TerraCycle & Henkel Adhesive Packaging Recycling Program

RECYCLE ALL ANAEROBIC OCTITE ADHESIVES



include capped bottles only

Sean Wright, Sr. SHE Specialist Henkel Corporation

Anaerobic LOCTITE® adhesives include:
• Threadlockers

· Thread sealante





Why should we minimize waste?

- Failure to minimize waste leaves us vulnerable to public scutiny
- We have a sense of entitlement the environment often suffers at the hands of job creation and for the "good of the economy", even though it does not have to
- We often fail to understand social, economic and environment diversity and how this impacts us as a whole
- Minimizing waste must be science-based and evidence-based to ensure integrity and validity.



Definition of Success

"the accomplishment of an aim or purpose."



"My" Definition of Success (Long Term)

- Zero Landfill / Incineration
- Re-integration of Post Consumer Recycled Materials into existing processes
 - Recycled oil for equipment
 - Composting
 - Recycled containers
 - Recycled adhesives (?)

If I can do all this, the I consider this a success



Short Term Successes

- Evaluate / Re-evaluate how we currently look at waste minimization
 - Is it relevant for what we do?
- What are ALL the sources of waste we generate on site?
- Establish a set of comprehensive metrics
 - They need to be meaningful and convey what is actually happening



Sources of Waste

Examine **EVERY** opportunity to recycle and reduce waste:

- Cafeteria food scraps and composting
- Mechanical rooms refrigerant, oils, gear lube.
- Plastics
- Metals
- e-Waste (Electronics)
- Off-spec materials
- Expired chemicals
- Paper / Cardboard
- Printer / Toner cartridges
- Cigarette butts

You cannot expect to minimize waste until you know what waste you generate





So, who's making all this waste anyway?

Knowing what waste is generated is the first step. Next, we identify WHO generates the waste, and how. This is critical because we need to engage individual departments to develop and implement changes in processes.

- Packaging studies
- Minimum Order Quantity (MOQ)
- Duplicate ordering of samples and lab chemicals
- Cafeteria and food scraps
- Ordering in bulk because it's cheaper



It's all in the numbers



Taking an evidence-base and science-based approach to waste management is necessary to effect organizational and procedural changes which will ultimately impact waste minimization.

Henkel uses a reporting tool that applies to both production and administrative (R&D) sites. It is the equivalent to comparing apples and oranges. We need a methodology that accounts for these differences:

- Because R&D sites are non-predictive, we need to implement a system based on the amount of waste generated by project.
- This will allow us to standardize our data amongst different sites.
- We need to identify how much waste in being generated by each lab, and each group within the facility. We need to assign the costs associated with disposal to each group - ACCOUNTABILITY





So Henkel, what are you doing about waste minimization?

- Implementing a new chemical inventory system
- Hiring a new Chemical Coordinator
 - Implementing a Chemical Review and Authorization Process
 - Incorporating into the existing Safety and Health Information Tacking System
- Risk assessments adding environmental impacts how much waste is generated as a result of a project?
 - When the researchers see the \$\$ associated with their project, they suddenly become more "conservative"
- Expansion of composting program
- Constantly re-evaluating waste streams and looking for new opportunities





It doesn't end with us...

We need to evaluate our impact on the consumer as well





TerraCycle ®

First Adhesive Recycling Solution

- Each year NA consumers throw away over 6 million bottles of Anaerobic bottles.
- LOCTITE has partnered with TerraCycle® to become the first and only adhesives company to offer a recycling solution adhesive packaging.
- Customers purchase a postage-paid recycling box to collect their used LOCTITE adhesive containers.
- TerraCycle[®] reuses, upcycles or recycles the waste and then sells the usable material for use in finished products.





TerraCycle® & Henkel will continue to create recycling solutions for various adhesive categories



RECYCLING THE NONRECYCLABLE

Most products and packaging are considered non-recyclable **only** because of economics. Examples below:



LOCTITE.

