

PRESS RELEASE

Number 17

WACKER Develops Highly Efficient Silicone Surfactant for Pulp Production

Munich, April 1, 2015 – Munich-based chemicals group WACKER has developed a new silicone surfactant that greatly accelerates pulp dewatering. Sold under the name PULPSIL® 968 S, it serves as the active ingredient for dewatering formulations used in pulp washing. The silicone delivers unparalleled efficiency in pulp dewatering and slashes the washing time. PULPSIL® 968 S rounds out the existing WACKER range of products for Pulp & Paper, and can generate substantial energy and cost savings for pulp producers.

PULPSIL® 968 S, a medium-viscosity water-dispersible product, is a surfactant fluid based on a polyether-modified silicone. Its molecular structure has been optimized to make it less hydrophilic without compromising its pronounced hydrophobic or water-repellent properties. The resultant gain in water repellency, compared with other silicone surfactants, is what makes PULPSIL® 968 S such a particularly efficient dewatering agent.

The hydrophobic nature of the new product is reflected in its very low cloud point of 19 degrees Celsius, as determined in accordance with Method E of EN 1890. This value is far lower than that of other silicone surfactants in the product series. Above the cloud point, the silicone surfactant stops dispersing itself molecularly throughout the

aqueous medium. Instead, it forms tiny fluid droplets which is a condition for triggering rapid dewatering.

Generally, in order for a surfactant to work as a dewatering agent, the temperature of the wash liquor must exceed the cloud point. The unusually low cloud point of PULPSIL[®] 968 S means that it will act with maximum efficiency even in relatively cold wash liquors.

However, a corollary of the low cloud point is that products formulated with PULPSIL[®] 968 S need to be stabilized to prevent premature separation.

The pulp-washing process always involves a degree of air entrainment into the pulp slurry. Unless counter-measures are taken, most of the air would attach itself in the form of tiny bubbles to the cellulose fibers, and so retard drainage of the wash liquor. Processing auxiliaries such as PULPSIL[®] 968 S are therefore essential for efficient wash processes. In weakening the bond between the air and the fibers, they simultaneously promote coalescence of the tiny air bubbles to larger ones that will rise out of the slurry. This de-aeration creates channels that boost water drainage and greatly accelerate the washing process.

PULPSIL[®] 968 S is designed to serve as a raw material for service companies that develop ready-to-use auxiliaries for the pulp industry. With this new silicone surfactant, formulations can be tailored to the process of any given pulp mill. Like the dewatering agents PULPSIL[®] 955 S and PULPSIL[®] 960 S, PULPSIL[®] 968 S is generally used in combination with a silicone defoamer.



The rate at which pulp slurry is dewatered can be measured in drainage tests. WACKER's new silicone tensid PULPSIL[®] 968 S accelerates dewatering to unprecedented levels and improves the washing process during pulp making significantly. (Photo: Wacker Chemie AG)

Note:

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The company in brief:

WACKER is a globally active chemical company with some 16,700 employees and annual sales of around €4.83 billion (2014). WACKER has a global network of 25 production sites, 21 technical competence centers and 48 sales offices.

WACKER SILICONES

Silicone fluids, emulsions, rubber and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS

Polyvinyl acetate and vinyl acetate copolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions used as binders for construction chemicals, paints and coatings, adhesives, plasters, textiles and nonwovens, as well as for polymeric materials based on renewable resources

WACKER BIOSOLUTIONS

Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON

Polysilicon for the semiconductor and photovoltaics industries

Siltronic

Hyperpure silicon wafers and monocrystals for semiconductor components