

## Certificate of Analysis

Date of Testing: 2024-05-17 15:41:13  
Date of Next Testing: 2028-05-16 15:41:13  
Product Name: **TWEEN® 20**  
CAS Number: 9005-64-5  
Specifications & Purity: viscous liquid  
Lot #: E2416365  
SKU #: **T104863**  
Version: **1**  
Analysis #: **356697**  
Storage Temperature: Room temperature

Parameter	Limit Values	Result
Water by Karl Fischer	0-3 (%)	2.50 %
Acid Value	0-2.2 (mg/g)	0.20 mg/g
Hydroxy Value	96-108 (mgKOH/g)	98.10 mgKOH/g
Saponification value	40-50 (mg/g)	43.90 mg/g
Residual Ethylene	0-1 (ppm)	1.00 ppm
Viscosity(25 °C, neat)	275-480 (cP)	300.00 cP
Dioxane Content	0-10 (ppm)	1.00 ppm
Density (25°C)	1.08-1.12	1.09
Appearance (T104863)	Yellow oily liquid	Yellow oily liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager