

SHAZAND Petrochemical Company

POLYETHYLENE GLYCOL

Liquid form

Characteristic	Test Method	Unit	PEG - 200	PEG - 300	PEG - 400	PEG - 600
MOLES OF EO	-	-	3EO	5EO	8EO	13EO
APPEARANCE	VISUAL	-	COLORLESS	COLORLESS	COLORLESS	COLORLESS
VISCOSITY @ 40°C	ASTM D - 445	CSt	21-25	31-35	40-45	60-66
PH	ASTM D - 1172	-	5-7	5-7	5-7	5-7
HYDROXYL NO.	ASTM D - 4252	mg KOH/gr	510-623	340-415	261-303	172-204
M.W	CALCULATED	Kg/Kmol	180 -220	270-330	370-340	550-650
WATER CONTENT	BALLESTRA B - Z6	WT.%	0.5 MAX.	0.5 MAX.	0.5 MAX.	0.5 MAX.

Solid form

Characteristic	Test Method	Unit	PEG-1000	PEG - 2000	PEG - 3000	PEG - 4000	PEG - 6000
MOLES OF EO	-	-	22 EO	45 EO	72 EO	93 EO	152 EO
APPEARANCE	VISUAL	-	WHITE PASTE	FLAKE	FLAKE	FLAKE	FLAKE
VISCOSITY @ 40°C	ASTM D - 445	CSt	36 - 40	80 - 100	150 - 210	260 - 360	600 - 900
PH	ASTM D - 1172	-	5 - 7	5 - 7	5 - 7	5 - 7	5 - 7
HYDROXYL NO.	ASTM D - 4252	mg KOH/gr	106 - 119	51- 62	25.5 - 29.5	25 - 30	17- 22
M.W	CALCULATED	Kg/Kmol	940 - 1060	1810 - 2200	2700 - 3300	3740 - 4480	5100 - 7000
WATER CONTENT	BALLESTRA B -Z6	WT.%	0.5 MAX.	0.5 MAX.	0.5 MAX.	0.5 MAX.	0.5 MAX.

Poly ethylene glycols (PEGs) are family of water-soluble linear polymers formed by the additional reaction of ethylene oxide (EO) With mono ethylene glycols (MEG) or diethylene glycol.


The generalized formula for polyethylene glycol is: $H(OCH_2CH_2)_nOH$

N: Average number of repeating ethylene oxide groups. There are many grades of PEGs that represents them by their average molecular weight. For example, PEG 400 consists of a

distribution of polymers of varying molecular weights with an average of 400, which corresponds to an approximate average number of repeating EO groups (n) of ≈9.

Polyethylene glycols are available in average molecular weight ranging from 200 to 8000; this wide range of products provides flexibility in choosing properties to meet the requirements of many different applications.


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