



FORMULATING YOUR VISION

WITH OUR EXPERTISE

Celanese Dispersions
for Adhesives

FORMULATING YOUR VISION WITH OUR EXPERTISE

The Company

We are a global technology and specialty materials company based in Dallas, Texas, operating in key geographic locations worldwide.

Celanese's two core business areas are:

- Materials Solutions: specialty thermoplastics, cellulose derivatives and food ingredients
- Acetyl Chain: acetic acid, vinyl acetate monomer, other acetyl derivatives such as solvents, plasticizer, maleic acid esters, polymer dispersions for paints & coatings, adhesives and specialty fibers and EVA polymers for different applications.

Celanese emulsion polymers business

Celanese is one of the largest and most experienced suppliers of emulsion polymer technology for waterborne adhesives in the world. We have manufacturing plants and technical support in all major regions of the globe and are ready to help you add value to each of your adhesive products.

We have been an active leader in European adhesives, and we have gained deep understanding of the markets, applications, products and issues affecting our industry today.

- Partnering with our customers to fulfill industry and consumer needs
- Global expertise in a wide array of applications
- Manufacturer of both high-pressure (VAE) and conventional (atmospheric) dispersions

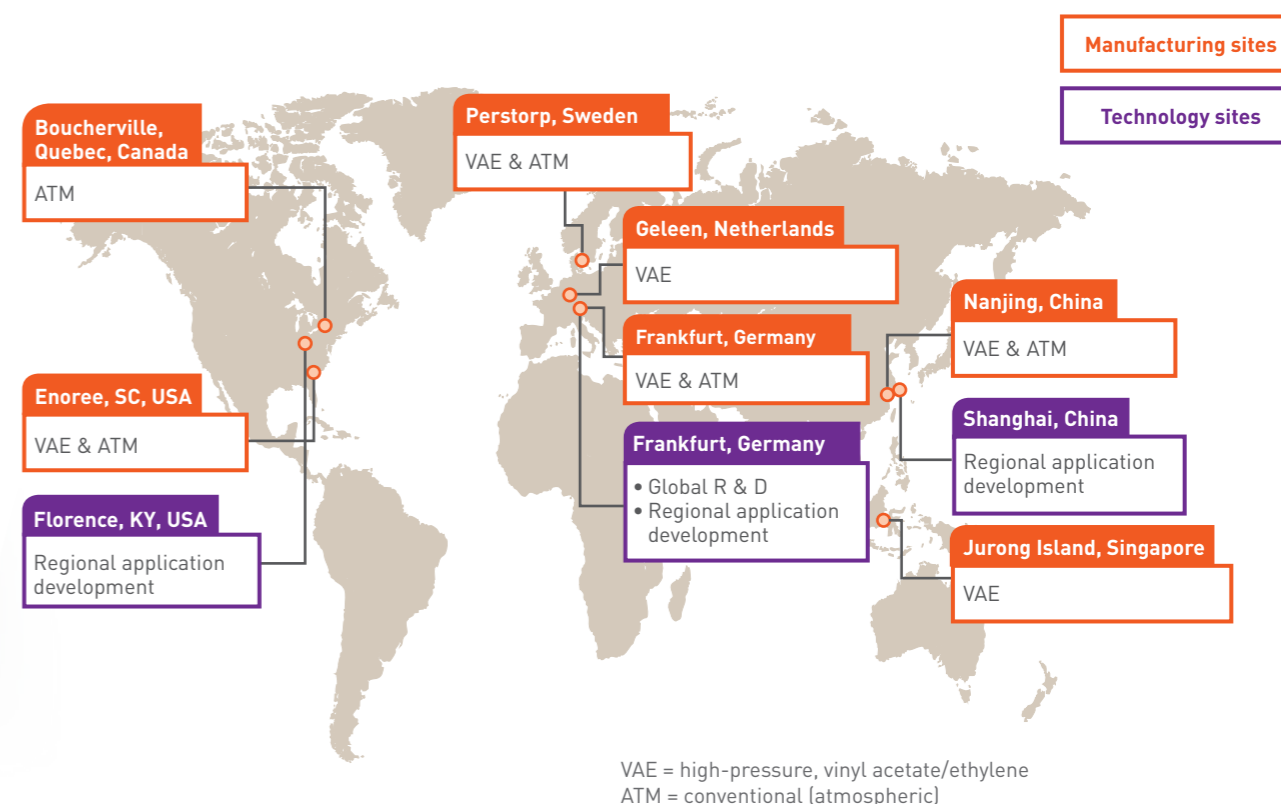
Understanding customer and industry needs

