



Sustainability at Tosaf



A sustainable approach to plastics

At Tosaf, we are pioneers in breakthrough solutions for the plastics industry. Over the past three decades, we have experienced - and even led - changes in the market, anticipating trends and keeping abreast of developments as they unfold.

Arguably one of the biggest changes – and challenges - in recent years has been the global demand for more sustainable practices in plastic manufacturing. With a deep-rooted belief that what is good for the environment is good for us too, we have made this a priority. Not only in the way we run our own R&D and production facilities, but also in terms of developing a variety of innovative products and solutions that enable our partners and customers both to deliver sustainable products, and to operate in a more environmentally friendly way.



Supporting our customers' sustainability goals

Over the years, we've perfected our most important skill: understanding our customers and helping them get to where they want to go. Every customer has unique needs. Our goal is to tailor solutions that respond to those needs with flawless precision.

Every one of our customers has different sustainability goals. Some aim to increase the percentage of recycled material in their final product. Others wish to reduce their waste. Others want to minimize their energy consumption, etc.

To support our customers' sustainability initiatives, we structured our offering around their sustainability goals. We want to make it easy for them to identify which of our products can support their efforts.



Reuse

Increase the use of recycled materials

Odor Scavenger
Chain Extender
Flow Enhancer

Reduce

Reduce the amount of synthetic plastic and reduce waste

Sustainable Fillers
Foaming Agents

Recycle

Improve the recyclability of Plastic

NIR Black
Matte for PE
Non-Halogen FR

Materials

Change materials to improve sustainability

Bio-based Masterbatch
Carriers

Performance

Improve product performance

Process Aids
Nucleating Additives
Purge Compounds

Organization

Sustainability begins at home

Waste Reduction
Energy Reduction
Wastewater Management



A photograph of a beach heavily littered with plastic waste, including bottles, bags, and other debris. In the background, a few people are visible near a wooden structure and a large black umbrella. The ocean and a clear blue sky are also visible.

BREAKTHROUGH SOLUTIONS FOR THE PLASTICS INDUSTRY

REUSE

Increase the use of
recycled materials



Odor Scavenger

Absorbs and eliminates the rancid odors that develop in recycled materials throughout storage and processing.

Enabling plastic convertors to successfully use low-cost, environmentally friendly raw materials even in strict and challenging organoleptic applications. Food-contact and REACH approved.



Chain Extender

A chain extender helps re-link polymer chains that are broken following degradation, thus enhancing polymer properties. This is a critical element for retrieval of virgin material properties with recycled PET and other polyesters and polycondensates (e.g., PLA, TPU). The chain extender increases molecular weight and improves thermal and hydrolytic stability. It also improves processability by increasing melt strength and intrinsic viscosity.

Enables stronger and thinner (lighter) packaging materials.
Food contact approved.



