

# TerraCycle & Henkel Adhesive Packaging Recycling Program

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RECYCLE ALL  
ANAEROBIC  
LOCTITE®  
ADHESIVES



Include capped bottles only

Anaerobic LOCTITE® adhesives include:

- Threadlockers
- Thread sealants

# Why should we minimize waste?

- Failure to minimize waste leaves us vulnerable to public scrutiny
- 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.”



Excellence is our Passion

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# “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, then I consider this a success*



Excellence is our Passion

# 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

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 is 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 Tracking 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:



WHEN:



WHEN:



# Adhesives Recycling

## Customer Process



LOCTITE

### ORDER

- Contact your Henkel Distributor or LOCTITE Industrial sales rep to purchase recycling boxes.



### COLLECT

- 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.



### SHIP

- 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.



### RECYCLE

- When TerraCycle receives your box, the adhesive packaging will be safely recycled and made into new and innovative products.



# Adhesives Recycling

## TerraCycle Process



LOCTITE®

### TREAT

- Adhesive Packaging is cryogenically or thermally treated in order to deactivate the adhesive



### MELT

- Material is melted into sheets

### PELLITIZE

- The sheets are shredded and pelletized

### RECYCLE

- Pellets are turned into new product



# 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 greenhouse gas as taking 2 million cars off the road.



\*Source: Facts about Recycling| DoSomething.org



### Sustainability at Henkel



For 2020 we have set ourselves new interim targets (base year 2010):

<b>+75%</b> Overall efficiency	<b>+22%</b> more net sales per ton of product	<b>+40%</b> safer per million hours worked
<b>-30%</b> less water per ton of product	<b>-30%</b> less waste per ton of product	<b>-30%</b> less energy / CO <sub>2</sub> emissions per ton of product

### Leading The Way In Sustainability

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



Factor **3**



# 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



2015

Styrofoam was replaced by compostable trays and plates in the Cafeteria

2016

Composting Center has been added



10 Additional bottle recycling bins will be added



**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.

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