



## Chemical in Products *developing country challenges*

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Toxics Link

[www.toxicslink.org](http://www.toxicslink.org)

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## Global Life Cycle of Products



- Manufactured in emerging economies
- Consumed domestically as well as globally.
- Waste recycled/disposed of domestically but also globally
- Information availability to various stakeholders is poor or non-existent.
- No mandatory labeling requirements
- Regulation is poor or non-existent especially in developing countries.□

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## Global Life Cycle - examples



- *Toys*: China has over 95% of global toy market
- *Electronics* - Computers are manufactured in multiple global locations and assembled, but waste in Africa, India and China.
- *Paints* - Paint are manufactured and exported to Africa.
- *Textiles* - manufactured and exported

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## Electronics



- Components include - semiconductors, circuit boards, wiring, switches, CRTs, keyboard.
- Manufactured in SEA, SA, China
- Assembled in various locations
- Lead, Cadmium, mercury, beryllium, BFRs, PVC etc.

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Computer CRT parts recycling, India

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Computer Printed  
Circuit Boards  
Recycling, India



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## At Risk Populations



- Manufacturing workers - lead solder, chemicals like TCE, flame retardants.
- Users Repair technicians
- Recycling workers- recovery operations are small and backyard, wires are burnt, casing melted down.
- General population through emissions and leaching into air, water, soil - in the food and ecological chain.□

# Lead



## Some common uses

- Toys, jewelry, batteries, paints
- Impacts manufacturing workers, children and recycling workers
- High on WHO list of pollutants
- Developing country limitations of capacity

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# Examples



- Lead in toys in India (no labeling)
- Lead in toys in jewelry exported to the US
- Lead in paints in South Asia, Africa, CEE, SEA, Latin American countries (no labeling)
- Lead Batteries - high growth in India and China - produced and imported
- Computers and mobiles
- No labeling or information provided or required

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## Overseas Toy Market



- Global toy market of the order of US\$105.0 billion.
- USA is the world's biggest importer of toys imports worth US\$35.0 billion
- Germany, 18% of the world market (US\$19.0 billion), Hong Kong 13% (US\$14.0 billion), Britain 7% (US\$8.0 billion) France 6% (US \$ 6.5 billion).

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Domestic risks: poor children use toxics toys widely

## Mercury in Health Care



- Thermometers, sphygmomanometers, dental amalgam.
- Manufacturing, breakage, spillage, disposal.
- Highly toxics, vapor and liquid at room temperature.
- Devices exported/ mercury imported

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Mercury thermometers manufacture - Delhi 16



Recycling of CFLs  
New Delhi



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# Textiles



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## Overview



- Large, 17% of export revenue
- 14% industrial production, 35 m employment
- USD 52 b (20b exports), 2008 - USD 115b - 2012
- Global market - 4 to 7% - EU major market, USA (26%)
- 2nd largest cotton producer after USA
- Scattered, fragmented
- Tamilnadu, Gujarat, Maharashtra
- Small, medium and tiny units
- Major brands increasingly sourcing
- Cotton/man-made fibers, Filament Yarn/ Wool and woolen textiles/ Sericulture and Silk/ Handlooms/ Handicrafts/ Jute/ Exports

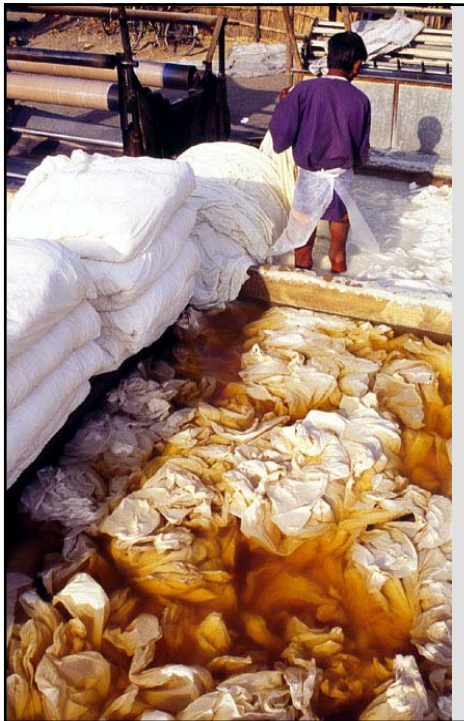
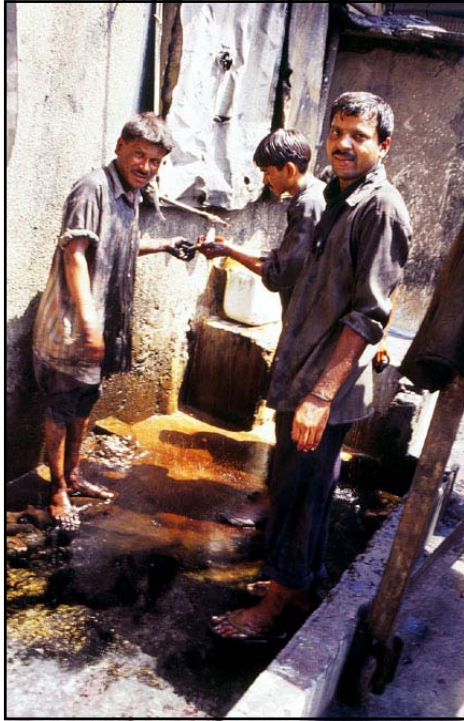
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## Environmental issues



- Cotton – 8.9 mha, 5% cult land, 54% pesticides. Monocrotophos, fertilizers
- water, chemicals, energy, waste
- VOCs, glycol ether, gases, Solvents, acetic acid, oven emissions, formaldehyde vapours, PVA, chlorine, metals, disinfectants, lubricants, spent solvents, sulphides, solids, urea, dye containers, scrap, fibers, yarn, oily rags, cartons, vegetable matter etc.
- 2000 chemicals - dyes, de foamers, bleaches, detergents, brighteners etc. banned amines used
- Chemically intensive.
- Water, coloration, odor
- Noise, health hazards

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Photos: S. Madhavan





Photos: Tom Heinmann

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## Challenges



- Insufficient or no information requirements as yet especially in developing countries
- Workers and consumers are un-informed.
- Often manufacturers are uninformed.
- No or insufficient policy or regulatory requirements.
- Lack of testing facilities- no data.
- Lack of proper facilities for treatment and disposal

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## Minimizing Risk



- Substitution of hazardous chemicals
- Information requirements through out the chain, local and global.
- Safety procedures especially at workplace.
- Better infrastructure
- Labeling and information