

Nexa™ Concentrates delivers waste reduction and cost savings for private Midwestern university.



CASE STUDY - INSTITUTIONAL

CH-1862

BACKGROUND

Ecolab had been the university's supplier of food service cleaning and sanitation chemicals since 2006 and supplier of laundry chemicals to the athletic department since 2009. In November of 2014, Ecolab representatives met with school officials to explore areas to expand the relationship between the two organizations. The collaboration identified an opportunity to leverage the campus' internship program to conduct an on-campus research study evaluating the waste reduction benefits of Ecolab's new Nexa Concentrates Hand Hygiene Program.

SITUATION

Under the direction of a professor in the school's science department two student interns performed a real-world case study evaluating the waste reduction benefits of Nexa Concentrates as compared to the campus' existing hand soap program. Over a five-week baseline period, the students collected data on hand soap consumption, soap cartridge replacement frequency, and the amount of soap left in discarded soap containers across 28 restrooms located in the two main academic buildings on campus. After this period, the existing hand soap dispensers were replaced with Ecolab Nexa Dispensers and a Nexa Concentrates Station was installed in the main custodial storage room. The same data was then collected on the Nexa program over the five-week trial period following installation.

RESULTS

The existing hand soap system utilized 1250mL sealed cartridges of soap. Seventeen soap cartridges were replaced during the five-week baseline phase of the study that evaluated the existing hand soap program. The students determined that, on average, 179mL of soap were left in each cartridge. The students then measured the amount of plastic waste by thoroughly rinsing each cartridge and allowing them to air dry before weighing the empty plastic containers. The students determined that each cartridge contained 1.66oz of plastic waste. The team extrapolated these results and estimated a five-year soap waste impact of 158L of soap, the equivalent of more than 126 full soap cartridges, and a five-year amount of almost 92lbs of plastic waste.

The Ecolab Nexa Concentrates Hand Hygiene Program uses a refillable soap cartridge that is refilled using the Nexa Concentrates Station. The refill station precisely dilutes hand soap concentrate to a ready-to-use concentration. One 1.3L container of concentrate can be diluted to make 13L of ready-to-use hand soap. During the five-week trial phase of the study, the students refilled cartridges as needed. The refillable nature of the system means that most if not all soap is consumed resulting in no measurable soap waste. With respect to plastic waste, the

"Ecolab's soap seems to be much more consistent. I never have to worry as to whether or not it will foam as it dispenses into my hand!" - Nursing Staff

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refillable Nexa cartridges are recommended for annual replacement. The student interns calculated an expected five-year plastic waste amount of 61lbs of waste consisting of empty concentrate containers as well as the recommended annual cartridge replacement.

The students also compared the financial impact of the two hand care programs. Comparing the school's price for the current hand soap product with the distributor quoted price for the Nexa Concentrates program showed a 49% reduction in cost per mL of soap, if the campus were to move to the Ecolab Nexa Hand Hygiene Program. When cost savings calculations were adjusted to account for soap that remained in the disposable cartridge (and was wasted during disposal with the current soap program), it resulted in a 56% reduction in cost per usable mL while maintaining cleaning performance needs.

Customer Impact		Economic Impact
33% reduction of packaging waste and elimination of product waste	 WASTE	56% reduction in cost per usable unit of product

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CONCLUSION

The Nexa Concentrates Hand Hygiene Program provides facilities with a solution that reduces waste and costs associated with hand care programs. The study conducted at the university showed a 33% reduction in plastic waste, a 56% reduction in hand care cost per usable mL of soap, and elimination of wasted hand soap.

