

Real Cost Kiosk – Research Checklist

Item: Patagonia’s Klean Kanteen® bottle

1. What are the materials that your item is made of?

100% 18/8 food-grade stainless steel (consisting of chromium, nickel, manganese, silicon, copper, carbon, nitrogen, phosphorus, molybdenum, zirconium, and titanium), BPA-free polypropylene #5, silicon

Note: some bottles have metal caps and are thus completely made of steel

2. Where, geographically, are the materials obtained?

Steel, which is a mixture of iron and carbon, is made on all continents save for Antarctica. The steel for the Klean Kanteen bottle is likely made in both China and the United States.

Polypropylene, as well as plastics in general, and silicon can be made or found in any country.

3. How are the materials obtained?

Iron ore, a necessary material in making steel, is obtained through mining. Mining is a process that involves the extraction of ore from the earth, usually through the use of explosives and machinery.

Plastics as a whole are derived from petroleum, which is obtained via drilling.

Silicon is a relatively plentiful material and can be found as sand or glass.

- a. Are they mined? Iron is mined
- b. Are they grown? No
- c. Are they harvested from an animal? No

4. Who obtains them and what are their wages?

Klean Kanteen carefully selects its own suppliers that aid in its goal to minimize ecological and global impact on the environment.

- a. Are the workers fairly compensated? Yes. Klean Kanteen provides substantial employee care and welfare, including health, retirement, and maternity/paternity benefits.
- b. What other impacts does obtaining the materials have on the local community?
According to the Klean Kanteen website, “Suppliers who wish to be long-lasting partners with Klean Kanteen, or any business seeking to flourish in the unfolding era of resource efficiency requirement, must endeavor to understand and actively manage their use of the natural resources and ecosystem services that underlie all manners of operation and delivery of product and/or service.” In that aspect, it endeavors to have the least impact as possible on localities and natural areas

Klean Kanteen also shares connections with local business leaders, and provides funds for community schools and non-profit organizations.

5. Are there negative health and safety impacts associated with obtaining these materials?

Miners always run the risk of accidents with machinery and explosives when mining for ore, although today’s standards and regulations have increased the safety of their profession.

Similarly, accidents can occur when obtaining petroleum with modern heavy machinery.

- a. Are there toxicity issues associated with obtaining the materials?

Concerning oil spills, petroleum can pose a great risk to the environment not only in the process of obtaining it via drills, but also when spillage occurs. It is notoriously hard to reverse the damage it causes to natural habitats when accidents during its transportation occur. Learn more at http://education.nationalgeographic.com/education/collections/oil-spills/?ar_a=1.

6. What are the environmental impacts of obtaining materials for this product?

- a. Resource depletion?
Although the steel industry today is still rapidly growing, there are still many iron ore sources due to the large amount of iron in the earth. Oil (that is, petroleum), on the other hand, is estimated by some to reach its peak within the next few decades.
- b. Habitat destruction?
Mining can destroy the environment in which it occurs due to the fact that it alters the land from which the ore is extracted. Although disturbed earth will typically be put back, trees and plants that were previously above it would have already been torn down.
- c. Carbon emissions?
The amount of energy needed to both extract ore and petroleum and to transport them is very substantial, especially for the latter seeing that the burning of oil is one of the main contributors to global warming.
- d. Pollution?
As mentioned before, oil spills have caused major negative impacts on the environment. The burning of oil also releases pollution into the air, which in turn can spread widely to other areas.

7. Where, geographically, is this product manufactured?

Klean Kanteen bottles are made in the United States and China, and the primary manufacturing partner is in Guangdong Province, china.

- a. Who manufactures the item? Klean Kanteen®

8. Provide details about the manufacture of this product:

- a. What is the manufacturing process? All Klean Kanteen bottles are handcrafted by workers – using machinery, the steel body of the bottle is welded together by hand, shaped to the correct size, and then electropolished for a smooth and shiny finish.
- b. What energy is used? (Renewable, Non-Renewable, etc) With a series of environmental and factory audits in place, Klean Kanteen focuses on effective environmental, material, and process control management in the manufacturing process. At its factory in Chico, California, the company has offset its electricity use by working with the Green Mountain Energy Company, who has analyzed their carbon footprint and provided alternate sources of energy through Renewable Energy Certificates, energy produced from wind and solar power. For more information see <http://www.kleankanteen.com/friends/greenmountainenergy.php>.

9. Who obtains them and what are their wages?

- a. Are the workers fairly compensated?

According to its site, Klean Kanteen “works to implement a Code of Conduct with its suppliers and material vendors that defines ethical standards, employee rights, fair labor standards, professional management systems, manufacturing excellence, responsible natural resource management, and health and safety of workers, employees and end users.”

<http://www.kleankanteen.com/about/sustainability.php>

- b. What other impacts does obtaining the materials have on the local community?

10. Are there negative health and safety impacts associated with the production of this item?

- a. Are there toxicity issues associated with the production? No

11. What are the environmental costs of producing this product?

- a. Resource depletion? Iron is still relatively prevalent in the earth, but energy sources such as oil could be affected by production. However, Klean Kanteen makes use of a natural resource management component guide, which measures and reports annual energy, water, waste. Packaging material, including wood and paper products, is recycled or made from certified materials by the Forest Stewardship Council
- b. Habitat destruction? Mining for iron and resource extraction can harm surrounding ecosystems.
- c. Carbon emissions? Transportation and shipping of materials and products from China and the US to beyond can leave a substantial carbon footprint. However, in 2010 the company launched their Green Shipping Program to offset carbon emissions by using a portion of their shipping costs to purchase carbon offsets, thus funding projects that remove carbon from the atmosphere, and which subsequently lowers their overall carbon footprint. The company is also uses and is affiliated with companies that use alternate sources of power, such as wind.
- d. Pollution? Atmospheric pollution is controlled by the means stated in C, and there is a “minimization of waste and appropriate handling of waste to avoid environmental pollution and human health risk” in the production of this product.

12. Who distributes this item and what are their wages?

- a. Are the workers fairly compensated? Yes.

13. How is this item distributed?

- a. What modes of transport are used?
- b. What are the carbon costs of that transport?

14. How many total miles of transport do the raw materials and finished product travel from start to finish?

15. Average price per item:

~\$35

16. What do you think the real cost of this item is?

17. If you plan to submit your research for inclusion in the real cost kiosk, what area of need have you identified to organize a fundraiser around?

<http://www.patagonia.com/us/product/klean-kanteen-16-oz?p=O2034-0-170&pcc=1128>

This research template was developed by students at The Boston Latin School, Boston, Massachusetts

For further information, email: ContactUs@blsyouthcan.org