Adhesives Recycling Customer Process

ORDER COLLECT SHIP RECYCLE

 Contact your Henkel Distributor or LOCTITE Industrial sales rep to purchase recycling boxes. Place the box in an area where the anaerobic adhesives are stocked, applied or discarded.

NOTE: Only the specified empty LOCTITE adhesive packaging should be placed into the collection box. All bottles must be capped and tightly closed.

- Once full, seal the liner using the zip tie.
 The tie is included under the lid of each box.
- The top of the box should be securely sealed with packing tape and placed in your designated UPS pick-up area.
- When TerraCycle receives your box, the adhesive packaging will be safely recycled and made into new and innovative products.













Adhesives Recycling TerraCycle Process

TREAT MELT PELLITIZE RECYCLE Adhesive Packaging is Material is melted into The sheets are Pellets are turned into cryogenically or shredded and sheets new product thermally treated in pelletized order to deactivate the adhesive





Henkel Adhesive Recycling Program

- Expanding technologies
- Expanding program to new customers, new regions and new SBUs







Did You Know

The average person generates over 4 lbs of trash every day.

4 lbs

30%

EPA estimates that 75% of American waste stream is recyclable, but we only recycle 30% of it.

28 Billion

Americans throw away about 28 billion bottles and jars every year.

21.5 Million Tons

We generate 21.5 million tons of food waste each year. If we compost that food, it would reduce the same amount of grenhouse gas as taking 2 million cars off the road.









Henkel & Sustainability

Doing More With Less

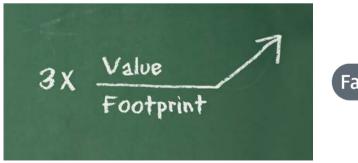


Sustainability at Henkel



Leading The Way In Sustainability

- One of the first companies to publish sustainability report (25th Report)
- Based off of sense of urgency and responsibility
- Exceeded our 2015 interim goals (+38%)









Rocky Hill Recycling

Did you know?



Recyclable Materials (paper / cardboard)
25.33 tons

Trash 66.16 tons

Metals 2.92 tons

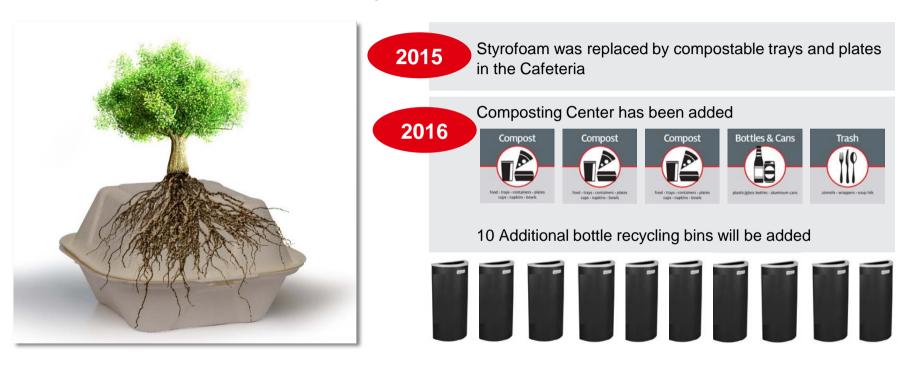
Compostable Food Waste 1.45 tons





Rocky Hill

Recommitment to Sustainability





Rocky Hill Challenge - Convert 10 tons of Trash to Compost/Recycle



Where do we go from here?



- Expand our composting program
- Solidify our recycling program to incorporate more materials
- Develop relationships with other companies to exchange information,
 COLABORATE AND SHARE!
- Work with DEEP on developing procedures that will increase the amount of recyclable materials and decrease the amount of haz/non-haz materials
- Put systems and processes in place to ensure we are continuously improving our processes.



Final Thought



Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.

-Margaret Mead

