

Certificate of Analysis

Date of Testing: 2024-09-20 15:18:36

Date of Next Testing: 2027-09-20 15:18:36

Product Name: **Kolliphor® P 188**

CAS Number: 9003-11-6

Specifications & Purity:

Lot #: I2412395

SKU #: K434430

Version: 1

Analysis #: 407463

Parameter	Limit Values	Result
Water by Karl Fischer	0-0.75 (%)	0.25 %
Average Mn	7680-9510 (g/mol)	8014.00 g/mol
pH Value (1:40)	6.0-7.5	6.90000
Cloud Point, 10% solution	≥100 (°C)	101.00000 °C
APHA Color (50:50 in MeOH)	≤100	38.00000
Ethyleneoxide	0-1 (ppm)	1.00 ppm
Propylene Oxide	0-5 (ppm)	0.10000 ppm
1,4 Dioxane	0-5 (ppm)	0.10000 ppm
Congelating Point	46-56 (°C)	46.00000 °C
Butylhydroxytoluene	50-125 (ppm)	94.00000 ppm
Arsenic(As)	0-2 (ppm)	1.00000 ppm
Oxyethylene content Weight	79.9-83.7 (%)	81.00000 %
Residue on Ignition	0-0.3 (%)	0.10000 %
Heavy metals	0-20 (ppm)	10.00 ppm
Ethyleneglycol (EG)	≤620 (ppm)	1.00000 ppm
Ash	0-0.4 (%)	0.10 %
pH Value (1:10)	5.0-7.5	7.10000
Sum of EG and DEG(≤0.25%)	Pass	Pass
Identification (IR)	Passes test	Passes test
Solution(Pass, Clear and colorless)	pass	Pass
Acid	Pass	Pass



ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager