

News Release

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BASF introduces IrgaCycle™, new additive solutions for mechanical recycling of plastics

- **IrgaCycle™ improves the properties of mechanically recycled plastics for different target industries**
- **Novel plastic additive combinations for recyclers, compounders and converters**
- **Tailored to enhance the quality of post-consumer and post-industrial polyolefin material for re-use in rigid, flexible and molding applications**
- **Newest addition to VALERAS™, BASF's brand for its plastic additives portfolio that enables customers to achieve their sustainability goals**

Ludwigshafen, Germany – September 14, 2021 – BASF has launched IrgaCycle™, a new range of additive solutions to address the imminent needs in plastics recycling.

The plastics industry is seeking ways to incorporate higher content of recycled polymeric material in all major applications to meet sustainability goals, while facing growing consumer concerns and stricter regulatory requirements to reduce plastic waste. Hereby a major challenge is to mitigate quality deficiencies of polymers arising from thermal and mechanical stress during the recycling process.

Recycled plastics often contain impurities and polymer contaminants that accelerate polymer degradation, which change the material properties. Consequently, recyclers and plastic converters are facing quality and performance issues while processing recycled polymeric material. Formulated additive packages improving the properties of these recycled plastics can be a solution for this challenge.

“The production of plastics from mechanical recycling is expected to almost triple by 2030, driven by improved technologies and regulation. This corresponds to a growth of around 10 percent per year,” says Dr. Thomas Kloster, President of BASF’s Performance Chemicals division. “With IrgaCycle we are expanding our existing portfolio step by step by specific solutions for recycling to support the circular economy goals for plastics.”

The new IrgaCycle range includes additive solutions that can help increase the percentage of recycled content in several end-use applications such as packaging, automotive & mobility, and building and construction. These solutions address specific quality issues associated with recycled resins, such as limited processability, poor long-term thermal stability and insufficient protection from outdoor weathering. At launch, the product line includes a range of different additive formulations, with more to follow in the future.

IrgaCycle PS 030 G enhances long-term thermal stability in rigid applications, mainly for recycled HDPE, polyolefins and mixed polymers.

IrgaCycle PS 031 G improves processing and long-term thermal stability of recycled LDPE and LLDPE for incorporation into films and related flexible packaging applications.

IrgaCycle PS 032 G provides processing stability and long-term thermal protection for recycled PP and polyolefin blends containing impurities.

IrgaCycle UV 033 DD combines weathering stability with enhanced thermal and processing stability for reclaimed HDPE and PP blends for re-use in outdoor goods.

IrgaCycle XT 034 DD rejuvenates processing, long-term heat stability and helps neutralize impurities of the “first life” of the plastic, and with this improves mechanical properties of polyolefin recyclates.

A specific advantage of these blends lies in their ready-to-use product forms, which are easy to apply in the recycling steps. The granulated non-dusting product form ensures safe and easy dosage during converting or compounding of reclaimed material.

“We have formulated these solutions based on our extensive experience in the plastics industry, combining the high quality of our antioxidants and light stabilizer

systems with our application expertise,” says Dr. Volker Bach, Global Lead Innovation at BASF Plastic Additives. “With our global setup we are able to engage across the entire value chain of the recycling industry, be it with brand owners or converters alike and in all regions.”

The IrgaCycle range is offered as part of the VALERAS portfolio. In addition to enabling plastics circularity with IrgaCycle, VALERAS solutions bring significant sustainability value to plastic applications by improving durability, reducing waste, saving energy, reducing emissions, and promoting biodiversity.

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About BASF Plastic Additives

BASF is a leading supplier, manufacturer, and innovation partner of plastic additives. Its comprehensive and innovative product portfolio includes additives which provide ease in processing, heat and light resistance to a variety of polymers and applications including molded articles, films, fibers, sheets and extruded profiles. The portfolio is constantly analyzed, assessed and actively improved towards solutions which make a larger contribution to sustainability. More information about plastic additives: www.plasticadditives.basf.com.

BASF plastic additives is part of BASF's Performance Chemicals division. The division's portfolio also includes fuel and lubricant solutions, kaolin minerals, as well as oilfield chemicals and mining solutions. Customers from a variety of industries including Chemicals, Plastics, Consumer Goods, Energy & Resources and Automotive & Transportation benefit from our innovative solutions. To learn more, visit www.performancechemicals.basf.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. More than 110,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of €59 billion in 2020. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.