



Natur-Bag™ | Natur-Ware™

Natur-Tec® Product Brochure



[www.naturbag.com](http://www.naturbag.com)

Natur-Tec® Products Offer an Integrated Zero-Waste Solution

Organic Food Scraps and Compostable Food Service Ware



Zero-Waste and Organics Diversion programs are growing trends in various segments across the United States and Canada. From public schools to private business, these initiatives are playing vital roles in sustainability efforts. Natur-Bag® and Natur-Ware® are useful tools in these programs.

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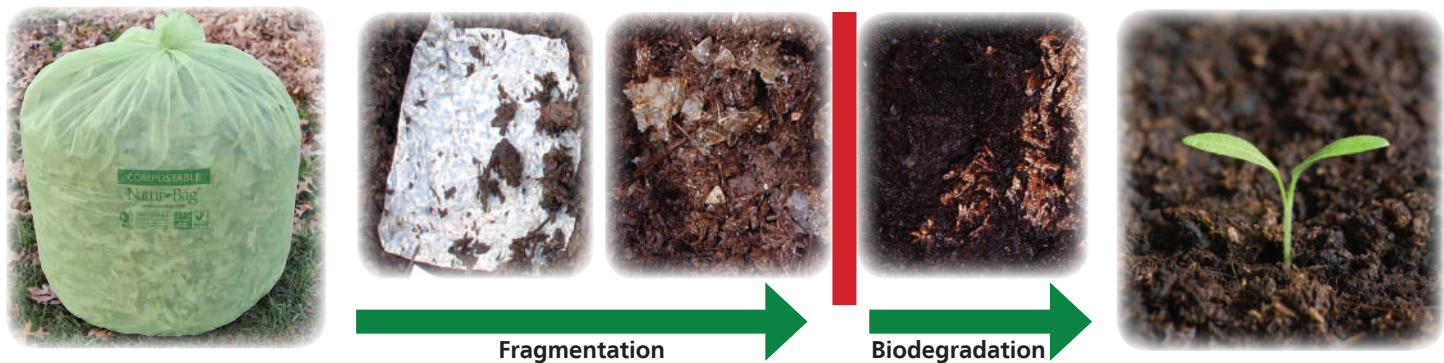
Made from Natur-Tec® Biopolymers



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## Compostability: Fragmentation and Biodegradation

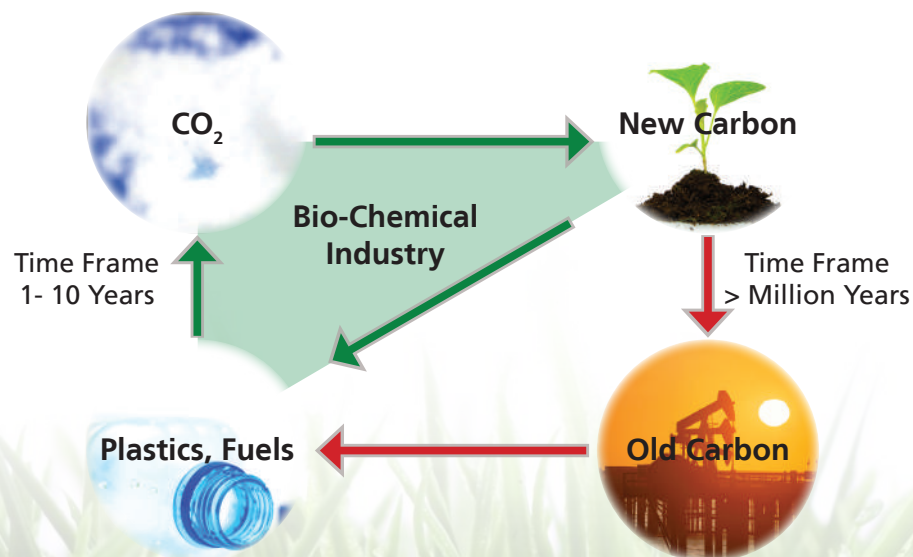


Composting is a two-step biological process that converts organic matter such as food, manure, leaves, grass trimmings, paper, etc., into valuable humus (nutrient rich soil amendment). The first step in this biological process is fragmentation, in which organic matter is broken down into microscopic fragments. The second step in the process is the actual biodegradation, in which aerobic (oxygen breathing) micro-organisms consume the microscopic organic fragments as food, and in turn generate humus, water and CO<sub>2</sub>. Compostable plastics that meet ASTM D6400 are engineered to break down in a composting environment, and be used as a food source by the micro-organisms in the composting environment.

