

# Softeners and Softener/Debonders for Tissue and Toweling



# About Us

Evonik Industries is the creative industrial group from Germany which operates in three business areas: Chemicals, Energy and Real Estate. Evonik is a global leader in specialty chemicals, an expert in power generation from hard coal and renewable energies, and one of the largest private residential real estate companies in Germany. Our strengths are creativity, specialization, continuous self-renewal, and reliability. Evonik is active in over 100 countries around the world.

The Business Line Industrial Specialties of Evonik Goldschmidt GmbH has its base in all kinds of organic specialty surfactants and organomodified siloxanes. We hold strong positions with antifoams, emulsifiers, corrosion inhibitors, dispersing aids, hydrophobing and wetting agents, softeners and radiation curable release coatings. Our broad product range, technological background and application know-how addresses several industries like plastics, rubber, label, tape and release liner manufacturing, construction, lubricants, agro, textile and tissue industry.





## About our Products

The product range of Evonik covers a variety of products with specific application profiles which address almost all the needs of the tissue industry

### Properties

- Highly substantive wet end softener/debonders with high, medium and low debonding effect for premium to low sheet bulkiness with all qualities of feedstocks
- Highly substantive softeners with low impact on tensile strength to achieve good machine runnability and excellent surface smoothness of the tissue
- Substantive or non-substantive softeners for topical application on the sheet before the dryer combining moderate bulkiness with good surface softness of the tissue
- Concentrates for converting softeners/lotions

Most of our products are food contact compliant (FDA and/or BfR) or INCI listed (cosmetic ingredients).

### Application

#### Application on the Tissue Machine

Our softener/debonders are introduced at several points in the wet end: headbox, stuff box or machine chest. They should be incorporated into the furnish at the point in the wet end which maximizes contact time with the fibers, thus allowing complete and uniform exhaustion of our substantive products.

Alternatively, our softeners and softener/debonders may be applied on the tissue machine before the Yankee by spray on felt techniques.

For spray on felt application, the sprayable dilutions may easily be prepared on-line with a static mixer and applied to the wet sheet by currently used spray bars. The topical softener needs to be easily dis-

persible in water, so a longterm emulsion stability is not always necessarily required or desired. Since softeners and softener/debonders may also affect release properties on the dryer, they must be matched to the Yankee coating package to ensure that maximum benefits are achieved by both additives.

#### Application on Converting

Our concentrates recommended for converting may be diluted or further formulated to ready to use softeners/lotions. Due to the variety of specific requirements and application techniques like spray, kiss roll or rotor damping, we offer assistance for the development of customized solutions.

## Product Characteristics

Product	Appearance at Room Temperature	Color	Odor
AROSURF® PA-777	liquid	medium	characteristic, strong
AROSURF® PA-777 V	liquid	medium	characteristic, strong
AROSURF® PA-780	liquid	medium	characteristic, strong
AROSURF® PA-831	liquid	medium/light	mild
AROSURF® PA-852	liquid	light	mild to low
AROSURF® PA-844	liquid	dark	characteristic, strong
AROSURF® PA-844 V	liquid	dark	characteristic, strong
AROSURF® PA-842	liquid	dark	characteristic, strong
AROSURF® PA-842 V	liquid	dark	characteristic, strong
AROSURF® PA-871	liquid	colorless	low
AROSURF® PA-872	liquid	colorless	low
AROSURF® PA-873	liquid	light	low
TEGOPREN® 5884	liquid	colorless	low
TEGOPREN® 5884-35	liquid	colorless	low
VARISOFT® 222 SB PG 80 %	liquid	dark	characteristic, strong
VARISOFT® 3696	liquid	medium/dark	mild
VARISOFT® TA-100	powder	light	characteristic, strong
Z-QUAT™ TO10ZH	liquid	medium/dark	characteristic, medium

\* main component INCI, additives FDA compliant \*\* the BfR registration of VARISOFT® 3696 is underway Note: information on the country registrations of our products

