



AMERICAN
SUSTAINABLE
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Case Study

Lullaby Earth Crib Mattresses

Lullaby Earth began with a challenge to create a crib mattress designed specifically for health and safety that was affordable to all parents. The company realized the mattress needed to address chemical, hygienic, physical, allergenic, and flame safety. Two obstacles immediately emerged: waterproofing, and meeting governmental flammability standards without toxic or questionable chemicals. Lullaby Earth met this challenge and demonstrated that chemical safety and good business are like pillow and pillowcase.

Safer Materials | From the beginning, Lullaby Earth opted to not use polyurethane foam, the most common core material found in lightweight crib mattresses. Because of its high flammability, flame retardant chemicals would be required, either in the polyurethane foam itself or within flame barriers in or on the mattress, a choice unacceptable to Lullaby Earth. Additionally, the company had concerns regarding polyurethane's overall chemical footprint.

The company began searching for an alternative that would be affordable for consumers while ensuring the mattress would meet flammability standards without toxic flame

retardant chemicals. At the same time, core materials needed to provide a nontoxic design that would not exude harmful volatile organic compounds (VOCs) or leach out chemicals, and needed to provide the structure and stability to create a firm sleeping surface for infants.

Through research and exploration, the company found it could meet its goals using food grade polyethylene (PE) because of its lower flammability properties. Polyethylene foam, through design engineering, allows Lullaby Earth mattresses to pass flammability tests without the use of flame retardant chemicals.



Crib mattresses without toxic flame retardants are good for baby and business.

“If you go to any store and look at their crib mattresses, you’ll find that they’re mostly made with polyurethane foam and a vinyl cover, which release harmful phthalates that the American Academy of Pediatrics says can cause cancer in laboratory animals. We don’t use those materials. We have no phthalates, no PVCs, no nasty flame-retardant chemicals.”

–Barry A. Cik, Technical Director, Lullaby Earth

With food grade polyethylene, the company overcame its other challenge: safely waterproofing the mattress. For hygienic safety, the company knew a mattress should be waterproof, not just water resistant, and realized the only options available were through chemicals or plastics. Unwilling to use PFC-based chemical waterproofing agents, Lullaby Earth uses PE instead of vinyl (and its associated phthalates and risk of chemical leaching), another commonly used waterproofing method on the market.

To further avoid unwanted chemicals and improve hygienic safety, the company chose to heat seal the outer surfaces, allowing them to avoid adhesives and create a seamless design without raised tape or stitched edges that might harbor bacteria or mold.

The company created its own patented wave design for the inner core of the mattress. The innovative design uses fewer resources to provide superior structure, reducing waste, keeping down costs, and meeting goals of physical safety.

The design also allows the company to produce a firm mattress that only weighs seven pounds, a convenience for parents when changing sheets.

While Lullaby Earth wanted to produce a recyclable product, the company understood few facilities existed where consumers could drop off mattresses for recycling. Looking to the future, the company’s use of easily recyclable food grade polyethylene as well as PETE, used in the cushioning, positions it to be in the sustainable forefront as recycling facilities become available.

Through an innovative use of material and creative design, Lullaby Earth produces quality mattresses without the use of toxic chemicals or adhesives. By closely working with suppliers and insisting on food quality materials when possible, Lullaby Earth maintains integrity in ingredients, overcoming many of the hurdles of disclosure frequently found when companies source synthetic materials.



Advanced 3D honeycomb structure creates a cushion of air underneath the baby for true airflow and breathability. Innovative design allows the mattress surface to be easily removed and washed. No additional mattress pad is required.

Overcoming the Mystery | Lullaby Earth continues to innovate to offer healthier mattresses for babies and toddlers, but like all companies seeking to offer safer chemistries, they face several obstacles. Under current U.S. law, it is exceptionally difficult to uncover the chemicals actually used in products. Current legislation does little to protect consumers from toxic chemicals, and there are few legal mechanisms promoting transparency. While independent chemical testing can determine if a particular chemical is present, testing will not reveal all the additives and ingredients that go into a synthetic.

The end result of this flawed regulatory framework for chemicals is that companies are disadvantaged in selecting the safest materials, and consumers are disadvantaged in selecting the safest products. This lack of chemical transparency creates greater risk for companies.



Barry A. Cik, Technical Director, Naturepedic and Lullaby Earth

Headquartered in Cleveland, Ohio, Naturepedic is the only company to specialize exclusively in the design and manufacture of safe, organic crib mattresses. Barry Cik, a renowned environmental engineer, founded Naturepedic after searching for a safe crib mattress for his grandchild. Unwilling to compromise, Barry designed and manufactured the first and only organic and waterproof crib mattress. In 2011, Naturepedic's engineers discovered a lightweight, non-toxic, chemical- and allergen-free material that could be used for crib mattresses. Naturepedic's sister company, Lullaby Earth, was born.

A Need for Organization, A Need for Change

The American Sustainable Business Council (ASBC) is a growing coalition of business organizations and business committed to advancing a new vision, framework and policies that support a vibrant, equitable and sustainable economy. Participants in ASBC realize that comprehensive chemical legislation is not only good for the planet, but is also needed to promote business growth and international competitiveness.

Through the development of more consistent laws and greater transparency in regards to chemical usage, companies can better manage their liabilities and potentially boost

their global competitiveness as European and other foreign markets demand more stringent regulation. Additionally, limiting or banning the use of chemicals that are proven unsafe would incentivize the production of new, safer alternatives, creating new business opportunities.

More than 200,000 businesses and more than 325,000 entrepreneurs, owners, executives, investors and business professionals have joined ASBC. Working together, this powerful team works to promote the business case for sustainable practices, working to support the legislative framework needed to allow American businesses to produce safer products.

For more information about Lullaby Earth, visit www.lullabyearth.com.

To learn about the advocacy work of the American Sustainable Business Council, visit www.asbcouncil.org