



## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-05-06

Batch No.: PGU250506

Production Time: 2025-05-06

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.98	Pass
MEG w%	≤0.001	0	Pass
DEG w%	≤0.001	0	Pass
DPG w%	≤0.1	0.02	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.5	Pass
Final boiling point °C	≤189	188.4	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.02	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.002	Pass
Ignition residue w%	≤0.007	0.002	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.432	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Feng Meng

Reviewer: Wang Jing

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-05-07

Batch No.: PGU250507

Production Time: 2025-05-07

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.97	Pass
MEG w%	≤0.001	0	Pass
DEG w%	≤0.001	0	Pass
DPG w%	≤0.1	0.03	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.5	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.02	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.002	Pass
Ignition residue w%	≤0.007	0.002	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.432	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Tang Han

Reviewer: Ding Pingping

Authorized Signature(s)



## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-05-08

Batch No.: PGU250508

Production Time: 2025-05-08

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.98	Pass
MEG w%	≤0.001	0	Pass
DEG w%	≤0.001	0	Pass
DPG w%	≤0.1	0.02	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.7	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.03	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.002	Pass
Ignition residue w%	≤0.007	0.002	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.432	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Chen Mulan

Reviewer: Wang Jing

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-06-19

Batch No.: PGU-250619

Production Time: 2025-06-19

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.98	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.02	Pass
PO w%	≤0.001	≤0.001	Pass
Initial boiling point °C	≥185	186.6	Pass
Final boiling point °C	≤189	188.7	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.03	Pass
Acidity(ml 0.1NaOH/10ml)	≤0.2	0.003	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

**CONCLUSION: Confirm to USP Grade**

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Chen Mulan

Reviewer: Liu Ying

Authorized Signature(s)



## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-05-23

Batch No.: PGU-250523

Production Time: 2025-05-23

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.96	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.04	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.7	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.03	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.003	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO.,LTD.  
岳阳昌德新材料有限公司

Identifier: Li Xia

Reviewer: Wang Dan

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-04-10

Batch No.: PGU-250410

Production Time: 2025-04-10

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.97	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.03	Pass
PO w%	≤0.001	< 0.001	Pass
Initial boiling point °C	≥185	186.4	Pass
Final boiling point °C	≤189	188.4	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.03	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.004	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO.,LTD.  
岳阳昌德新材料有限公司

Identifier: Tang Xun

Reviewer: Ding Pingping

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-04-21

Batch No.: PGU-250421

Production Time: 2025-04-17

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.96	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.04	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.5	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.02	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.004	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Zhou Sheng

Reviewer: Ding Pingping

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-03-08

Batch No.: PGU-250308

Production Time: 2025-03-08

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.98	Pass
MEG w%	≤0.001	0	Pass
DEG w%	≤0.001	0	Pass
DPG w%	≤0.1	0.02	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.3	Pass
Final boiling point °C	≤189	188.5	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.03	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.004	Pass
Ignition residue w%	≤0.007	0.002	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.432	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Ruan Yunhui

Reviewer: Yang Sihan

Authorized Signature(s)



岳阳昌德新材料有限公司

Yueyang Changde New Materials Co., Ltd.

## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-05-01

Batch No.: PGU-250501

Production Time: 2025-04-17

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.96	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.04	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.5	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.02	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.004	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

**CONCLUSION: Confirm to USP Grade**

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Zhou Sheng

Reviewer: Ding Pingping

Authorized Signature(s)



## Certificate of Analysis

Product Name: Propylene Glycol USP Grade

Issue Date: 2025-04-17

Batch No.: PGU-250417

Production Time: 2025-04-17

Standard: USP

Shelf life: 24 months

Items	Specification Requirement	Results	Conclusion
Appearance	Colorless clear liquid without impurities	Colorless clear liquid without impurities	Pass
Hazen (APHA)	≤10	5	Pass
Odor	/	Odorless	Pass
MPG w%	≥99.50	99.96	Pass
MEG w%	≤0.001	< 0.001	Pass
DEG w%	≤0.001	< 0.001	Pass
DPG w%	≤0.1	0.04	Pass
PO w%	≤0.001	0	Pass
Initial boiling point °C	≥185	186.5	Pass
Final boiling point °C	≤189	188.2	Pass
Density (25°C) g/cm <sup>3</sup>	1.035-1.037	1.035	Pass
Water content w%	≤0.2	0.02	Pass
Acidity(ml 0.1NaOH/10ml)	0.2	0.004	Pass
Ignition residue w%	≤0.007	< 0.001	Pass
Pb/ mg/kg	≤1	< 0.02	Pass
As/ mg/kg	≤2	< 2	Pass
Fe/ mg/kg	≤0.1	< 0.02	Pass
Heavy Metal (as Lead) mg/L	≤5	< 5	Pass
Sulfate (SO <sub>4</sub> )/ mg/kg	≤0.3	< 0.3	Pass
refractive index (20°C)	1.431-1.433	1.433	Pass

CONCLUSION: Confirm to USP Grade

For and on behalf of  
YUEYANG CHANGDE NEW MATERIALS CO., LTD.  
岳阳昌德新材料有限公司

Identifier: Zhou Sheng

Reviewer: Ding Pingping

Authorized Signature(s)