

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

## Certificate of Analysis

Date of Testing: 2022-07-09 17:23:53  
Date of Next Testing: 2026-07-08 17:23:53  
Product Name: **TWEEN® 20**  
CAS Number: 9005-64-5  
Specifications & Purity: viscous liquid  
Lot #: G2201575  
SKU #: **T104863**  
**Analysis:** **103512**  
Storage Temperature: Room temperature

| Parameter              | Limit Values          | Result                |
|------------------------|-----------------------|-----------------------|
| Water by Karl Fischer  | 0-3 (%)               | 2.64000 %             |
| Acid Value             | 0-2.2 (mg/g)          | 0.50000 mg/g          |
| Residual Ethylene      | 0-1 (ppm)             | 0.20000 ppm           |
| Hydroxy Value          | 96-108 (mgKOH/g)      | 97.70000 mgKOH/g      |
| Dioxane Content        | 0-10 (ppm)            | 1.00000 ppm           |
| Saponification value   | 40-50 (mg/g)          | 41.20000 mg/g         |
| Density (25°C)         | 1.08-1.12             | 1.09000               |
| Viscosity(25 °C, neat) | 275-480 (cP)          | 282.00000 cP          |
| Infrared spectrum      | Conforms to Structure | Conforms to Structure |
| Appearance (T104863)   | Yellow oily liquid    | Yellow oily liquid    |



John Su  
QA & QC Manager