

Certificate of Analysis

Date of Testing: 2023-09-01 15:38:34
Date of Next Testing: 2027-08-31 15:38:34
Product Name: **TWEEN® 20**
CAS Number: 9005-64-5
Specifications & Purity: viscous liquid
Lot #: H2331375
SKU #: **T104863**
Version: **1**
Analysis #: **268126**
Storage Temperature: Room temperature

| Parameter | Limit Values | Result |
|------------------------|-----------------------|-----------------------|
| Water by Karl Fischer | 0-3 (%) | 2.38 % |
| Acid Value | 0-2.2 (mg/g) | 0.50 mg/g |
| Residual Ethylene | 0-1 (ppm) | 0.20 ppm |
| Hydroxy Value | 96-108 (mgKOH/g) | 99.80 mgKOH/g |
| Dioxane Content | 0-10 (ppm) | 1.00 ppm |
| Saponification value | 40-50 (mg/g) | 43.20 mg/g |
| Viscosity(25 °C, neat) | 275-480 (cP) | 475.00 cP |
| Density (25°C) | 1.08-1.12 | 1.08 |
| Appearance (T104863) | Yellow oily liquid | Yellow oily liquid |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |



John Su
QA & QC Manager