Flow Enhancer

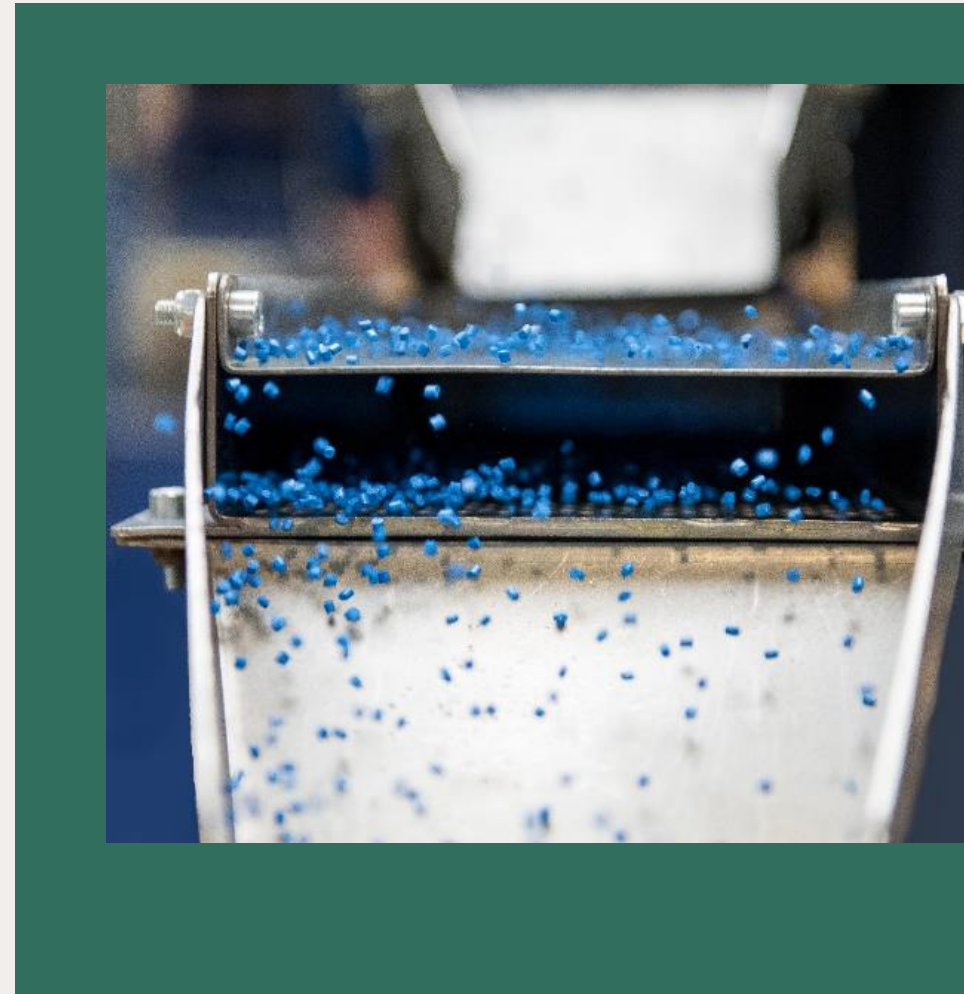
Our polypropylene flow enhancer masterbatch improves the processability of recycled raw materials, contributing to faster mold-fill rates and shorter overall cycle, without compromising mechanical properties or cost.



High filled color Masterbatches for overcoloring of recycled Plastics

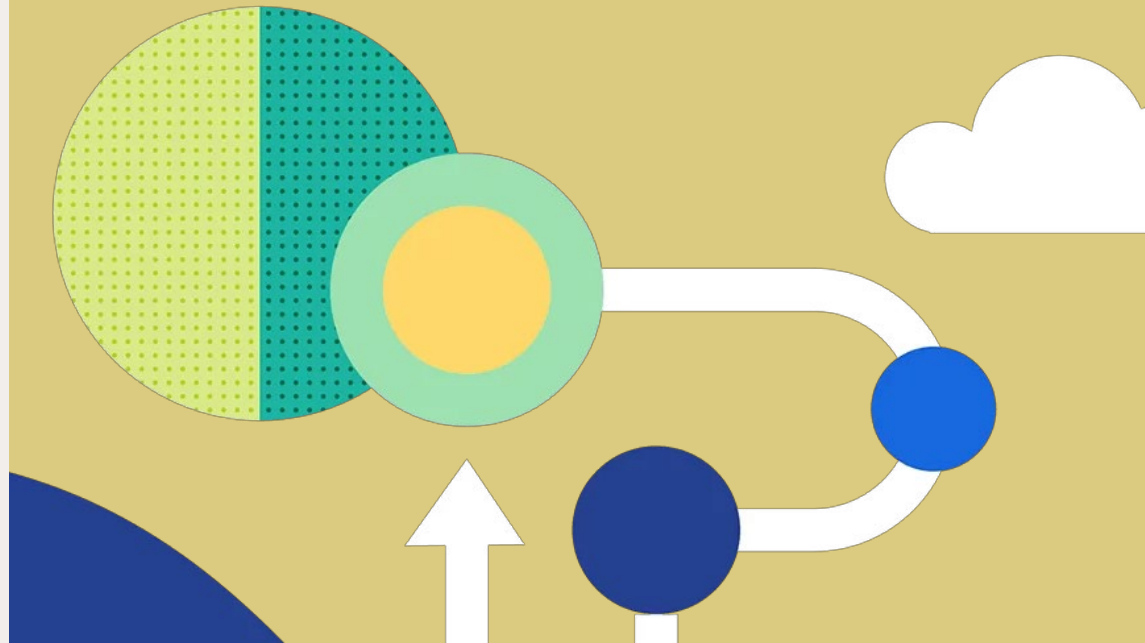
Coloring recycled plastics is undoubtedly one of the biggest challenges to take on due to the instability and mostly dull shades of the base materials.

