

## Certificate of Analysis

Date of Testing: 2024-11-12 16:52:04  
Date of Next Testing: 2028-11-11 16:52:04  
Product Name: **TWEEN® 20**  
CAS Number: 9005-64-5  
Specifications & Purity: viscous liquid  
Lot #: K2401179  
SKU #: **T104863**  
Version: **1**  
Analysis #: **408674**  
Storage Temperature: Room temperature

Parameter	Limit Values	Result
Water by Karl Fischer	0-3 (%)	2.56 %
Acid Value	0-2.2 (mg/g)	0.21 mg/g
Viscosity(25 °C, neat)	275-480 (cP)	283.00 cP
Density (25°C)	1.08-1.12	1.10
Saponification value	40-50 (mg/g)	42.30 mg/g
Dioxane Content	0-10 (ppm)	1.00 ppm
Hydroxy Value	96-108 (mgKOH/g)	96.20 mgKOH/g
Residual Ethylene	0-1 (ppm)	0.20 ppm
Appearance (T104863)	Yellow oily liquid	Yellow oily liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager