

PRESS RELEASE

Bio-on bioplastic analysed by Italian Toy Safety Institute to verify product safety for children. Declaration of conformity obtained



- The special grade of Bio-on bioplastic, called **Minerv Supertoys**, has been designed specifically for the toys of the future.
- The declaration of chemical conformity issued by the Italian Toy Safety Institute is a guarantee for children's health.
- Minerv Supertoys also protects the environment: like all PHAs bioplastics developed by Bio-on, it is 100% natural and biodegradable.

BOLOGNA, 3 May 2017 – The Italian Toy Safety Institute (**Istituto Italiano Sicurezza dei Giocattoli - IISG, a UL company**) has run specific analyses on tested samples of **Minerv Supertoys**, the new type of PHAs bioplastic designed and developed by Bio-on for the toys of the future, and has issued its declaration of conformity.

The declaration of chemical conformity issued by IISG is a guarantee of safety for children's health because numerous tests have demonstrated the absence of migration from the Bio-on bioplastic of chemical or metal compounds, solvents, monomers, plasticizers, aromatic compounds, N-nitrosamines and N-nitrosatable substances. Like all the PHAs bioplastics developed by **Bio-on** (listed on AIM on Borsa Italiana), the special grade **Minerv Supertoys** is 100% natural and biodegradable.

"We chose to entrust our samples to IISG," explains Bio-on Chairman and CEO Marco Astorri, "to run the analyses established by European Directive 2009/48/EC because it represents a centre of global excellence. The declaration of conformity issued by the institute rewards the philosophy of total environmental sustainability and maximum methodological rigour in the development of innovation bioplastics that Bio-on has always stood for. What's more," concludes Astorri, "we believe that Minerv Supertoys can soon help launch profoundly innovative processes in the toys sector."

Minerv Supertoys complies with all international standards in the field and exceeds the provisions of **European Directive 2009/48/EC**, known as the **TDS (Toy Safety Directive)**, implemented into the standard international procedure for toy safety evaluation **UNI EN 71**. *"The development of these materials," says Luca Giamperi, Head of Bio-on's Technological Laboratory, "required a dedicated study and a rigorous research approach in full compliance with strict EU and USA regulations on the chemical safety of materials intended for use by children."*

In addition to safety aspects, the new bioplastics market also demands guarantees in terms of product quality, origin of raw materials, sustainable ecological production, and natural and total biodegradability. *"There are many companies in the world offering products called biopolymers that in fact are not natural in origin or are not biodegradable but have only a renewable origin (such as bio PET or others)," explains Giamperi. "The product is put on the market as bioplastic without actually being biodegradable and being full of non-ecological substances," says Giamperi, "Minerv Supertoys overcomes these limitations by offering a certified, safe product that is totally naturally biodegradable and high-performing."*



Minerv Supertoys is also a research project launched by **Bio-on** in late 2015, with the aim of demonstrating that specific, eco-sustainable and completely biodegradable formulations can be created for making toys that are safe for children and the environment, without losing out on the end product's functionality and aesthetic. The project is open to all companies around the world working on toy design and aims to create two types of bioplastic by the end of 2017: **Minerv Supertoys type "R"**, rigid and strong, and **Minerv Supertoys type "F"**, ductile and flexible.

All the **PHAs bioplastics (polyhydroxyalkanoates)** developed by **Bio-on** are made from renewable plant sources with no competition with food supply chains. They guarantee the same thermo-mechanical properties as conventional plastics with the advantage of being 100% eco-sustainable and naturally biodegradable at ambient temperature.

Minerv Supertoys video <https://www.youtube.com/watch?v=PWQihLgZzq>

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Bio-on S.p.A.

Bio-On S.p.A., an Italian Intellectual Property Company (IPC), operates in the bioplastic sector conducting applied research and development of modern bio-fermentation technologies in the field of eco-sustainable and completely naturally biodegradable materials. In particular, Bio-On develops industrial applications through the creation of product characterisations, components and plastic items. Since February 2015, Bio-On S.p.A. has also been operating in the development of natural and sustainable chemicals for the future. Bio-On has developed an exclusive process for the production of a family of polymers called PHAs (polyhydroxyalkanoates) from agricultural waste (including molasses and sugar cane and sugar beet syrups). The bioplastic produced in this way is able to replace the main families of traditional plastics in terms of performance, thermo-mechanical properties and versatility. Bio-On PHAs is a bioplastic that can be classified as 100% natural and completely biodegradable: this has been certified by Vincotte and by USDA (United States Department of Agriculture). The Issuer's strategy envisages the marketing of licenses for PHAs production and related ancillary services, the development of R&D (also through new collaborations with universities, research centres and industrial partners), as well as the realisation of industrial plants designed by Bio-On.

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