The Celanese technical team constantly strives to meet the needs of our customers, including their formulated adhesives. Our application development team has many decades of experience and expertise in this industry. We are constantly updating our laboratory with modern equipment, e.g., industrial nozzles, rollers and hot presses, to aid us in designing and adapting our products to meet our customers' requirements. Process-efficiency (machinability) is equally important for our industry to help increase productivity and control costs. Our goal is to help our customers to meet these goals by providing solutions based on our high-performance dispersions.

Global reach

The global research and development center for Celanese dispersions (Frankfurt Technology Center) is located in Germany. The center closely cooperates with the other Celanese regional application development centers in Florence, USA, and in Shanghai, China. These regional facilities enable us to rapidly develop new

products and to assist regional customers with their development projects. We have manufacturing plants and technical support in all major regions. In Autumn 2016, an additional VAE production unit on Jurong Island, Singapore went live to support the growing demand for ecologically friendly materials in the Southeast Asia region including Australia, India and New Zealand.





FORMULATING YOUR PROCESS-EFFICIENT ADHESIVES WITH OUR EXPERTISE

Dispersions for the paper packaging and converting industry

We understand that high-quality adhesives must meet critical requirements, such as set speed, adhesion and runnability. A balanced adhesion/cohesion profile is critical whether it is producing a bag, carton, box or label. Celanese has developed a wide range of dispersions to assist you in the formulation of high-performance paper packaging and converting adhesives. An adhesive formulated with Celanese dispersions will be secure. Mowilith® LDM 1081, a versatile VAE dispersion, provides excellent machinability, high heat resistance, good

adhesion/cohesion profile in combination with fast set speed and very low migration potential due to its polymer design. Mowilith® LDM 1081 is a state-of-the-art dispersion for nozzle application.

The latest product development, Mowilith® LDM 1390, completes the product portfolio. The dispersion exhibits an outstanding adhesion profile, which allows us to formulate adhesives for difficult-to-bond substrates without the need for additional plasticizers or tackifiers. Due to its stabilization system, Mowilith® LDM 1390 is compatible with the Celanese VAE range.

Discover our wide range of dispersions for many end-use adhesive applications:

- Paper and board production
- Folded boxes
- Paper to film or laminate
- Sacks & Bags
- Book binding
- Envelopes
- Cigarettes (tipping, side seaming, packaging)

Review our product guide to locate the most suitable dispersion for your specific application. For more information, feel free to contact your Celanese representative today.

