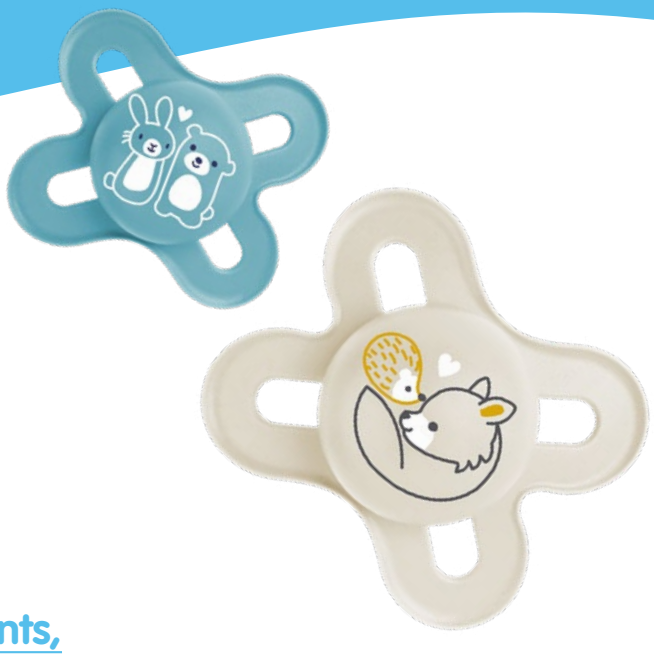

PACIFIER 2.0. WE ARE RETHINKING MATERIALS.

New ideas, groundbreaking developments, and creative solutions — the innovative spirit of MAM founder Peter Röhrig shaped MAM from the very beginning and is still a central part of our culture today.

As early as the 90s, the company pioneered the implementation of safety standards for baby products at the EU level. The one principle that is firmly anchored in our corporate philosophy is that we work for the health and future of babies and their environment. It goes without saying that our products must not only be safe, but also sustainable. And that is only possible with innovation.

All of the plastics we use for our pacifiers, bottles and other baby items are the safest currently available. But in order to achieve our ambitious sustainability goals and pave the way towards a circular economy, alternatives to plastics made from fossil materials are needed.

DEVELOPMENT OF THE MAM ORIGINAL PURE PACIFIER

MAM has always had the bioplastics market in its sights. Our plastics expert Doris Fiala from the research and development department has taken this matter close to heart. Fifteen years ago, she joined a cross-company working group to jointly search for alternatives. “First we had to find a suitable bioplastic* for our blister packs,” says the current Senior Manager for Regulatory Affairs, “There was a wide variety of approaches in the industry — some bioplastics* were biodegradable or compostable, while others were not.” In the working group, the focus was initially on biodegradable plastics, as they decompose when they enter the environment. “Today, however, we know that biodegradable materials also pose some risks,” says Doris Fiala, “The duration of decomposition varies greatly and depends on an incredible number of factors.” Among other things, temperature, oxygen supply, humidity, salinity, UV radiation, and the presence of microorganisms play a role. A large proportion of the bioplastics currently labeled as “biodegradable” only degrade under very specific conditions that do not necessarily exist in the environment. For this reason, bioplastics should not end up in nature either.

MAM has tested many different materials in recent years. Many attempts failed, such as the idea of developing packaging made from polylactic acid (PLA), a biopolymer made from renewable raw materials such as sugar cane or corn. It was sent to America for testing by sea freight, but the packaging became brittle and broken due to temperature fluctuations and moisture during transport.

In 2015, a MAM project group was established with the aim of finding suitable bioplastics for pacifiers. This was an ambitious project since biodegradable bioplastics (based on renewable

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OUR PRECIOUS HEART: THE MAM ORIGINAL PURE PACIFIER.

Doris Fiala
Peter Guttmann

raw materials) have not been sufficiently heat-resistant until now, making them unusable for MAM pacifier production, as they deformed during disinfection.

One supplier promised to be able to make PLA heat resistant, but after numerous tests, our project group came to the conclusion that it was resistant to neither boiling nor

Doris and Peter work closely together to find new materials and ensure their quality.

breaking. The ability to withstand microwaving was also not a given. As a result, the project was paused in 2017.

But MAM did not let up. In 2019, MAM had another go at it. Peter Guttmann, Base Lead at the MAM R&D Competence Center, explains: "The plastic bio-polyethylene made from sugar cane was very popular at the time and was already being used by other pacifier manufacturers. However, after initial tests, we found that the pacifiers deformed in the microwave and dishwasher, or simply fell apart."

MATTER OF HEART

The needs of our parents are important to us. More than 1,800 consumers were involved in the development of the MAM Original Pure pacifier. We involved them in the process at many points to ask for their verdict and opinion. Together, we were able to develop this innovative pacifier.

THE SOLUTION

The team was close to giving up. But suddenly, a manufacturer announced a new plastic innovation, namely bioplastics from a certified supply chain. A certified polypropylene (PP) linked to bio-circular feedstocks** has the same properties as polypropylene made from raw fossil materials. It is traceable to renewable raw materials, such as used vegetable oils and waste and residues from vegetable oil production through mass balancing certified by ISCC PLUS. In contrast to bio-polyethylene (bio-PE), this raw material has another important advantage: It does not compete with food production, as organic PE involves growing extra sugar cane for the raw material. Page 27

From a technical and sustainable point of view, polypropylene linked to bio-circular feedstocks** was ideally suited for MAM products. "In addition, we carried out a comprehensive life cycle assessment of the certified material in order to understand all of its environmental impacts," says Peter Guttmann. After the analysis, everything was clear: After 15 years of research and development MAM had finally found the right material for the first pacifier in the company's history that was bio-based and not of fossil origin. The joint assessment of Doris Fiala and Peter Guttmann: "We are incredibly proud of our result! A huge innovation that shows you can achieve your goal with patience and persistence."

* Bioplastic means a plastic made of fully or partially bio-based polymers.
** Bio-circular feedstocks are linked to used cooking oils and waste and residues from vegetable oil production through the ISCC PLUS certified mass balance approach.