Over the past decades Tosaf Color Service has built up an impressive experience and knowledge in tailoring the colors of recyclates to our customers' needs, to create the most fashionable colors in all different kinds of plastics and allowing recycled materials to be revived and reused over and over again.



REDUCE

Reduce the amount of synthetic plastic and reduce waste



Sustainable Fillers Eggshell

Colloids (Tosaf's subsidiary) can incorporate powdered eggshell at concentrations from 10-50% (by weight) into various polymers.

The inclusion of eggshell powder gives a light speckled effect to the finished product.

The eggshell compound can be used in a range of polymers with a wide choice of colors to mask or enhance the unique effect.

The **Enviro-Tech eggshell** compounds are compatible with L-TEC® laser technology to give a permanent mark, replacing the use of adhesive labels ensuring recycling compatibility.



ENVIRO-TEC™

Sustainable fillers- Recycled Coffee Grounds

Re-use spent coffee grounds and incorporate them into plastics.

To-date, Colloids has successfully incorporated up to 30% of coffee grinds into biobased and compostable as well as recycled polymers including LDPE, PP, PETG, PS, ABS.

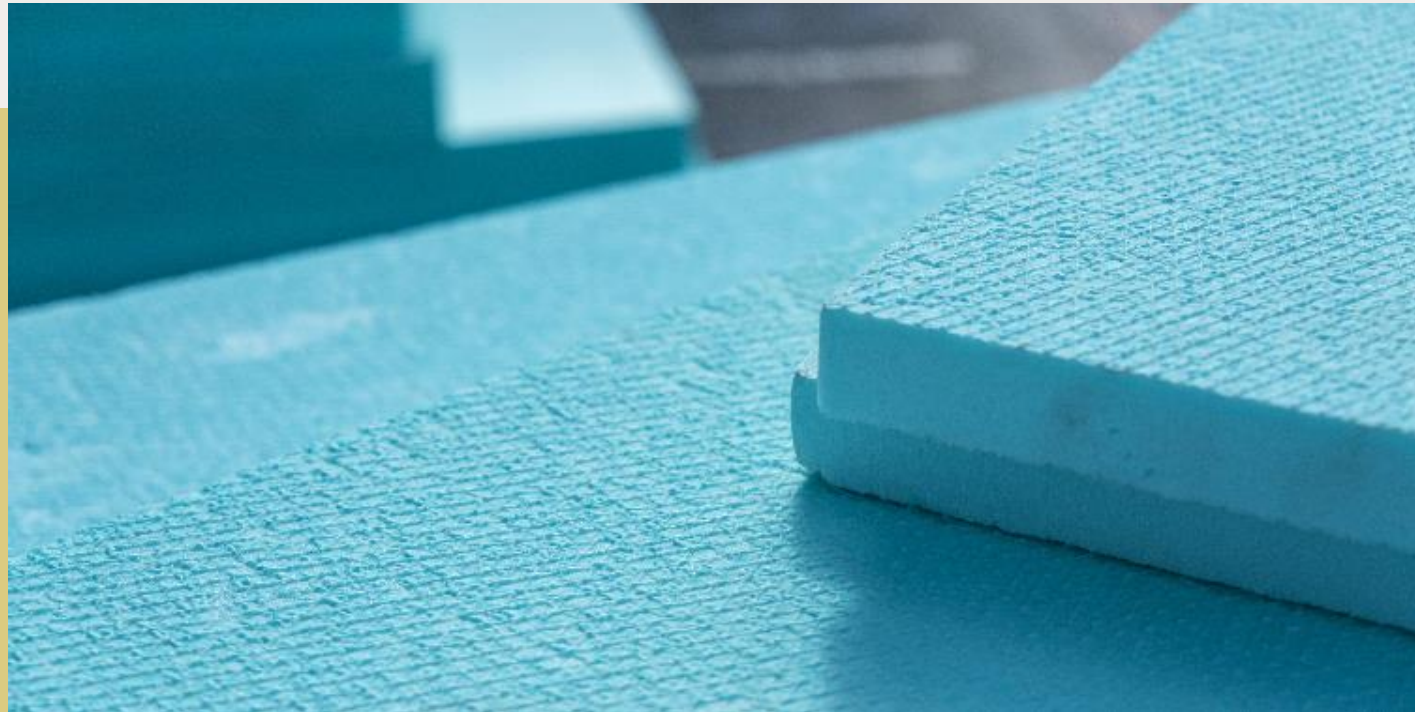
Once the compound has been formed, it retains plastics inherent recyclability, in both industrial and curbside collections. Moreover, its unaffected performance can be validated.



