



Case Study

New York State Pollution Prevention Institute (NYSP2I) partners with industry

to improve production processes, enhance recycling and reuse and reduce the use of hazardous materials

Children's Furniture Manufacturing Assessment

Client

The client¹ is an upstate manufacturer of furniture and spaces designed for children. Their products are found in childcare centers and schools throughout the world.

Problem

A combination of the Consumer Product Safety Improvement Act restrictions on phthalate content of children's products, increased awareness of the health and environmental issues with polyvinyl chloride (PVC), and dedication to the environment led the manufacturer to eliminate or greatly reduce the PVC content of its children's cribs. These cribs are used in daycare facilities across the country and must meet stringent flammability and cleaning requirements. The manufacturer was uncertain which alternative materials they could use.



Crib with PVC bite guard across top rails and polyurethane mattress wrapped in vinyl cover

Objectives

The manufacturer asked NYSP2I to identify alternative materials that can replace the current PVC based bite guard and mattress and that can replace the current polyurethane foam mattress covered in PVC. Materials were evaluated against the Cradle to Cradle Certification criteria, as a goal is to get the crib certified.

Work Performed

NYSP2I developed a set of metrics based on the Cradle to Cradle Design Protocol* and additional qualities to screen potential alternative materials for both the bite guard and mattress. Alternative materials were brainstormed and screened at the material level. Those alternatives that met the material level requirements were further screened based on the potential human health and environmental effects of the composition. Alternative materials and their qualities were provided to the manufacturer for consideration.

Results

NYSP2I staff identified alternative bite guard materials and mattresses that meet the stringent performance criteria and have a reduced environmental footprint. The composition of the materials and mattresses were evaluated based on their environmental and human health effects. A selection of materials and mattresses were provided to the manufacturer to assist in their decision making process.

When the manufacturer replaces the PVC bite guard and the mattress, it results in a:

- Reduction of 5400 pounds of PVC each year by replacing the bite guard material
- Reduction of 1500 pounds of PVC each year by replacing the mattress cover material

¹Name withheld to honor confidentiality at client request

* http://mbdc.com/c2c_home.htm