
Environment Israel: A looming ecological disaster

By Dr. Michelle Portman

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The world is full of toxic materials and we should be concerned about all of them, but how much you should worry about a specific toxin depends on several factors, to wit:

1. How toxic? Common toxics that are hazardous at any level include mercury, arsenic, lead, cadmium and radioactive materials. Endocrine disrupters can be very damaging at very small doses. However, brief exposure to most toxic substances does not usually result in observable health consequences.
2. How much? A small quantity of any mildly toxic substance may be a serious threat to health for small children and pregnant women.
3. Indoors or Outdoors? What is just an unpleasant smell outdoors, such as cigarette smoke or a paint stripper, can be a serious health problem in the home or workplace.
4. How long? We should worry most about toxics in the home and workplace where exposure may be for many hours each day.
5. How close is the contact? One of the worst modes of exposure is through the mouth and stomach. Lead paint on toys is especially dangerous, because small children put toys in their mouths and sometimes even swallow pieces of them. Lead paint in homes is mostly a risk to children, who readily ingest lead in paint dust and paint chips, adversely affecting the developing brain. While lead paint is no longer in use and some older homes have been de-lead, lead released during paint removal (like arsenic from treated wood which falls onto soil) may be taken up by edible plants.

Specifics

Lead in Water: Newton's water, provided by the MWRA, is lead-free as it enters the distribution system, but some older homes have lead pipes from the street into the home and within the home. Copper pipes are often joined using lead-based solder. Lead pipes should be replaced, but until this has been done, water that has been in these pipes overnight should be purged by running water before using it for drinking or cooking. Hot water from the faucet should never be used for drinking or cooking.

Pesticides and Herbicides on Lawns: These toxins are hazardous to infants, who crawl around on the grass, also to barefoot children who play on the grass, and to pets, who lick themselves after rolling on the grass.

VOCs. (Volatile Organic Compounds): According to data published by the US EPA, levels of VOCs indoors are typically two to ten times higher than outdoors. VOCs are emitted by new paint, paint strippers, garments and other items (such as drapes) that have been dry-cleaned, carpets, carpet adhesives and upholstery. Paint strippers, when used indoors, are by far the largest source of VOCs, even though exposure is often relatively brief. VOCs outdoors include benzene in gasoline.

Asbestos: this toxic substance has been removed from most schools but is still found as insulation around hot water pipes in many older homes. Since it is difficult to remove asbestos without dispersing it into the air, it is recommended to wrap it in plastic sheeting.

When you should worry

Applying the above criteria, what we should avoid as much as we can is bringing toxic substances into the yard and most of all into the home. Use of toxins in the workplace must be minimized, and if use is unavoidable, the best possible protection and ventilation should be provided. "The workplace" includes not just paint and auto repair shops, but also offices where the air can be heavily contaminated by VOCs emitted from furnishings and photocopying machines.

There are many low-income residential neighborhoods located where the air is seriously polluted with dust and chemicals from industrial plants-oil refineries, gasoline storage tanks, cement works and other dust- and chemical-emitting activities. Such industries should be required to locate away from residential areas in order to reduce the health hazards. But even affluent and largely residential communities such as Newton have a significant burden of toxins. We must all remain vigilant about this issue.

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