Foaming Agents

Foaming agents are highly sophisticated and require innovative production, high-level quality control and perpetual R&D. It's a challenge we embrace.

Tosaf's portfolio encompasses many specific and general-purpose foaming agent solutions. Using both exothermic and endothermic CFAs, our FA solutions serve a wide range of applications, production methods and polymer systems.



RECYCLE

Improve the
Recyclability
of Plastic



Near IR (NIR) Detectable Black MB

Carbon black pigment completely absorbs the near-IR (NIR) radiation used in recycling plants to detect and sort plastics. As a result, huge volumes of plastic in applications like ready-made meal boxes is sent to landfill instead of being recycled.

Our IR detectable black offers strong black color, without compromising detection during the sorting process, thus ensuring that products are fully recyclable.



Matte for PE

Our recyclable matte additive is the environmentally-conscious alternative to matte coatings. Delivering a premium chic look and feel, it offers excellent brightness in light transition with no transparencies.

Suitable for polyethylene films, it requires no additional converting processes, can be used for thin skin layers (5-7 microns) and provides superb haze (~80%) at a very low gloss (<10).



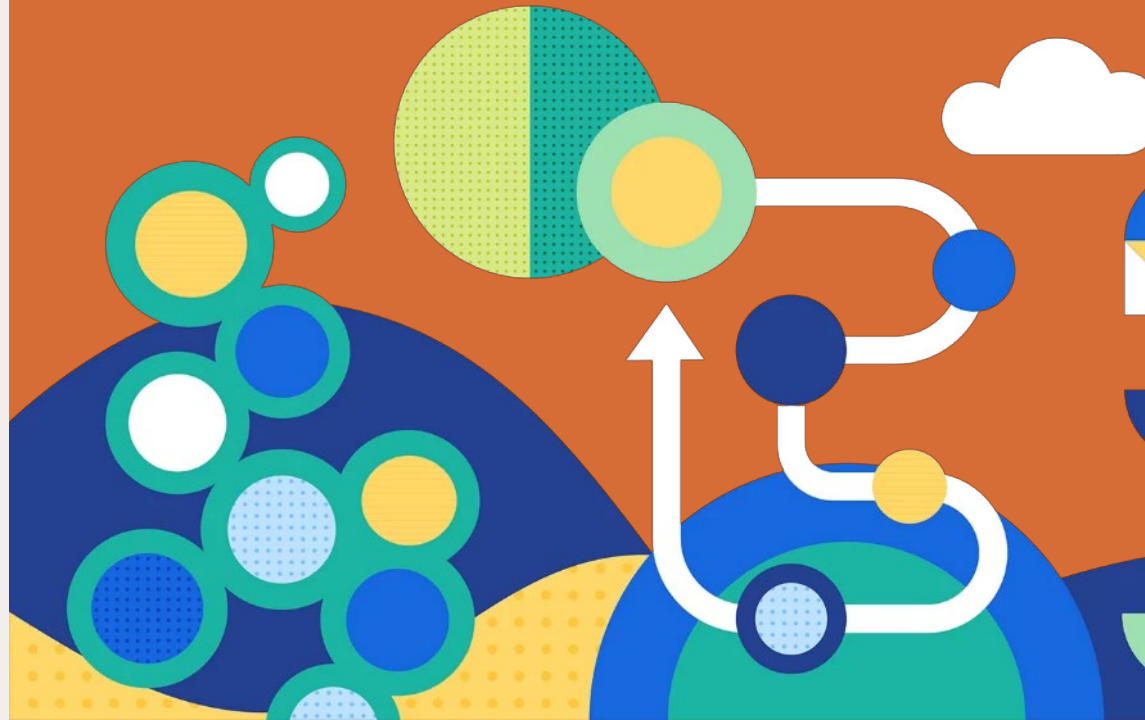
Non-Halogen Flame Retardant Additives

Our family of flame retardant additive masterbatches uses non-halogen additives that are not harmful to the environment and can be recycled. Using premium-quality active ingredients and innovative formulations, we help customers to achieve high-level product performance, while supporting resource efficiency and environmental protection.



MATERIALS

Change materials
to improve
sustainability



Bio - Based MB Carriers

Tosaf Color Service developed a universal carrier that is suitable for coloring different biodegradable polymers.

Enabling easy incorporation of color masterbatch at low temperatures, and color customization, this is a cost-effective carrier system that delivers very homogeneous coloring.



PERFORMANCE

Improve Product
Performance





Processing Aid (PPA) Masterbatch

Enhanced processability of plastics such as PE film, pipes, tubes and cables; improved productivity and quality; reduced production costs; increased melt stability and hydrolytic stability of PET and other polycondensates (PLA, PC, TPU, ...); and a smoother production process.

These are just some of benefits of Tosaf's extensive range of polymer processing aid (PPA) masterbatches. Specifically designed to meet different needs and conditions, these masterbatches are suitable for use in a variety of relative humidity levels, from dry to high moisture.



