# CAPSUTE

## The more Efficient **Carrier**

BY SUMTEQ
SMALL STRUCTURES. HIGH IMPACT.

# We produce **unique polymer foams** with an enormous porosity.

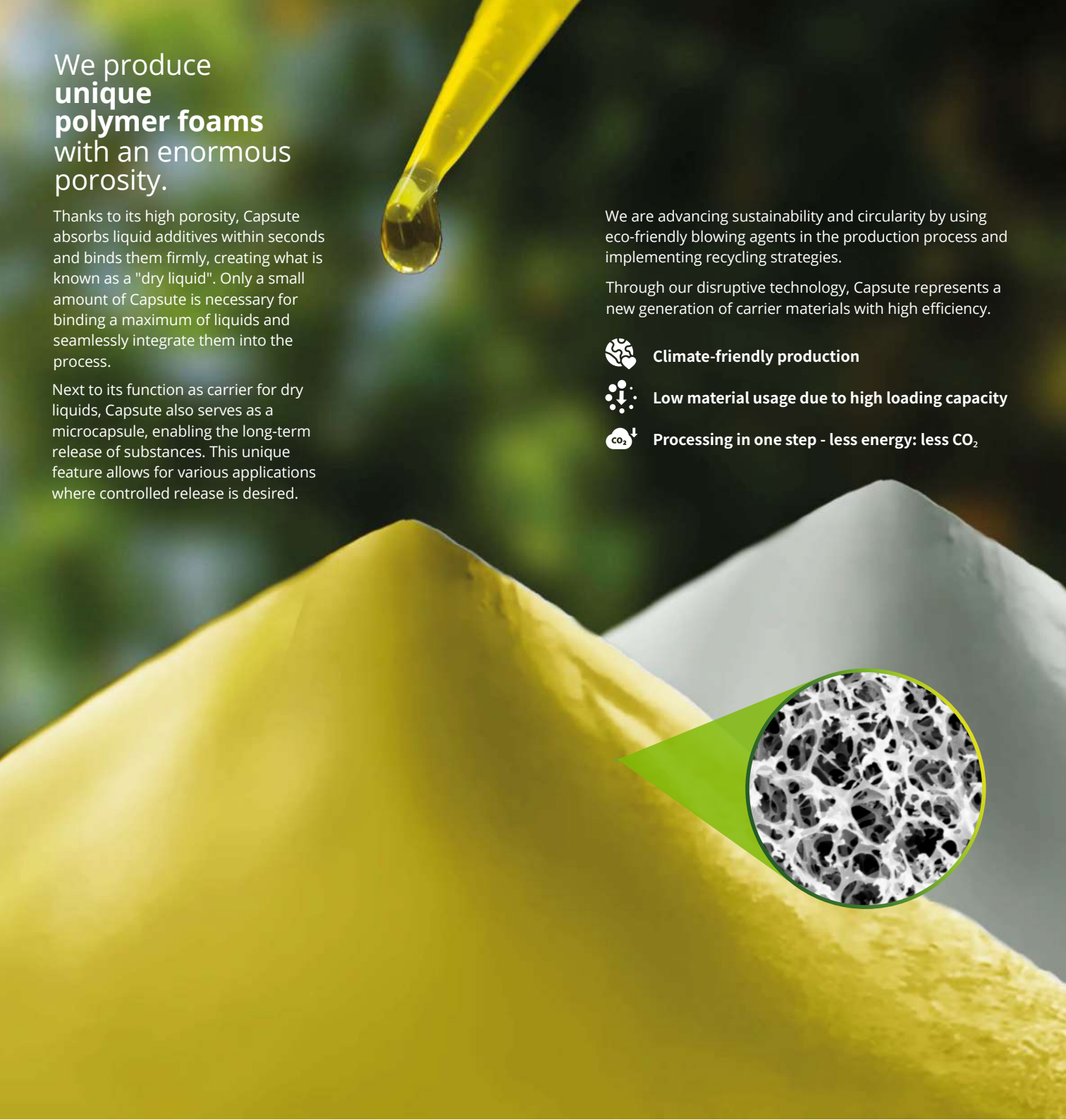
Thanks to its high porosity, Capsute absorbs liquid additives within seconds and binds them firmly, creating what is known as a "dry liquid". Only a small amount of Capsute is necessary for binding a maximum of liquids and seamlessly integrate them into the process.

Next to its function as carrier for dry liquids, Capsute also serves as a microcapsule, enabling the long-term release of substances. This unique feature allows for various applications where controlled release is desired.

We are advancing sustainability and circularity by using eco-friendly blowing agents in the production process and implementing recycling strategies.

Through our disruptive technology, Capsute represents a new generation of carrier materials with high efficiency.

- **Climate-friendly production**
- **Low material usage due to high loading capacity**
- **Processing in one step - less energy: less $CO_2$**



## Capsute for Dry Liquids

Dry liquids offer an ideal solution in the rubber and plastics industry, especially when working with substances that cannot be handled in their fluid state. Utilizing Capsute as carrier material facilitates precise and rapid dosing of additives, significantly enhancing processes while saving time and resources.

The foam-based technology enables an easy processing of low to high-viscosity substances. With Capsute, additives for different purposes such as plasticizers, flame retardants or stabilizers can be homogeneously dispersed in the product. Moreover, the material provides an optimal solution for covering hazardous liquids,
preventing premature chemical reactions.

Due to its nanostructure, Capsute is adaptable in particle size without losing performance. It thus covers the entire range of applications for organic and inorganic carrier materials. From masterbatching and compounding to the manufacturing of end products by extrusion or injection molding, Capsute opens up a wide range of applications.

## Advantages compared to Organic and Inorganic Carrier Materials

### **Organic** Carrier Materials

- Higher loading capacity
- Very fast absorption
- Strong binding – minimized migration
- Stable for long-term storage

### **Inorganic** Carrier Materials

- Higher loading capacity
- Full liquid transfer
- No inorganic residues
- Equipment-friendly – not abrasive

## Applications

- Stabilizers
- Flame retardants
- Reactive agents
- Antifog additives
- Plasticizers
- Antistatic agents
- Blowing agents
- Bonding agents
- Antimicrobial agents
- Antioxidants

## Seven Reasons for Dry Liquids

1. Processing liquids possible for everyone
2. Precise dosing – even of highly viscous liquids
3. Homogeneous dispersion of additives
4. Reduction of migration of fluid additives
5. Processing highly volatile fluids
6. Masking substances to avoid undesired reactions
7. Safe handling of hazardous substances

Recycling and processing of PVC in one step by using liquids provided by Capsute in dry form

## Capsute as Microcapsule

A long-lasting fragrance – no problem thanks to microencapsulation. Capsute microcapsules represent the optimal solution for this and a wide range of other uses. Without effort, they easily bind substances over an extended period of time and release them selectively.

Thanks to the fine and open-cell pore structure, Capsute can be loaded in no time and even refilled repeatedly. In doing so, it absorbs the desired liquid like a sponge. The strong capillary forces ensure that the medium doesn't leak.

Capsute microcapsules are highly popular in a variety of application areas. For instance, fragrances or odor-reducing agents can be integrated into sportswear or food packaging while lasting for weeks. But this represents only a small part of the range of possible applications.

Whether warm or cold: Even temperatures can be specifically maintained for long periods by encapsulating phase change materials.

### Use Cases

- Biocides
- Fragrances
- Phase Change Materials (PCM)

Textile printing with Capsute microcapsules for individual loading with fragrances

**Capsute is adaptable in particle size** without losing performance

### Technical Data

| | |
|---|---|
| **Porosity** | > 90 % |
| **Capacity** | Up to 6 times its own weight |
| **Capillary forces** | High |
| **Temperature range** | Up to 250 °C |
| **Appearance** | Powder * |
| **Bulk density range** | 90 kg/m³ - 140 kg/m³ |
| **Loading temperature** | Up to 80 °C |

* Individual sizes and sieve cuts available upon request

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