**Biodegradability** – Complete utilization of the fragmented product as a food source within a specified timeframe, by micro-organisms in the end-of-life disposal environment. The disposal environment could be soil, composting, marine, etc., and the timeframe specified will vary depending upon the level of microbial population in that disposal environment.

**Compostability** – Complete breakdown and assimilation by the micro-organisms within 180 days, in an industrial compost environment. Composting is the most aggressive disposal environment due to the presence of high levels of microbial population, humidity and oxygen.

## Natur-Tec® Products Enable Carbon Footprint Reduction



Converting atmospheric carbon into petroleum through biomass takes millions of years, whereas releasing the carbon from the petroleum back into the environment takes only 1-10 years. This huge imbalance between the rates of carbon fixation and release makes the use of petroleum completely unsustainable from an environmental perspective.

Unlike petroleum based plastics, bioplastics are inherently sustainable, because they seamlessly integrate into nature's carbon cycle by balancing the rate of carbon release with the rate of carbon fixation.

## Natur-Bag® at Work: Food Waste Diversion in Restaurants

### THE CHALLENGE

Since opening in 2009, Lake Chalet has focused on reducing the amount of waste sent to landfills by implementing a recycling and organic waste diversion program. A challenge Lake Chalet faced during this initiative was determining how to set up an effective and sanitary system for collecting and sending food scraps to a compost facility. They needed a strong and robust compostable bag that contained odors and maintained a clean kitchen environment.

Lake Chalet evaluated various compostable bag options to find a bag that met these requirements. The bags were tested through an unconventional method they call "The Fish Test." This unique test was performed by filling a bag with fish scraps and swinging the bag around in order to measure the bag's strength. If there was not a mess, the bag passed. Natur-Bag compostable bags passed "The Fish Test" with flying colors and—perhaps more importantly—without flying fish. As a result of Natur-Bag's proven durability, Lake Chalet chose Natur-Bag to handle food scraps.

### THE RESULTS

By using Natur-Bag products to collect organic waste, Lake Chalet saved time and money. They have been able to keep collection bins clean and odor-free. Now more than half of Lake Chalet's waste is sent to a compost facility instead of a landfill.



Food scraps, trimmings, and paper napkins collected in bins lined with Natur-Bag products.



"Natur-Bag products make collecting food scraps easy and sanitary in our busy kitchen. It is important that the bags can handle our heavy food waste without breaking. As a result of our successful organics collection program, we are able to send our food scraps to become useful compost and reduce our solid waste tipping fees."

—Kristian Cosentino,  
Food & Beverage Manager  
Lake Chalet Seafood Bar & Grill

## Natur-Ware® at Work: Reducing Waste and Carbon Usage in Offices

### Natur-Ware Biocutlery Stands Up to Competition

A large insurance company in Michigan implemented environmentally sustainable practices throughout its corporate offices. This initiative included replacing the plastic cutlery in dining facilities with a biobased cutlery product. Initially the company tried a starch-based cutlery made from plant-starch material (PSM) technology. It resulted in a poor user experience and added waste.

### THE PROBLEM

Employees complained that the PSM cutlery was flimsy and softened in hot foods and liquids. At times they would require up to three utensils per meal! This resulted in added waste and increased replacement costs. The company was also disappointed to learn the PSM cutlery contained 65% polypropylene, a traditional plastic that does not biodegrade.

### THE SOLUTION

Office management searched for a better sustainable cutlery option and chose Natur-Ware biobased and compostable cutlery. Natur-Ware's strength and high-heat resistance allowed for a 67% reduction in waste in comparison to PSM cutlery, as well as enhanced user experience and reduced costs for the office. Everyone is also pleased that Natur-Ware is a truly sustainable option made from annually renewable resources that are compostable.





