

Shanghai Aladdin Biochemical Technology Co., LTD  
809 Chuhua Branch Road, Fengxian District, Shanghai 201400, China

## Certificate of Analysis

Date of Testing: 2024-04-13 10:08:07  
Date of Next Testing: 2028-04-12 10:08:07  
Product Name: **TWEEN® 20**  
CAS Number: 9005-64-5  
Specifications & Purity: viscous liquid  
Lot #: D2410318  
SKU #: **T104863**  
Version: **1**  
Analysis #: **335163**  
Storage Temperature: Room temperature

| Parameter              | Limit Values          | Result                |
|------------------------|-----------------------|-----------------------|
| Water by Karl Fischer  | 0-3 (%)               | 2.50000 %             |
| Acid Value             | 0-2.2 (mg/g)          | 0.20000 mg/g          |
| Residual Ethylene      | 0-1 (ppm)             | 0.00000 ppm           |
| Hydroxy Value          | 96-108 (mgKOH/g)      | 98.10000 mgKOH/g      |
| Dioxane Content        | 0-10 (ppm)            | 0.00000 ppm           |
| Saponification value   | 40-50 (mg/g)          | 43.90000 mg/g         |
| Viscosity(25 °C, neat) | 275-480 (cP)          | 305.00000 cP          |
| Density (25°C)         | 1.08-1.12             | 1.08000               |
| Appearance (T104863)   | Yellow oily liquid    | Yellow oily liquid    |
| Infrared spectrum      | Conforms to Structure | Conforms to Structure |



John Su  
QA & QC Manager