

## Certificate of Analysis

Date of Testing: 2022-10-20 19:24:45  
 Date of Next Testing: 2026-10-19 19:24:45  
 Product Name: **Isopropyl Alcohol**  
 CAS Number: 67-63-0  
 Specifications & Purity: for preparative chromatography,99.8%  
 Lot #: J2218929  
 SKU #: **I112023**  
**Analysis: 148345**

| Parameter  | Limit Values          | Result                |
|--|-----------------------|-----------------------|
| Density (20°C)                                       | 0.785-0.789           | 0.79                  |
| total of impurities apart from 2-butanol             | 0-0.3 (%)             | 0.06 %                |
| Alkalinity   | 0-0.0002 (mg/g)       | 0.00 mg/g             |
| Isopropylether (GC)                                  | 0-0.01 (%)            | 0.01 %                |
| Water by Karl Fischer                                | 0-0.05 (%)            | 0.01 %                |
| Total combined yeasts/moulds count (TYMC)            | 0-10 (cfu/g)          | 7.80 cfu/g            |
| Acidity  | 0-0.0002              | 0.00                  |
| Absorbance at 270 nm                                 | 0-0.03                | 0.03                  |
| Absorbance at 250 nm                                 | 0-0.1                 | 0.09                  |
| Density (25°C)                                       | 0.783-0.787           | 0.79                  |
| Absorbance at 290 nm                                 | 0-0.02                | 0.02                  |
| Refractive index n <sub>20</sub> /D                  | 1.376-1.378           | 1.38                  |
| Bacterial endotoxins                                 | 0-2.5 (IU/ml OR u/ml) | 2.00 IU/ml OR u/ml    |
| Absorbance at 230 nm                                 | 0-0.3                 | 0.25                  |
| Absorbance at 310 nm                                 | 0-0.01                | 0.00                  |
| Total aerobic microbial count (TAMC)                 | 0-100 (cfu/g)         | 65.30 cfu/g           |
| Evaporation Residue                                  | 0-0.0001 (mg/L)       | 0.00 mg/L             |
| Benzene and related substances (GC)                  | 0-2 (ppm)             | 1.20 ppm              |
| Purity(GC)   | 99.8-100 (%)          | 99.98 %               |
| Appearance (I112023)                                 | Colorless Liquid      | Colorless liquid      |
| Bile-tolerant gram-negative bacteria (absent in 1 g) | passes test           | Passes test           |
| Candida albicans (absent in 1 g)                     | passes test           | Passes test           |
| Escherichia coli (absent in 1 g)                     | passes test           | Passes test           |
| Infrared spectrum                                    | Conforms to Structure | Conforms to Structure |
| Peroxides  | Conforms              | Conforms              |
| Pseudomonas aeruginosa (absent in 1 g)               | passes test           | Passes test           |
| Salmonella (absent in 10 g)                          | passes test           | Passes test           |

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| Parameter                             | Limit Values | Result      |
|---------------------------------------|--------------|-------------|
| Staphylococcus aureus (absent in 1 g) | passes test  | Passes test |
| The absorption curve is smooth        | Conforms     | Conforms    |

A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager