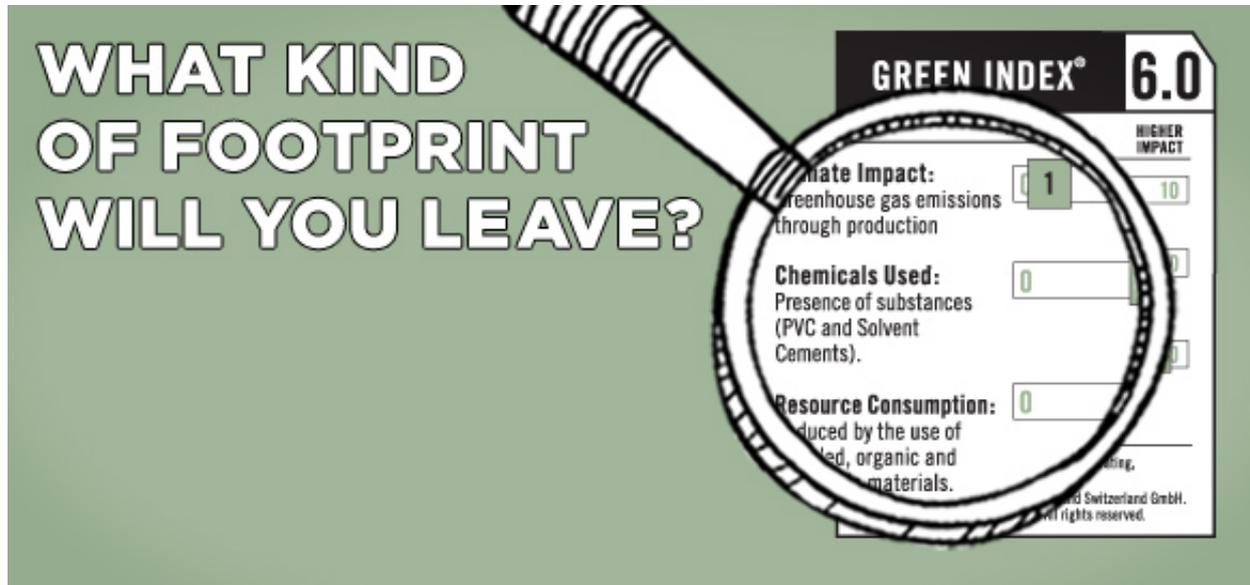


Breathing Easier: Reducing the Impact of VOCs

<http://responsibility.timberland.com/product/reducing-impact-of-vocs/>



Just as you can't make an omelet without breaking some eggs, you can't make shoes without having some impact on the environment.

For one thing, the shoe upper and sole need to be joined together with either stitching or adhesives. Solvent-based adhesives (SBAs) are traditionally used. The downside is that SBAs release volatile organic compounds (VOCs) that can create hazards for human and environmental health as they vaporize and enter the atmosphere. If you're familiar with model airplane glue, you're familiar with VOCs. If not treated, VOCs can produce air pollution and are considered hazardous waste, requiring careful disposal.

Timberland is committed to using alternative adhesives to reduce our environmental impact—without compromising the quality of our product. It's like a children's art project. Industrial glue might work easier or faster than other glues, but as a parent, you'd probably prefer your child use kid-safe glue.

In 2003, we started introducing water-based adhesives (WBAs) into our manufacturing process, an effort that continues to this day. We have also prioritized the measurement and management of high-VOC materials in our footwear construction as a way to track and ultimately reduce these chemicals.

Managing substitutions and reductions required learning how to measure VOCs. In 2008, our value chain staff put a multi-step program in place to track VOCs in factories. According to Josh Kasteler, Timberland's Manager of Materials Chemistry, Timberland began by looking at the VOC content of chemicals being used. "Some chemicals have 100% VOCs, like nail polish remover," he explains, "while others only have 30 to 40%."

Our materials chemistry team is based at our corporate headquarters as well as production offices in Asia, near many of our footwear factories, so they can work firsthand with factory managers on the processes necessary to reduce VOC use over time.

By calculating the average grams of VOCs per pair of shoes produced at each factory, we learned that the average pair of Timberland shoes has 65 grams of VOC (per pair). In 2007, we made approximately 25 million pairs of shoes. That means Timberland® footwear production led to 1,625,000 kg (1,791 tons) of VOCs released into the atmosphere—the equivalent of about 47 tanker trucks (carrying gasoline). If we were able to reduce our VOC use worldwide by 10% (or 162,500 kg per year), the reduction in emissions would be equivalent to taking five tanker trucks off the road.

Knowing what's being used and how much impact it's having is vital to pinpointing opportunities for making meaningful reductions. "It's like the dashboard on your car," Josh explains. "It helps to guide your efforts." Timberland's efforts went into full gear in 2010, when we shifted our focus from measuring impacts to implementing improvements, meeting and exceeding our goal for a 5% reduction of VOCs (or 63.1 grams) per pair of Timberland® shoes.

Using the information gathered, Josh and his team have also identified high-VOC-containing chemicals and transitioned them to cleaner alternatives.

Not only do reductions in VOC emissions reduce our environmental impact, they also improve working conditions in our factories. Think about what it smells like if you paint your house and don't open any windows. Reducing vapors entering the air improves air quality and worker safety—not to mention chemical storage, handling and inventory.

Going forward, we will continue to expand the use of low-VOC adhesive systems, including the introduction of new water-based systems, and also prioritize our efforts in factories that produce our Earthkeepers® line of shoes. We'll be able to track our progress as we begin reporting on VOC consumption as a part of the [Green Index® environmental rating system](#) for product design.

As Josh puts it, "Reducing VOCs gets to the heart of being an environmentally responsible company. It's not easy—it takes a lot of resources and effort to achieve. But it does illustrate Timberland's commitment to work toward positive environmental change."