## Application Profile

### Property highlights (for wet end/spray-on application)

Product	Debonding	Lubrication	Main Effect on Tissue
AROSURF® PA-777	rather low	high	medium bulk
AROSURF® PA-777 V	rather low	high	medium bulk
AROSURF® PA-780	low	high	medium bulk, more absorbent
AROSURF® PA-831	low	high	premium smoothness
AROSURF® PA-852	low	high	surface smoothness
AROSURF® PA-844	medium	medium	medium/high bulk
AROSURF® PA-844 V	medium	medium	medium/high bulk
AROSURF® PA-842	high	low	high bulk
AROSURF® PA-842 V	high	low	high bulk
AROSURF® PA-871	low	high	surface smoothness
AROSURF® PA-872	low	high	surface smoothness
AROSURF® PA-873	low	high	surface smoothness
TEGOPREN® 5884	low	high	surface lubrication
TEGOPREN® 5884-35	low	high	surface lubrication
VARISOFT® 222 SB PG 80 %	high	low	high bulk
VARISOFT® 3696	high	low	high bulk
VARISOFT® TA-100	high	low	high bulk
Z-QUAT™ TO10ZH	high	low	high bulk

1) Formulation base and/or concentrate for ready to use converting softeners/lotions Note: AROSURF® PA-777 and AROSURF® PA-777 V are also premium fluff pulp debonding

Chemical base	Solvent	Raw Material Origin	Food Contact Compliance (FDA, BfR) or Cosmetic Ingredient (INCI)
fatty quaternary blend	solvent-free	animal/synthetic	FDA and BfR
fatty quaternary blend	solvent-free	vegetable/synthetic	FDA and BfR
fatty quaternary blend	solvent-free	animal/synthetic	FDA and BfR
fatty quaternary blend	1,2-PG/water	animal/vegetable/synthetic	INCI/FDA*
fatty quaternary blend	solvent-free	animal/vegetable/synthetic	FDA
fatty quaternary blend	solvent-free	animal/synthetic	FDA and BfR
fatty quaternary blend	solvent-free	vegetable/synthetic	FDA and BfR
fatty quaternary blend	solvent-free	animal/synthetic	FDA and BfR
fatty quaternary blend	solvent-free	vegetable/synthetic	FDA and BfR
organic nonionic	solvent-free	vegetable/synthetic	FDA and INCI
organic nonionic	solvent-free	vegetable/synthetic	FDA and INCI
organic nonionic	solvent-free	vegetable/synthetic	FDA
nonionic siloxane	solvent-free	synthetic	FDA, BfR and INCI
nonionic siloxane	water	synthetic	FDA, BfR and INCI
fatty quaternary	1,2-PG	vegetable/synthetic	-
fatty quaternary	solvent-free	animal/synthetic	FDA; BfR pending**
fatty quaternary	solvent-free	animal/synthetic	FDA and INCI
proprietary quaternary	solvent-free	animal/vegetable/synthetic	-

are available on request.

	Recommended to use on (feedstock)	Suggestion for Application		
		Wet End	Spray-on	Converting <sup>1)</sup>
	recycled fiber/fluff pulp	•	•	
	recycled fiber/fluff pulp	•	•	
ent debonder for fluff pulp	recycled fiber/fluff pulp	•	•	
	virgin and/or recycled fiber	•	•	•
	virgin and/or recycled fiber		•	
	virgin and/or recycled fiber	•	•	
	virgin and/or recycled fiber	•	•	
	virgin fiber	•	•	
	virgin fiber	•	•	
	virgin and/or recycled fiber		•	•
	virgin and/or recycled fiber		•	•
	virgin and/or recycled fiber		•	•
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	virgin and/or recycled fiber	•	•	
	virgin and/or recycled fiber	•	•	•
	virgin fiber	•		•
	virgin fiber	•	•	•

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For more detailed information or to obtain a brochure which addresses a specific area of interest, please contact Evonik Goldschmidt GmbH in Essen or contact your local representative.

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