FROM: John Snarr, Principal Planner/Technical Manager
COG
SUBJECT: Polystyrene Food Container Issues

Several dozen United States cities have enacted a form of ban on polystyrene food service ware over concern for human health and the negative impacts on the environment.

What is Polystyrene?

Polystyrene is a plastic made from fossil fuels and styrene (vinyl benzene). It can be frequently identified by the resin identification code #6 inside a chasing arrows symbol stamped on the bottom of food service items. There are two main types of polystyrene related to food service in use: a foam known as Styrofoam, expanded polystyrene (EPS), or extruded polystyrene (XPS); and a hard, non-foam version of the plastic. The foam version is used for cups, plates, clamshells and other food service containers. The hard version is used on clear or opaque clamshells, plates, cups, trays, and utensils.

Why is it a Concern?

Polystyrene foam has been the target of bans in the past because manufacturers once used ozone-depleting CFC chemicals to create the plastic. More recently, it has been of concern for its general litter, marine debris, and human health impacts.

Health Impacts

Styrene, a component of polystyrene, is a known hazardous material to human health. The U.S. Department of Health and Human Services added styrene to its June 2011 Report on Carcinogens (version 12), which identifies chemicals and biological agents that may put people at increased risk for cancer.¹ Styrene was added as a substance that is “reasonably anticipated to be a human carcinogen.” The World Health Organization has stated that, “the ability of styrene monomer to migrate from polystyrene packaging to food has been reported in a number of publications and probably accounts for the greatest contamination of foods by styrene monomer.”²

The Styrene industry has disputed the federal government carcinogen listing saying in a March 2011 letter to Congress concerning polystyrene food service items, “Polystyrene foam and hard polystyrene plastic are FDA-accepted as safe for food-contact use, and

¹ National Toxicology Program, 12th Report on Carcinogens web site, <http://ntp.niehs.nih.gov/go/roc12>, browsed September 10, 2011.

² World Health Organization, Styrene Chapter, Air Quality Guidelines-2nd Edition, WHO Regional Office for Europe, Copenhagen, Denmark, 2000, Chapter 5.12, p. 4, available at http://www.euro.who.int/data/assets/pdf_file/0018/123066/AQG2ndEd_5_12Styrene.pdf

there is no validated scientific evidence that they pose any human health risk. It is common knowledge in the food-packaging industry that foodservice containers, including polystyrene and others, have materials that can migrate into the contents under normal use. Since the early 1990s, the polystyrene industry has conducted tests on styrene migration; the results have shown that these very low styrene levels pose no health concern.”³ It also cited a 2002 Harvard Center for Risk Analysis risk analysis which found no cause for concern from exposure to styrene through materials used in food contact or from foods in which styrene occurs naturally, including cinnamon (which is very rich in styrene), strawberries, coffee and beef.

Trash and Litter Impacts

Local government and major commercial recycling programs in the region do not collect polystyrene for recycling. It is possible for some cafeterias to acquire equipment for melting and condensing the material for shipment to recyclers, but the practice is not believed to be widespread. If the material becomes litter, it will not naturally biodegrade in the environment. Polystyrene foam in particular presents special management challenges because of its lightweight, floatable characteristics and its ability to be blown from disposal sites even when properly disposed. It only breaks down into smaller pieces in the environment. There is evidence that marine animals mistake it for food.⁴

Government Action

Many city and county governments have passed legislation limiting the use of polystyrene for food service. Most are located in the coastal areas of California, Oregon, and Washington State. The state of California is currently considering a ban on polystyrene foam. Legislative action typically falls into the following categories:

1. Prohibit the use of government funds to purchase polystyrene food service ware;
2. Prohibit private food service businesses from using polystyrene food service ware;
3. Require private food service businesses to use reusable, biodegradable, compostable, or recyclable food service ware.

It is important to note that some legislation singles out polystyrene foam while other bills apply to all polystyrene. The list at the end of this memo provides a partial representation of cities by type of ban.

An example of the first type of legislation is the City of Takoma Park, the only local jurisdiction with an ordinance. Passed in June 2010, it prohibits the government from spending money on polystyrene food service ware. The law took effect September 2010. Some of these laws also prohibit the use of polystyrene at large event on city property. Other examples include San Jose, CA, and San Mateo County, CA.

Several communities have prohibited food service business from using polystyrene including Santa Monica, CA and Portland, OR.

Examples of the third type of law include San Francisco and Seattle. Seattle used a staged program that began with a ban on EPS at food businesses in 2009 and progressed in stage two to a requirement that all one-time-use food service ware be recyclable or compostable by July 2010. Additionally, establishments must provide

³ <http://www.styrene.org/news/pdfs/03-23-11-statement-house-petition-on-cups.pdf>, browsed September 20, 2011.

⁴ J.G.B. Derraik, “The pollution of the marine environment by plastic debris: a review” Marine Pollution Bulletin 44 (2002): 843; Gregory, M.R., Ryan, P.G. “Pelagic plastics and other seaborne persistent synthetic debris: a review of Southern Hemisphere perspectives”

recycling or composting service for these materials. The city had a temporary exemption in place for utensils, straws, small portion cups, and foil faced, insulated wrap until July 2011. In some cities, non-foam polystyrene products be considered recyclable.

It is important to note that it may not be practical to recycle service ware in many cases due to the inherent food contamination, so composting becomes the best option. In order for a city to require composting of service ware, the region must have a well developed food composting infrastructure.

Partial List of Polystyrene Bans⁵

Bans on all Polystyrene Food-Ware

Rahway, NJ
St. Paul, MN
Del Rey Oaks, CA
Laguna Beach, CA
Monterey, CA
Richmond, CA
San Bruno, CA
Santa Monica, CA
West Hollywood, CA

Bans on Expanded Polystyrene (Foam) Food-Ware

Issaquah, WA
Seattle, WA
Portland, OR
Freeport, ME
Westchester, NY
Alameda, CA
Berkeley, CA
Calabasas, CA
Capitola, CA
Carmel, CA
Emeryville, CA
Fairfax, CA
Hercules, CA
Laguna Beach, CA
Malibu, CA
County of Marin, CA
Newport Beach, CA
Oakland, CA
Pacific Grove, CA
Pacifica, CA
Palo Alto, CA
City and County of San Francisco, CA
Santa Cruz, CA
County of Santa Cruz, CA
Scotts Valley, CA

⁵ <http://riseaboveplastics.blogspot.com/2010/03/current-polystyrene-ban-list.html>, browsed September 23, 2011.

Partial Bans (usually prohibits city purchasing, or use by city vendors, contractors, or at city sponsored events)

Alisio Vejo, CA
Huntington Beach, CA
Laguna Woods, CA
Laguna Hills, CA
Los Angeles, CA
County of Orange, CA
Pittsburg, CA
San Clemente, CA
County of San Mateo, CA
San Juan Capistrano, CA
San Jose, CA
County of Sonoma, CA
County of Ventura, CA
City of Takoma Park, MD