Product		Specifications				Possible applications				Features/Benefits	Product
PVAc	Stabilization	Viscosity specification [Pas] ISO 2555*	Solids content (%) ISO 3251*	pH value ISO 976*	Tg (°C) ISO 16805*	Paper and board	Difficult boards	Envelope	Paper to filmic		PVAc
Mowilith® DHS S1	PVOH	30 – 60	49 – 51	3.5 – 5.5	42	•				High viscosity and high molecular weight	Mowilith® DHS S1
Mowilith® LD 167	PVOH	20 – 40	59 – 61	5 – 6	40	•				High viscosity, high solids, high molecular weight, shear stable, very fast setting time	Mowilith® LD 167
Vinamul® 8482	PVOH	2.5 – 4.5	54 – 56	4 – 5	42	•				Low viscosity, medium solids, fast setting	Vinamul® 8482
Vinamul® 8330	Dextrine	0.8 – 1.8	64 – 66	4 – 5	32	•		•		Dextrin stabilized, remoistenable, high solids, high gloss	Vinamul® 8330
Mowilith® DC	CD	1 – 4	55 – 57	4 – 5	40	•				Base for sealable adhesives	Mowilith® DC
VAE and copolymers											
Vinamul® 3171	PVOH	2 – 2.8	54 – 56	4 – 5	3	•	•			Low viscosity, medium solid content, high rate of set, high heat resistance	Vinamul® 3171
Vinamul® 3265	PVOH	3 – 4	54 – 56.5	4 – 5	6	•	•			Low viscosity, medium solid content, high rate of set, high heat resistance, redispersable	Vinamul® 3265
Mowilith® DM 105	PVOH/E	5.5 – 9.5	54 – 56	3.5 – 5.1	6	•	•			Medium viscosity, medium solid content, high heat resistance, excellent wheel machining, high water resistance	Mowilith® DM 105
Mowilith® DM 107	PVOH	3 – 7	59 – 61	3 – 5	0	•	•			Medium viscosity, high solid content, high creep resistance	Mowilith® DM 107
Mowilith® DM 132	PVOH/E	4 – 10	59 – 61	3 – 5	-12	•	•	•	•	Medium viscosity, high solid content, low Tg, excellent adhesion to filmics	Mowilith® DM 132
Mowilith® LDM 1081	PVOH/E	5 – 9	52 – 55	5 – 6	-6	•	•	•	•	Medium viscosity, medium solid content, low Tg, high adhesion, high heat resistance, suited to nozzle application	Mowilith® LDM 1081
Mowilith® LDM 1365	PVOH/E	2 – 10	59 – 61	4.5 – 6.5	-26	•	•		•	Medium viscosity, high solid content, excellent adhesion, excellent compatibility with standard VAEs	Mowilith® LDM 1365
Mowilith® LDM 1390	PVOH/E	1.5 – 4.5	54 – 56	4 – 5.5	-25	•	•		•	Medium viscosity, high solid content, excellent adhesion, excellent compatibility with standard VAEs	Mowilith® LDM 1390

PVOH = Polyvinyl alcohol, E = Emulsifier, CD = Cellulose derivate. For questions regarding product compliance, please contact our PS-Emulsions@Celanese.com
 * Standard adjusted to Celanese method. Further details regarding the test method can be made available on request.

ADHESIVES FOR THE WOODWORKING INDUSTRY

Celanese dispersions help you meet your specific requirements for water resistance, set speed and other formulation objectives. We offer a wide range of PVAc and VAE dispersions as the basis for your DIY and industrial woodworking adhesives.

We also provide a number of ready-to-use PVAc polymers, such as the D2 grade Mowilith® DLR, the D3 grades Mowilith® LDL 2555 W and the latest development, Mowilith® LDL 2526 W. The Celanese D3 dispersions fulfill current market needs for reduced Formaldehyde content.

The portfolio is complemented with 1- and 2-component high water resistant D4 wood glues that are based on our non-formaldehyde-releasing cross-linking technology, such as Mowilith® LDL 1400 W and Mowilith® LDL 2510 W.

Our broad product range comprises a wide collection of dispersions for many end-use adhesive applications:

- Furniture
- Decorative paper lamination and veneering (i.e., cabinets and countertops)
- Window frames

Adhesives for other end uses

We propose dispersions for use in a variety of other industrial end uses, including PVC foil lamination, flooring and interior automotive. For example, Mowilith® LDM 1365 offers high solids, very low Tg, medium viscosity and excellent adhesion.

Review our product guide to locate the most suitable dispersion for your specific application. For more information, feel free to contact your Celanese representative today.

