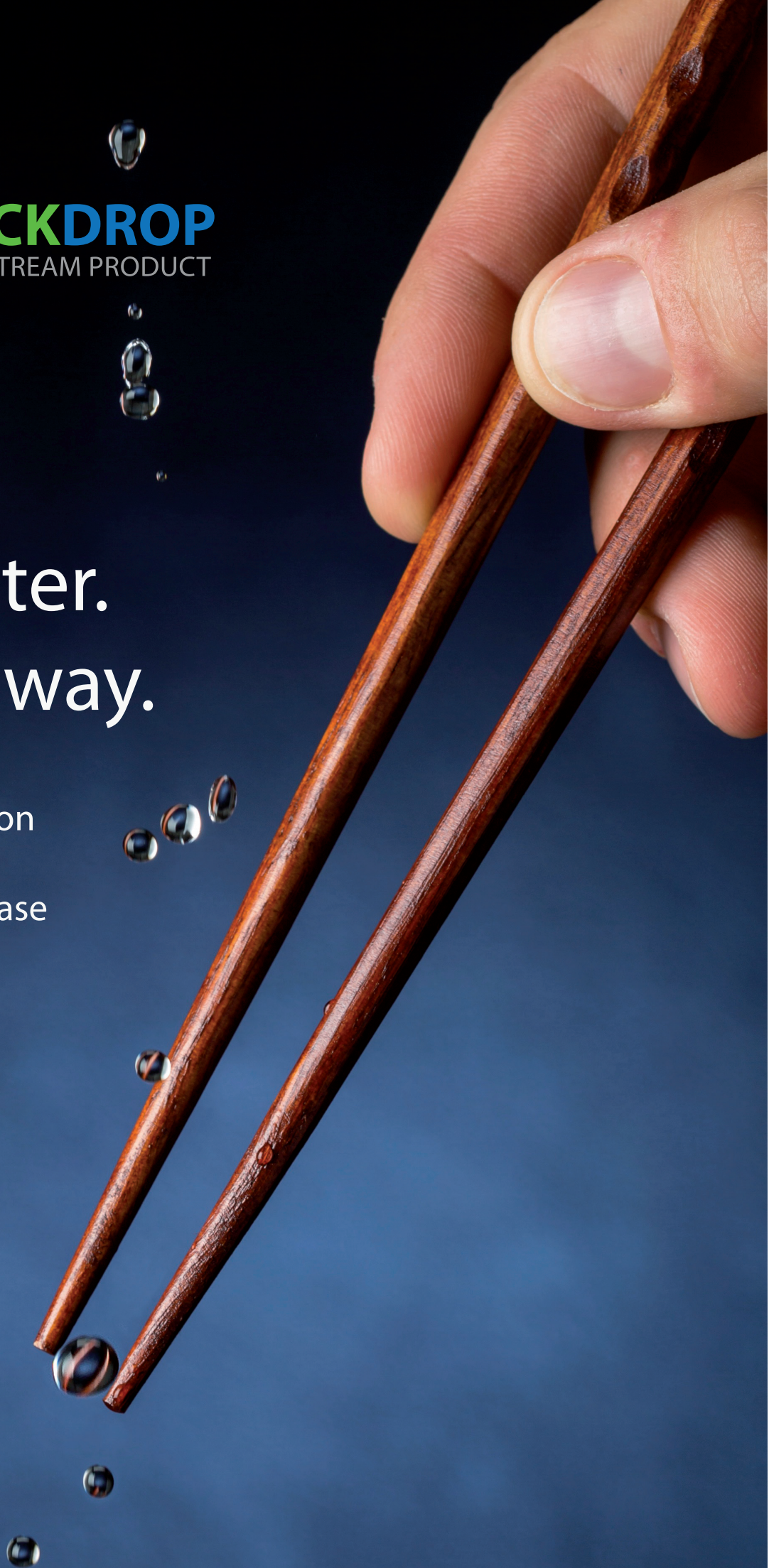




**BLOCKDROP**  
A CHEMSTREAM PRODUCT

Catch water.  
The easy way.

