



# OXYDE CHEMICALS SINGAPORE PTE LTD

4 BATTERY ROAD, 25-01, BANK OF CHINA BUILDING,  
049908 SINGAPORE



Shay & Company  
NATURAL INGREDIENT SUPPLIER

## CERTIFICATE OF ANALYSIS

| CUSTOMER NAME:   | OXYDE CHEMICALS, INC.<br>2445 TECHNOLOGY FOREST BLVD SUITE 220,<br>THE WOODLANDS, TEXAS 77381,<br>USA |         |         |        |   |            |
|--|---|---------|---------|--------|---|------------|
| PRODUCT NAME:  | MONO PROPYLENE GLYCOL USP   |         |         |        |   |            |
| DATE:  | Sep 27, 2023  |         |         |        |   |            |
| CONTRACT NUMBER:   | 801223  |         |         |        |   |            |
| QUANTITY:  | 5.16 MT   |         |         |        |   |            |
| LOT NUMBER:  | 9549029083  |         |         |        |   |            |
| MANUFACTURING DATE:  | August 29, 2023   |         |         |        |   |            |
| EXPIRY DATE:   | August 28, 2025   |         |         |        |   |            |
| WE HEREBY CONFIRM THAT THE GOODS SHIPPED CONFORM TO THE FOLLOWING QUALITY STANDARDS: |   |         |         |        |   |            |
| Property   | Units   | Minimum | Maximum | Result | N | Method     |
| Purity   | %m/m  | 99.5    |         | 99.9   |   | USP        |
| Acidity as acetic acid   | %m/m  |         | 0.005   | 0.001  |   | USP        |
| Water  | %m/m  |         | 0.2     | 0.1    |   | USP        |
| Color, Pt-Co   |   |         | 10      | 5      |   | ASTM E202  |
| Sulfate  | Max. 60 mg/kg   |         |         | Pass   |   | USP        |
| Heavy Metals   | Max. 5 mg/kg  |         |         |        | 1 | USP        |
| Residual Solvents  | Pass  |         |         | Pass   |   | USP        |
| Chlorides as CL-   | mg/kg   |         | 1       | < 0    |   | USP        |
| Iron   | mg/kg   |         | 0.5     | 0.0    |   | ASTM E202  |
| Infrared Spectrum  | Pass  |         |         |        | 1 | USP        |
| Specific Gravity @25C  |   | 1.035   | 1.037   | 1.036  |   | ASTM E202  |
| Residue on Ignition  | mg/kg   |         | 70      | < 10   |   | USP        |
| Distillation, IBP  | °C  | 185     |         | 186    |   | ASTM E202  |
| Distillation, DP   | °C  |         | 189     | 188    |   | ASTM E202  |
| Refractive Index @20C  |   | 1.431   | 1.433   | 1.433  |   | EP         |
| Oxidizing substances   | Pass  |         |         | Pass   |   | EP         |
| Reducing substances  | Pass  |         |         | Pass   |   | EP         |
| Lead   | mg/kg   |         | 1       | 0      |   | FCC        |
| Appearance   | Clear & Bright  |         |         | Pass   |   | ASTM E2680 |
| EG   | %m/m  |         | 0.1     | < 0.1  |   | USP        |
| DSG  | %m/m  |         | 0.1     | < 0.1  |   | USP        |

Certified true and correct.  
Oxyde Chemicals Singapore Pte Ltd

DANIEL KWOK

