Electronics TakeBack Coalition

TAKE IT BACK. MAKE IT GREEN. RECYCLE RESPONSIBLY

Electronics TakeBack Coalition Comments on Safer Consumer Products Draft Priority Product Work Plan

(September 2014)

The Electronics TakeBack Coalition appreciates the opportunity to comment on the Department of Toxic Substance Control's (DTSC) Safer Consumer Products DRAFT Priority Product Three Year Work Plan.

The Electronics TakeBack Coalition is a national coalition of consumer and environmental groups who promote sustainability for electronic products.

Our primary comments concern the categories of products identified in the work plan. We urge the DTSC to add the category of electronic products covered by the work plan. California consumers and businesses are buying, using, and discarding/recycling an ever increasing number of electronics each year. This increases the potential exposure of Californians – both recycling workers and consumers - to hazardous chemicals in electronics, like flame retardants and metals.

Clear pathway for exposure

Recycling workers are likely the most at-risk for exposure to the hazardous substances in electronic products. California's SB 20 electronics recycling program has 37 registered electronics recyclers as of October 2014.[i]

- Shredders: Many recyclers use mechanical shredding equipment as part of their processing. These shredders generate significant amounts of dust, as metals and plastics are ground up into smaller commodity material. That shredding process means that whatever hazardous materials are in the fractions being shredded could become airborne dust, which can be inhaled by workers, or carried home on worker clothing and shoes
- Glass breaking: Similarly, CRT glass is broken and ground into smaller particles.
- Mercury lamps: Many flat panel TVs and monitors are lit by multiple compact fluorescent lamps containing mercury. These lamps are thin and very fragile, making it common that some lamps will be broken on any shift of flat panel disassembly. Mercury is very hazardous at small amounts.

Consumers are also at risk for exposure, particularly to the flame retardants added to electronic products. Numerous studies have found flame retardants in household and office dust. It's difficult to isolate the source of the flame retardants, given their presence in other

products and materials, like furniture and carpeting. Unlike ROHS regulations elsewhere in the world, restricting the use of certain hazardous chemicals, the California ROSH regulations do not include flame retardants.

Found in bio-monitoring studies

Metals:

A recent study in Sweden found high levels of metals in recycling workers blood and urine, when compared to office workers at the same facility. The exposure biomarkers showed significantly higher concentrations of chromium, cobalt, indium, lead, and mercury in blood, urine, and/or plasma of the recycling workers. "Concentrations of antimony, indium, lead, mercury, and vanadium showed close to linear associations between the inhalable particle fraction and blood, plasma, or urine." [ii]

A July 2014 NIOSH study of an electronics recycling facility that does CRT disassembly and glass breaking found overexposures of lead and cadmium in workers.[iii]

Flame Retardants:

The Draft work plan has already documented both the health concerns and studies associated with exposure to flame retardants in the sections on furniture and carpeting. The off gassing of BFRs from computers, televisions, and other electronics contributes to their presence in studies of indoor air quality as well as the alarmingly high presence of flame retardants in our bodies.

Observed in indoor air quality studies

The Swedish study of recycling workers mentioned above included air sampling at three formal recycling plants, of the air in the offices and in the recycling plant area. The air sampling indicated greater airborne exposure, 10 to 30 times higher, to most metals among the recycling workers handling e-waste than among the office workers.[iv]

Thank you for your consideration of our comments.

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[i] http://www.calrecycle.ca.gov/electronics/Reports/Default.aspx

[ii] Anneli Julander, Lennart Lundgren, et al, "Formal recycling of e-waste leads to increased exposure to toxic metals: An occupational exposure study from Sweden," Environment International 73 (2014) 243–251, Sept. 6, 2014. http://www.sciencedirect.com/science/article/pii/S0160412014002116

[iii] Ceballos, Chen, et al, "Evaluation of Occupational Exposures at an Electronic Scrap Recycling Facility," U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health; July 2014, http://www.cdc.gov/niosh/hhe/reports/pdfs/2012-0100-3217.pdf

[iv] Anneli Julander, Lennart Lundgren, et al, "Formal recycling of e-waste leads to increased exposure to toxic metals: An occupational exposure study from Sweden," Environment International 73 (2014) 243–251, Sept. 6, 2014. http://www.sciencedirect.com/science/article/pii/S0160412014002116