

Intern: Nick McKee-Rist
Major: Mechanical Engineering
School: Kansas State University



Company background

Founded in 1910, Hallmark is the oldest and largest manufacturer of greeting cards in the United States. In addition to greeting cards, Hallmark also sells an array of products from party goods, gift wrap, Christmas tree ornaments and many other gifts. Hallmark is valued at \$3.5 billion as of last year, with 27,000 employees. The Hallmark locations in Lawrence and Leavenworth employ about 1,100 people and are focused on paper production such as cards, envelopes, packaging gift wrap, stickers and much more. These two locations account for 98% of all Hallmarks envelopes. All other products sold by Hallmark are produced by one of the 700 different suppliers.



Project background

Management expressed they wanted to improve their chemical reporting process to state and federal authorities. With each state and country having its own chemical restrictions, there grew a need for a restricted substance list for Hallmark to use and monitor its own chemical usage.

Alongside this, Hallmark wanted the intern to create a two-year chemical management strategy to help phase out chemicals with future bans and regulations. This involves chemicals like PFAS, TCEP, and MCCPs. This two-year chemical management strategy will help Hallmark phase out these chemicals from their products.

Incentives to change

As a company Hallmark is committed to becoming more sustainable with their “care for our planet” initiative. At Hallmark’s latest Sustainability Summit, the company announced a goal of reducing facility emissions by 46.2% as well as a four-point plan: product and content, renewable energy, sustainable forestry and transportation. With the implementation of the intern’s projects, Hallmark will be able to reduce hazardous chemicals in its products and maintain future bans of chemicals.

PROJECTS REVIEWED FOR P2 POTENTIAL

New restricted substance list

The current RSL list used by Hallmark was analyzed by the intern and updated to stay in accordance with any chemical regulations. Hallmark’s past RSL sheet was from 2018, leaving some chemicals to be both deregulated as well as added to many state and federal regulations. To ensure all of Hallmark’s products are safe for the consumer, it is important to maintain an up-to-date RSL. The use of a company restricted substance list will allow Hallmark to monitor and limit hazardous chemicals in their products while upholding these states’ and countries’ chemical restrictions.

Two-year chemical restriction list

To reduce Hallmark’s need to pull products from the shelves, in addition to making their products safer for the consumer, the intern provided Hallmark with a two-year RSL sheet. The intern looked into future bans of chemicals, allowing Hallmark to preemptively remove harmful chemicals with future bans, such as PFAS and other forever chemicals. Hallmark places many of its product orders 1-2 years in advance, and to ensure these products are safe, the intern researched future bans and restrictions on chemicals that may appear in Hallmark’s products.

PROJECTS REVIEWED FOR P2 POTENTIAL, CONTINUED

Supplier facing document

With Hallmark having nearly 700 suppliers globally, chemical management is complicated to maintain. A supplier document will be useful for helping manage the suppliers by giving them a list of chemicals to remove from the product lines. This will ensure all of products produced outside of Hallmark's supervision are safe from any hazardous chemicals.

Air leak audit

In 2021, the Pollution Prevention Institute sent a P2 circuit rider to Hallmark's Leavenworth manufacturing facility to find ways Hallmark can save money and reduce their greenhouse gas, or GHG, emissions. The former intern found 56 compressed-air leaks throughout the facility, costing Hallmark \$14,191.61 and 406,334 kWh of energy. Based off of these values, the former intern calculated that Hallmark could reduce their GHG by 427.7 MTCO₂e annually. As of 2022, these air leaks have since been fixed.

SUMMARY OF 2022 P2 INTERN RECOMMENDATIONS

| Project | Annual estimated environmental impact | Estimated cost savings (\$/year) | Status |
|------------------------------------|---------------------------------------|----------------------------------|----------------------|
| New restricted substance list | ----- | ----- | Implemented |
| Two-year chemical restriction list | ----- | ----- | Implemented |
| Supplier facing document | ----- | ----- | More research needed |
| Air leak audit | 427.7 (MTCO ₂ e) | \$14,191.61 | Implemented |
| Total^{1,2} | 427.7 (MTCO ₂ e) | \$14,191.61 | |

¹Does not include projects "not recommended" or where "more research needed."

²EPA P2 GHG Calculator with Cost, Apr. 7, 2016 & EPA WARM Tool- Version 14, Mar. 13, 2018