

NUMBER 4852

PVP/VA I-Series copolymers

Description

PVP/VA I-Series copolymers are linear, random copolymers produced by the free-radical polymerization of the monomers in ratios varying from 70/30 to 30/70 vinyl acetate (VA) to vinylpyrrolidone (VP). The I-Series are supplied in Isopropanol.

Key Attributes

- PVP/VA co-polymers produce transparent, flexible, oxygen-permeable glossy films which adhere to glass, plastics and metals.
- Soluble in alcohols, esters and ketones, insoluble in ethers and aliphatic hydrocarbons. Soluble in water when VP content is greater than 50%. Exhibits both cohesive and adhesive properties.
- Effective in reducing surface tension of water and in reducing oil/water interfacial tension.
- Increased VA content gives increase hydrophobicity and decreases hygroscopicity and T_g.
- These properties, coupled with the ability to control their hydrophilicity through monomer composition, enable extensive industrial use.

Applications and Usage Notes

- In remoistenable, hot-melt adhesives.
- In a hot-melt adhesive for a diaper wetness indicator system.
- As a binder for dry-film photoresists.
- Improves print receptivity with respect to inkjet coatings.



Typical Product Properties

Property	I-335	I-535	I-735
Appearance	Clear viscous liquid	Clear viscous liquid	Clear viscous liquid
VP/VA ratio	35 / 65	50 / 50	70 / 30
Color (APHA) – as is	40 max.	60 max.	80 max.
K-Value (1% in EtOH)	20 – 30	25 – 35	28 – 36
% Moisture	0.5 max.	0.5 max.	0.5 max.
% Solids	48 – 52	48 – 52	48 – 52
% Nitrogen	3.9 – 4.9	6.0 – 6.9	8.0 – 8.9
% Ash	< 0.01	< 0.01	< 0.01
Mw (PEO standards)	12,700	19,500	22,300
Polydispersity (Mw/Mn)	3.5	4.7	4.9
Intrinsic Viscosity [η] @ 25°C (dl/g)	0.175	0.222	0.261
Brookfield viscosity, cps ^a	1000	2800	5600
Specific Gravity @ 25°C	0.945 – 0.965		
Tg (°C)	71	89	108
Cloud Point (°C, 5% aq.)	12	10	19
Film Pencil Hardness	H	4H	3H
Film Adhesivity ^b	94.8	70.4	117.2
Saponification Number (mg KOH/g) – as is	201	160	112

^a DV-II, Spindle RV #7, 20 rpm, 22-23°C

^b IMASS Slip/Peel Tester – Force (g) to Separate

Packaging Information

Product	Physical Form	Pkg Type	Net Wgt (lbs)	Net Wgt (kgs)
PVP/VA I-335	Liquid	Steel Drum	400 lbs	181.4 kgs
PVP/VA I-335	Liquid	HDPE IBC	2115 lbs	959.4 kgs
PVP/VA I-535	Liquid	Steel Drum	400 lbs	181.4 kgs
PVP/VA I-535	Liquid	HDPE IBC	2115 lbs	959.4 kgs
PVP/VA I-735	Liquid	Steel Drum	400 lbs	181.4 kgs
PVP/VA I-735	Liquid	HDPE IBC	2115 lbs	959.4 kgs
PVP/VA I-735	Liquid	HDPE IBC	2000 lbs	907.2 kgs

Product Safety Information

For health and safety data and handling, storage and disposal procedures, please refer to the Safety Data Sheet (SDS) and product label.

To learn more, visit ashland.com

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