

CLEAN UP SOUTH AFRICA WEEK.

DR Ruth Rabinowitz 12th Sept 2010

Clean up South Africa awareness week reminds us of the low priority we give to recycling and the extent to which plastics are embedded in our lives. Despite plastic bag legislation, South Africans recycle only 30% of plastics produced. That leaves about 8 billion bags from supermarkets since 2004 tossed into rubbish dumps along with billions more made of heavy plastics, which take longer to degrade. The Plastics Federation maintains that plastics form only 7% by mass and 11% by volume of all landfill waste and that the light weight and heavy weight polyethylene bags from check outs, are photo degradable, provided they do not lie buried under land fills or in under sea islands.

A vast number of plastic bags are left to float their way to an unknown destination. Since few kinds are biodegradable, and the plastic tossed away has to end up somewhere if not buried under landfills, it is hardly surprising that islands of plastic have collected in ocean gyres where the current is weak, blown across land and drawn down by strong currents into deep waters. The largest of these is the Great Pacific Garbage Patch, which is twice the size of Texas. Whether plastic lies buried in the water or hidden in the ground, or is put to normal use in containers and baby bottles, there is increasing concern by scientists that toxic additives used in the manufacture of some plastics leach into water. Certain ones are believed to disrupt the endocrine system, others to suppress the immune system and to cause abnormalities in a foetus that manifest even to the third generation.

Plastics are graded into 7 types according to whether they are low or high density polyethylene(PE-LD;4 and PE-HD;2) polyethylene terephthalate(PET;1) poly vinyl chloride (PVC;3) polypropylene (PP;5) Polystyrene (PS;6) and other, including polycarbonates (7). The resin identifying number should be stamped by manufacturers under each container. All seven types are used as containers of one sort or another, but the ones causing the most concern are 3, 7 and possibly 6.

PVC (3), considered the most versatile of plastics as it can be rigid(bottles), soft (plastic wrap) or liquid, may contain phthalates, which can pass into food, water or cosmetics at normal temperatures and even faster when heated. It can also emit gas that is inhaled, from shower curtains and pipes. BPA is used to harden polycarbonates (7), usually found in water bottles and a host of other items such as DVDs and nylon. Polystyrene (6) may leak the toxic chemical, styrene. Minute quantities of BPA, phthalate and styrene have been found in most human beings and while established science argues that the amounts are too low to cause a problem, the latest research suggests that even minute amounts can affect breast development, cause genital abnormalities in the children of persons exposed to the chemicals and impact on the immune system, overweight, diabetes and cancer. In 2008 Canada banned the sale of baby bottles using BPAs,

Denmark has done likewise and Wal-Mart declines to stock them. In 2009 the International Endocrine Society cautioned that they were a significant threat to health and called for their regulation, leading the USA to conduct research into BPA and hormone disrupters. Closer to home, the SA health department has declared itself unconvinced that the substances pose any health threat. The health problems in SA are on such a macro scale that it is easy to understand the department's reticence to complicate life. Public choices and pressure on industry are more likely routes to change.

The existing regulation on plastics bags introduced in 2004 has not done much to promote recycling of the bags. If anything it has resulted in land fill or littering of thicker bags, which take even longer to degrade. This unintended consequence as well as the disappearance of R290 million rand worth of plastic bag levies, suggests that regulation has not been the answer to the littered plastic problems of SA. Furthermore, products such as multi laminated plastics; compound packages and polystyrene, are not easily recycled and cause problems for recyclers when dumped among the rest.

Our roads are lined with billboards and in a year's time our street poles will be adorned with election posters. Where does all this plastic land up? Unfortunately, not much of it gets recycled. Although the products comprising most boards or posters can be recycled in their virgin state, posters and billboards are often composite sandwiches of PET coated with vinyl, or high density PET coated with low density PET. The vinyl leaches phthalates into the environment, while neither the high and low density sandwich, nor the PET- vinyl combo, can be recycled in the same waste stream. Already, political parties should be warned that come elections only PET boards are safely recyclable. They should also be required to agree to any posters, not removed by a certain date, becoming fair booty for unemployed people, who will remove them and take them to recyclers for compensation, benefitting both them and the environment.

Current laws are not sufficient if we are serious about limiting the amount of rubbish we dump into our earth home. Not only does recycling remain haphazard, but there is a general lack of monitoring of hazardous substances used in South African industries. According to research conducted by the Faculty of Health Sciences at UCT, there has been a steady increase in volume and intensity of toxic pesticides some of which are banned and deregistered, found in water and crops. They pose a risk of acute poisoning as well as long term health effects. Much punted CFL light bulbs contain mercury, which will cause large scale pollution if not disposed of carefully. The overlap of monitoring by departments of Health, Environment and Agriculture does not simplify matters.

South Africa's own Nobel laureate Dr Sydney Brenner has suggested that we can obviate many of the health problems associated with industrialization if we go forward by going backwards; return to indigenous foodstuffs, small scale farming, home grown foods, use of natural predators and organic farming methods, where the word organic is not a marketing gimmick, but a process that can be verified by an independent agent.

Paradoxically, as life becomes more complex, we should find ways to live more simply.

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