

Project: Trigema

Subject: World's First Compostable Clothing

(2005) First T-Shirt Designed for Contact with Human Skin

Trigema, based in Burladingen, Germany, is the country's largest T-shirt and tennis clothing manufacturer, with a positive track record on environmental and social issues. It is committed to continue textile manufacture in Germany, for example, rather than moving its operations to other parts of the world, and Trigema has guaranteed employment for all of the children of current employees.

During 2005, Trigema and EPEA collaborated on the development of the world's first fully compostable T-shirt. EPEA selected suitable materials for use in the T-shirt, which is composed of yarn, dyes, a label and thread according to its *Cradle to Cradle*SM Design criteria. The development of the T-shirt included development of sewing thread and labels in direct collaboration with the suppliers of Trigema. Drawing on their experience with chemical assessment, EPEA scientists were able to positively define these ingredients for human health characteristics and their fate in the environment.

This process was facilitated by Trigema's extensive in-house manufacturing capabilities, which allowed EPEA to oversee each stage of production. This oversight was necessary to ensure the quality of the materials and processes being used. Raw materials had to be selectively chosen, as well. Quality control for the supply chain has also been established by EPEA.

The T-shirts are a world first with respect to safety and human health. Also, because the T-shirts have been designed as biological nutrients, they become food in the environment when composted after use. While the T-shirts are sold for a premium, Dr. Braungart maintains that the cost is low compared to the long-term effects of using toxic chemicals that carry lower upfront costs.

The project continues with innovative research into biodegradable buttons and zippers as well as development of new plastic raw materials from natural resources. Following these developments, the clothing line can be expanded to include a large variety of designs.

Trigema

<http://www.trigema.de>

EPEA Internationale Umweltforschung GmbH

<http://www.epea.com>