Product		Specifications				Possible applications					Features/Benefits		Product
PVAc	Stabilization	Viscosity specification (Pas) ISO 2555*	Solids content [%] ISO 3251*	pH value ISO 976*	Tg (°C) ISO 16805*	Non water resistant	D3	D4	Decorative paper lamination	PVC lamination	Flooring		PVAc
Mowilith® DHS S1	PVOH	30 – 60	49 – 51	3.5 – 5.5	42	•			•			High viscosity and high molecular weight	Mowilith® DHS S1
Mowilith® LD 167	PVOH	20 – 40	59 – 61	5 – 6	40	•			•			High viscosity, high solids, high molecular weight, shear stable, very fast setting time	Mowilith® LD 167
Vinamul® 8482	PVOH	2.5 – 4.5	54 – 56	4 – 5	42	•			•			Low viscosity, medium solids, fast setting	Vinamul® 8482
Mowilith® LDL 2526 W	PVOH	12 – 18	44 – 46	2.8 – 3.2	25		•					D3 adhesive, ready for use	Mowilith® LDL 2526 W
Mowilith® LDL 2555 W	PVOH	9 – 15	49 – 51	2.8 – 3.6	29		•					D3 adhesive, ready for use, fast setting, high heat resistance	Mowilith® LDL 2555 W
Mowilith® LDL 2510 W	PVOH	18 – 26	49 – 51	5.5 – 6.5	26			•				2 c D4 adhesive, high heat resistance	Mowilith® LDL 2510 W
Mowilith® LDL 2515 W	PVOH	10 – 15	48 – 50	5.5 – 6.6	26			•				2 c D4 adhesive, high heat resistance, extended pot life	Mowilith® LDL 2515 W
Mowilith® LDL 1400 W	PVOH	3 – 9	46 – 50	2.8 – 3.2	26			•				1 c D4 adhesive, high heat resistance, ready for use, long pot life	Mowilith® LDL 1400 W
Mowilith® DLR	PVOH	9 – 21	49 – 51	5.5 – 7.5	26							D2 adhesive ready to run glue	Mowilith® DLR
Mowilith® DHLR	PVOH	17 – 25	49 – 51	5 – 7	30	•						Ready to run glue, high creep resistance	Mowilith® DHLR
VAE and copolymers													VAE and copolymers
Vinamul® 3171	PVOH	2 – 2.8	54 – 56	4 – 5	3				•	•		Low viscosity, medium solid content, high rate of set, high heat resistance	Vinamul® 3171
Mowilith® DM 105	PVOH/E	5.5 – 9.5	54 – 56	3.5 – 5.1	6				•	•		Medium viscosity, medium solid content, high heat resistance, excellent wheel machining, high water resistance	Mowilith® DM 105
Mowilith® DM 107	PVOH	3 – 7	59 – 61	3 – 5	0				•	•		Medium viscosity, high solid content, high creep resistance	Mowilith® DM 107
Mowilith® DM 1340	CD/E	1 – 3	64 – 66	3 – 5	-8						•	Medium viscosity, very high solid content, excellent adhesion and compatibility with PU-D	Mowilith® DM 1340
Mowilith® LDM 1365	PVOH/E	2 – 10	59 – 61	4.5 – 6.5	-26						•	Medium viscosity, high solid content, excellent adhesion, excellent compatibility with standard VAEs	Mowilith® LDM 1365

PVOH = Polyvinyl alcohol, E = Emulsifier, CD = Cellulose derivate. For questions regarding product compliance, please contact our PS-Emulsions@Celanese.com
 * Standard adjusted to Celanese method. Further details regarding the test method can be made available on request.





EMULSION POLYMERS

celanese.com/emulsion-polymers

Contact information

Am Unysis-Park 1, 65843 Sulzbach, Germany
tel.: +49-(0)-69-45009-2162
email: emulsion.polymers@celanese.com
celanese.com/emulsion-polymers

Copyright © 2017 Celanese or its affiliates. All rights reserved.

This publication was printed based on Celanese's present state of knowledge, and Celanese undertakes no obligation to update it. Because conditions of product use are outside Celanese's control, Celanese makes no warranties, express or implied, and assumes no liability in connection with any use of this information. Nothing herein is intended as a license to operate under or a recommendation to infringe any patents. Celanese®, registered C-ball design and all other trademarks herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Mowilith® is registered for Celanese as a trademark in most European countries. EMUL-005-AdhesivesOverview-Bro-EN-r1-0217