## Natur-Bag® Stock Product Industrial Offerings

Item Description	Item Number	Dimensions	Bags Per Case	Case Pack
3 Gallon Natur-Bag	NT1025-X-00009	16" x 17" 0.65mil	500	25/roll x 20 rolls
5 Gallon Natur-Bag	NT1025-X-00038	19.5" x 23" 0.7mil	300	25/roll x 12 rolls
13 Gallon Natur-Bag	NT1025-X-00010	23.5" x 29" 0.8mil	250	25/roll x 10 rolls
23 Gallon Natur-Bag	NT1025-X-00034	28" x 44" 0.9mil	200	25/roll x 8 rolls
30 Gallon Natur-Bag	NT1025-X-00018	30" x 39" 0.8mil	200	25/roll x 8 rolls
33 Gallon Natur-Bag Slim Liner	NT1025-X-00014	33" x 40" 0.8mil	200	25/roll x 8 rolls
33 Gallon Natur-Bag	NT1025-X-00012	33" x 40" 1.0mil	200	25/roll x 8 rolls
35 Gallon Natur-Bag	NT1025-X-00031	34" x 48" 0.9mil	100	20/roll x 5 rolls
39 Gallon Natur-Bag	NT1025-X-00013	35" x 44" 1.0mil	100	20/roll x 5 rolls
45 Gallon Natur-Bag	NT1025-X-00011	38" x 48" 1.0mil	100	20/roll x 5 rolls
55 Gallon Natur-Bag Slim Liner	NT1025-X-00030	42" x 48" 0.8mil	100	10/roll x 10 rolls
55 Gallon Natur-Bag	NT1025-X-00015	42" x 48" 1.0 mil	100	20/roll x 5 rolls
58 Gallon Natur-Bag	NT1025-X-00035	38" x 58" 0.9mil	100	20/roll x 5 rolls
64 Gallon Natur-Bag Slim Liner	NT1025-X-00029	47" x 60" 0.9mil	60	10/roll x 6 rolls
96 Gallon Natur-Bag	NT1025-X-00028	54" x 59" 0.9mil	60	10/roll x 6 rolls

## Natur-Bag Stock Product Retail Offerings

Item Description	Item Number	Dimensions	Bags Per Pack	Packs Per Case
3 Gallon Natur-Bag Retail Pack	NT1075-RTL-00004	16" x 17" 0.65mil	25	24
13 Gallon Natur-Bag Retail Pack	NT1075-RTL-00007	23.5" x 29" 0.8mil	12	12

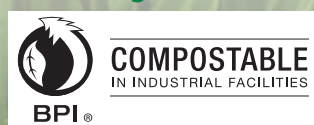
## Natur-Bag Stock Product Shopper Offerings

Item Description	Item Number	Dimensions	Bags Per Case	Case Pack
Medium Natur-Bag Shopper	NT1075-X-00004	16.5" x 19.5" 0.75mil	500	50/pack x 10 pks
Large Natur-Bag Shopper	NT1075-X-00007	18.5" x 21" 0.9mil	500	50/pack x 10 pks

## Natur-Bag Product Highlights:

- Certified compostable by the BPI (Biodegradable Products Institute) and AIB-Vinçotte
- Meets ASTM D6400 and EN 13432 standard specifications for compostable plastics
- Meets requirements of California AB 1972 (2008) / SB 567 (2011) and Minnesota HF 403 (2010)
- Does not contain any polyethylene or other non-degradable plastics
- Available in a wide variety of sizes from 3 gallon bags up to 96 gallon liners
- Engineered strong; industrial size liners (23 gallon liners and up) will hold up to 80lbs
- Prevents odors, and keeps bins and containers clean

## Natur-Bag Certifications:



# NaturWare™

Biobased Compostable Cutlery



## NaturWare® Stock Product Bulk Offerings

Item Description	Item Number	Units Per Case	Case Pack
NaturWare Fork	NT1890-BULK-00012	1,000	100 pieces/pack; 10 packs/case
NaturWare Knife	NT1890-BULK-00013	1,000	100 pieces/pack; 10 packs/case
NaturWare Spoon	NT1890-BULK-00014	1,000	100 pieces/pack; 10 packs/case



## NaturWare Stock Product Individually Wrapped and Kit Offerings

Item Description	Item Number	Units Per Case	Case Pack
NaturWare Individually Wrapped Compostable Fork	NT1890-IND-00014	500	loose pack
NaturWare Individually Wrapped Compostable Knife	NT1890-IND-00015	500	loose pack
NaturWare Individually Wrapped Compostable Spoon	NT1890-IND-00016	500	loose pack
NaturWare Wrapped Compostable Fork, Knife, Spoon, & Napkin Kit	NT1890-IND-00017	250	loose pack

## NaturWare Product Highlights:

- Certified compostable by the BPI (Biodegradable Products Institute)
- Meets ASTM D6400 and EN 13432 standard specifications for compostable plastics
- 94% Biobased as measured by ASTM D6866
- Strong and sturdy design
- Engineered to handle temperatures up to 190°F (87°C)
- Made from annually renewable resources
- Does not contain any polypropylene, polystyrene, or any other conventional plastics that do not biodegrade
- Manufactured from Ingeo™ natural plastic that is made from plants, not oil
- Kit wrap is certified compostable by the BPI
- Each piece of NaturWare cutlery is identified as compostable



## NaturWare in a Composting Environment:



## NaturWare Certifications:

