

Certificate of Analysis

(Representative Sample Certificate)

Product Name: Polysorbate 20
INCI Name: Polysorbate 20
CAS Number: 9005-64-5
Lot Number: Not available (data may vary slightly with different lots or batches)
Expiration: 24 months from production date

Property	Specifications	Analysis
Identification (IR) (MA-1188)	Passes test	Pass
C10 (Capric) (MA-1296)	10.0% MAX	5.5%
C12 (Lauric) (MA-1296)	40.0 - 60.0%	49.4%
C14 (Myristic) (MA-1296)	14.0 - 25.0%	21.6%
C16 (Palmitic) (MA-1296)	7 - 15%	11.7%
C18 (Stearic) (MA-1296)	11.0% MAX	1.9%
C18:1 (Oleic) (MA-1296)	11.0% MAX	4.2%
C18:2 (Linoleic) (MA-1296)	3.0% MAX	0.1%
C6 (Caproic) (MA-1296)	1.0% MAX	0.1%
C8 (Caprylic) (MA-1296)	10.0% MAX	4.4%
Identification FCC (MA-1297)	Passes test	Pass
Lauric Acid (C12) Content (MA-1298)	15 - 17 g/100g	16.9 g/100g
Acid Value (C12) (MA-1298)	250 - 275 mg KOH/g	252 mg KOH/g
Oxyethylene Content (MA-1327)	70.0 - 74.0%	70.0%
Dioxane	10 ppm MAX	0 ppm

Disclaimer: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to be the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy themselves as to the suitability & completeness of such information for their own particular use.

(MA-1421)		
Residual Ethylene Oxide (MA-1421)	1 ppm MAX	0 ppm
Hydroxyl Value (MA-525)	96.0 - 108.0 mg KOH/g	102.4 mg KOH/g
Ignition Residue (MA-612)	0.25% MAX	0.03%
Acid Value (MA-638)	2.0 mg KOH/g MAX	1.3 mg KOH/g
Viscosity @ 25° C (Brookfield) (MA-664)	275.00 - 480.00 cPs	378.0 cPs
Arsenic (As) (MA-705)	1 ppm MAX	1 ppm
Lead (Pb) (MA-705)	1 ppm MAX	1 ppm
Heavy Metals (MA-724)	10 ppm MAX	0 ppm
pH (5wt% Aqueous Solution) @ 25° C (MA-729)	5.0 - 7.0	5.65
Appearance @ 25° C (MA-742)	Yellowish clear liquid	Pass
Peroxide Value (MA-780)	10.0 mEq/1000g MAX	3.0 mEq/1000g
Density @ 25° C (MA-798)	1.080 - 1.120 g/cm ³	1.097 g/cm ³
Saponification Value (MA-810)	40.0 - 50.0 mg KOH/g	48.7 mg KOH/g
Moisture (MA-875)	3.0% MAX	2.2%
Color (Gardner) @ 25° C (MA-881)	2 MAX	1.6

“Certified in compliance with the terms of the US-Canada Organic Equivalency Arrangement. The above data was obtained using the test indicated and is subject to the deviation inherent in the test method. Results may vary under other test methods or conditions. This report is not to be signed. All data are as per our supplier.

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