Purge and Shutdown Compounds



Purge compounds reduce raw waste, shorten machine downtimes, enhance product quality and increase overall production output. Our purge compounds can speed up and simplify machine maintenance and other process build-up – or eliminate it altogether – due to their ability to remove additives, coloring agents and accumulated build-up from all machine components.



Many manufacturers have become accustomed to using regrind or virgin resin as purging agents. As cleaning agents, these solutions are extremely limited, especially when compared to Tosaf's dedicated purge compounds, which are specifically formulated for cost-effective cleaning. Tosaf also manufactures purge compounds intended for use during machine shutdown times, which can minimize machine start times and increase production times.

ORGANISATION



Sustainability
Begins at Home



Energy Reduction

Finding ways to reduce energy use is crucial to creating a lighter carbon footprint.

At Tosaf, we use reliable measuring technologies to meet sustainable energy benchmarks. Monitoring water and electricity levels, ensuring machine motors consume energy economically and upgrading key infrastructure – our commitment to efficient energy conservation permeates all areas of our business.

Alternative energy technologies contribute to environmental sustainability. That's why we've invested in LED lighting solutions throughout our facilities and use rooftop solar panels at our main manufacturing plant to generate natural energy for production.

The reduction in our annual energy and water consumption levels over the past several years confirms that our conservation practices are making a measurable difference.



Wastewater Management

Water is arguably our most precious natural resource.

Reusing wastewater contributes to responsible management of our planet's reserves, protects marine and freshwater environments, and supports the provision of clean drinking water for global populations. We take effective measures to reduce and reuse wastewater in our operations, while implementing safety standards for the wastewater that leaves our facilities.



Waste Reduction

“Reduce, reuse, recycle” isn’t just a catchphrase to us. It’s the philosophy we live by.

Implementing effective waste reduction, recycling and waste management protocols at our facilities has had a significant impact on our operations. This includes purchasing packaging materials that comply with efficient recycling procedures, streamlining our recycling efforts by classifying and sorting waste into categories, designating materials for reuse where possible, and recycling electronic waste such as computers and printers.





Thank you