Styrofoam—Expanded Polystyrene

Heal the Bay

Polystyrene (PS #6) is the most widely used form of plastic in consumer goods.

California produces 3.32 billion pounds of polystyrene every year for packaging and food containers. Rarely recycled and used for only minutes, this throw-away plastic has a long-lasting impact on our environment and on our health. Polystyrene is found in two forms—expanded polystyrene (EPS, or trademark name Styrofoam™), and extruded polystyrene, which is a clear, rigid plastic used in food clamshells and CD cases. Neither of these plastics can be effectively recycled, despite the #6 and small recycling symbol that appears on the bottom of the package. Intact or broken down bits of foam polystyrene, particularly from food packaging, are some of the most commonly found plastic items on beaches and inland creeks. Expanded polystyrene litter has been such a problem that at least 40 cities and counties in California have either banned EPS food packaging or require recyclable single-use food packaging.

Marine Life Impacts

Like other plastics, EPS does not biodegrade in the marine environment and may persist for hundreds of years. EPS is lightweight and buoyant, properties that make it easily carried by water and wind to the ocean via storm drains. Foam products readily break apart into smaller pieces that are commonly mistaken for food by marine life. When animals eat EPS and other plastics, their digestive systems get clogged, preventing them from absorbing nutrients and ultimately leading to starvation. Surface-feeding species of birds like petrels commonly ingest this floating plastic, and jellyfish and other marine life that filter water for nutrients are becoming increasingly "plasticized" as the ocean fills microscopic pieces of plastic.

Litter Impacts and Health Risks

Styrofoam debris has been found as far north as remote Alaskan Islands in Prince William Sound. While EPS can be fatal to marine life, it also poses threats to human health. Styrene, a building block of polystyrene, is a suspected to be a chemical that may cause cancer or lead to problems of the central nervous system. Styrene can leach from Styrofoam food containers and contaminate food and beverages when heated or in contact with fatty or acidic foods. Occupational exposure to styrene has been shown to increase the risk of lymphoma, leukemia, lung tumors, pancreatic cancer, urinary bladder cancer, prostate cancer and colorectal cancer. It has also been reported that workers with high blood styrene levels have high rates of neurotoxicological effects.

Most Polystyrene and EPS Is NOT Recycled

Although the technology to recycle polystyrene exists, polystyrene food containers are rarely recycled. Unlike other polystyrene, expanded polystyrene food packaging is typically not clean enough to be recycled. EPS food containers are typically discarded by the recycler if not in pristine condition. In 2007, 1.7 million tons of non-durable polystyrene was generated in the U.S., with a recycling rate of less than 1%. Californians use 165,000 tons of polystyrene each year for packaging and food service purposes alone; only 0.2% of polystyrene food packaging is recycled.

Economic Costs of EPS

Littered polystyrene food packaging clogs our storm drains and pollutes our beaches, causing Californians to pay millions of dollars in clean-up costs. In 1999, California spent $30 million on the disposal of all polystyrene. Since 2001, Southern California cities have spent in excess of $1.7 billion cleaning trash out of storm drain systems leading to the L.A. River and Ballona Creek in order to comply with storm water regulations.

Solutions to Reduce EPS Food Packaging

Support legislation to prohibit the use and distribution of polystyrene food containers in your community. You can also avoid using throw-away or single-use plastics, and instead use reusable utensils and to-go-ware. If your favorite restaurants or deli's use Styrofoam or rigid polystyrene (just look for the #6 on the bottom), ask them to consider switching to recycled paper, or a minimum, recyclable containers. Or bring your own containers!

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