

Dangerous Health Effects of Home Burning of Plastics and Waste

Fact Sheet



Backyard waste burning in old barrels

Dioxin emissions from plastic burning

The most dangerous emissions can be caused by burning plastics containing organochlor-based substances like PVC. When such plastics are burned, harmful quantities of dioxins, a group of highly toxic chemicals are emitted. Dioxins are the most toxic to the human organisms. They are carcinogenic and a hormone disruptor and persistent, and they accumulate in our body-fat and thus mothers give it directly to their babies via the placenta. Dioxins also settle on crops and in our waterways where they eventually wind up in our food, accumulate in our bodies and are passed on to our children.

Burning of plastics and waste

Surveys show that home burning of waste is widespread across rural areas all-over the world. Waste is either burned outside in the yard or garden, or inside in ovens. Waste that is burned can include paper, cardboard, food scraps and plastics, — essentially any materials that would otherwise be recycled or picked up by a waste collection company. Air emissions from home burning are released directly into the house or the atmosphere without being treated or filtered.

How does home plastic waste burning affect people's health?

Most people who burn their plastic domestic waste do not realize how harmful this practice is to their health and to the environment. Current research indicates that backyard-burning of waste is far more harmful to our health than previously thought. It can increase the risk of heart disease, aggravate respiratory ailments such as asthma and emphysema, and cause rashes, nausea, or headaches, damages in the nervous system, kidney or liver, in the reproductive and development system.

The burning of polystyrene polymers — such as foam cups, meat trays, egg containers, yogurt and deli containers — releases styrene. Styrene gas can readily be absorbed through the skin and lungs.



No filter to stop toxic emissions

At high levels styrene vapor can damage the eyes and mucous membranes. Long term exposure to styrene can affect the central nervous system, causing headaches, fatigue, weakness, and depression.

Not only these people who are burning the trash are exposed to these pollutants, but also their neighbours, children and families.



Plastic waste burning in home ovens is a current practice

Why People Burn their Plastics and Other Waste

Backyard and inside burning of plastics and other domestic waste is common in many countries in the world. People burn plastics for various reasons—either because it is easier than hauling it to the local disposal site or to avoid paying for regular waste collection service, or – as there exists no municipal waste service – because it is the only way that many rural people have to get rid of their waste. Particularly in Eastern Europe and the NIS, rural municipalities do not have waste collection and disposal services. Indoor plastic burning is often practiced in areas with a low economical level and where citizens use own stoves for cooking and heating. Many plastics burns very easily and have a high potential of energy. Stoves are fired with plastics: expensive wood is saved and the garbage is reduced.

How burning of plastics and other waste harms the environment?

Pollutants released from burning plastic waste in a burn barrel are transported through the air either short or long distances, and are then deposited onto land or into bodies of water. A few of these pollutants such as mercury, polychlorinated biphenyls (PCBs), dioxins and furans persist for long periods of time in the environment and have a tendency to bio-accumulate which means they build up in predators at the top of the food web. Bioaccumulation of pollutants usually occurs indirectly through contaminated water and food rather than breathing the contaminated air directly. In wildlife, the range of effects associated with these pollutants includes cancer, deformed offspring, reproductive failure, immune diseases and subtle neuro-behavioral effects. Humans can be exposed indirectly just like wildlife, especially through consumption of contaminated fish, meat and dairy products.

What people can do?

Separate plastics –

separate plastic waste from other waste. Do not burn any plastics in your yard or house.

Avoid plastics –

Avoid plastics, in particular do not purchase goods packed in PVC packaging, which generates dioxins when burned

Reduce waste –

Buy products that can be reused or refilled (glas and metal containers)

Compost –

Yard clippings, leaves, and food can be easily composted in your backyard

Recycle –

Demand your municipality to organize recycling of paper, glas and metals.

Return plastics to producer – bring your plastic waste back to the shop and ask it to be returned to the producer for recycling.

Don't burn plastics in your garden or in your house!

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References :

EPA – Backyard burning

Burning web page

<http://www.arb.ca.gov/smp/resburn/res-burn.htm>



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