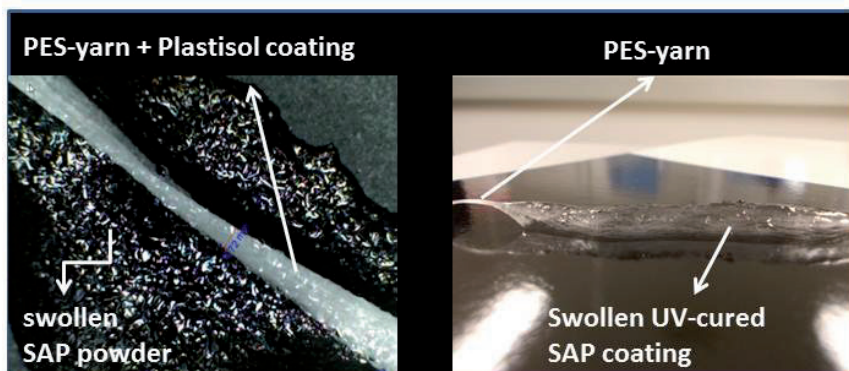
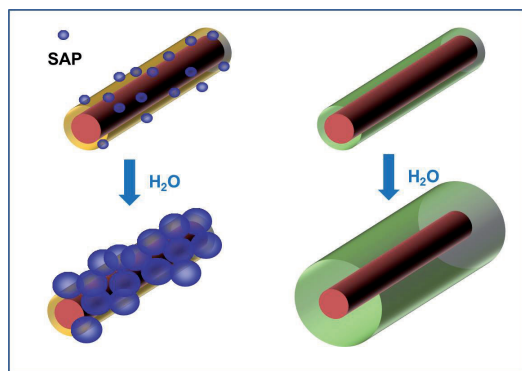
- ✓ Water absorption
- ✓ Water blocking
- ✓ Controlled release



BlockDrop is an innovative product line of water absorbing UV-cured coatings. It is in fact ChemStream's alternative for the so called hydrogels. Instead of incorporating SAP-particles into coating formulations, which is currently the common procedure in the field, the BlockDrop coating is a water absorbing layer in itself.



The principle is illustrated underneath by comparing a swollen yarn that was coated with a SAP-particle-containing Plastisol, with an BlockDrop-coated yarn.



#### PRINCIPLE:

BlockDrop is an innovative waterborne UV curable formulation, containing a dedicated selection of monomers and oligomers, in combination with a compatible photo-initiating system. The applied coating can be cured in a conventional UV-curing line.

Due to the exothermic polymerization process only a small amount of water remains within the layer that can be removed by a quick additional drying step. Due to a smart selection of monomers and oligomers a highly functionalized water absorbing coating can be designed with respect to the requirements.

#### FOCUS ON THREE FUNCTIONALITIES:

- ✓ Water absorption: depending on the degree of cross-linking, the water absorption of the coating can be tuned between 10 to 500 times its own weight.
- ✓ Water blocking: during the water absorption process an osmotic pressure will be built up, resulting in water blocking properties.
- ✓ Controlled release: water soluble compounds could be integrated within the coating, to be released during the swelling process of the coating.

#### MAIN FEATURES:

- ✓ Composition: water based UV-curable formulation
- ✓ Safety: not hazardous
- ✓ Rheology: to be adapted in function of the chosen coating method
- ✓ Coating method: DIP-coating, roller coating, spray, etc.
- ✓ Substrates: plastics, textiles, non-wovens, yarns, etc.
- ✓ UV-curing: Mercury bulb + doped versions
- ✓ Drying: conventional oven, microwave, IR-drying, etc.

#### ENVIRONMENTALLY FRIENDLY

The BlockDrop product line is a non-hazardous waterborne coating formulation that leads to a UV-cured coating without releasing VOC's (volatile organic components) and that does not harm the aquatic life.



ChemStream, an innovative chemical R&D company, is specialized in translating material problems in sustainable formulations with focus on high performing nano-dispersions, functional coatings and inkjet inks. The R&D core team has more than 20 years experience in developing application driven and customized product development. ChemStream has its own lab facilities for chemical synthesis, formulating and characterizing from design to end user product.