

Certificate

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test report 2.2 according to EN 10204/dispatch advice

INEOS Manufacturing Deutschland GmbH
 Alte Strasse 201
 50769 Köln

CUSTOMER COLLECTION # RUSSIA
 ZUR VERFUEGUNG LUERCHEM LLC
 RUS-0 RUSSIA

Product: Monopropylene Glycol USP/EP PharmaGrade

Sales Office-no
 0000723987
 000010

ООО АКРИХИМФАРМ
+7 (495) 783-91-69
+7 (495) 504-62-46

akrihim@mail.ru
akrihimfarm@mail.ru

| test*) | unit | result | specification | | test method |
|--|--------|------------|---------------|--------|-------------------|
| | | | min | max | |
| Monopropylene glycol | % wt . | 99,95 | 99,5 | | 3002-0212801-0SD |
| Dipropylene glycol | % wt . | 0,0498 | | 0,1000 | 3002-0212801-0SD |
| Monoethylene glycol | % wt . | N.N. | | 0,1000 | 3002-0212801-0SD |
| Diethylene glycol | % wt . | N.N. | | 0,1000 | 3002-0212801-0BD |
| Water | % wt . | 0,005 | | 0,2 | 3002-0300102-090 |
| APHA colour value | | 2 | | 10 | 3002-0600903-130 |
| Turbidity | NTU | N.N. | | 3 | 3002-0606602-12D |
| Specific gravity at 25 °C | | 1,0354 | 1,0350 | 1,0370 | 3002-0301205-14D |
| Refractive index | nD20°C | 1,4329 | 1,4310 | 1,4330 | 3002-0601003-13D |
| Neutralisation number calc. as KOH | mg/g | 0,0011 | | 0,0100 | 3002-0304601-13D |
| Acidity (calculated as CH ₃ COOH) | % wt. | 0,0006 | | 0,0020 | 3002-0304601-13D |
| Sulphated ash | mg/kg | N.N. | | 70 | 3002-0100308-12D |
| Chloride | mg/kg | <0,5 | | 1,0 | 3002- 0305601-13D |
| Sulphate | mg/kg | 0,2 | | 60,0 | 3002-0400804-14D |
| Distillation Range | °C | compliance | 185,0 | 189,0 | 3002-0301404-12D |
| Oxidising substances | | compliance | | | 3002-0102302-98D |
| Reducing substances | | compliance | | | 3002-0102402-98D |
| Volatile organic substances | | compliance | | | 3002-0206703-01D |
| Heavy metals | mg/kg | compliance | | 5 | 3002- 0102204-11D |
| Iron | mg/kg | 0,13 | | 0,5 | 3002-0602003-13D |
| ^Arsenic | mg/kg | N.N. | | 2,0 | 3002-0601603-05D |
| ^Lead | mg/kg | N.N. | | 1 | 3002- 0602904-13D |
| ^Cadmium | mg/kg | N.N. | | 0,50 | 3002-0604803-13D |
| ^Mercury | mg/kg | N.N. | | 0,10 | 3002-0606405-15D |

N.N. =value below quantitation limit

*) tested by: ATS-Analytics of the INEOS Manufacturing Deutschland GmbH

This certificate has been prepared with care and to the best of our knowledge as part of the quality management system of INEOS Manufacturing Deutschland GmbH, Werk Köln. However, it does not relieve our customers of their obligation to inspect goods upon receipt or establish any warranties of third parties, to whom it might be passed on. No additional assurance of any kind, expressed or implied, is linked here to.

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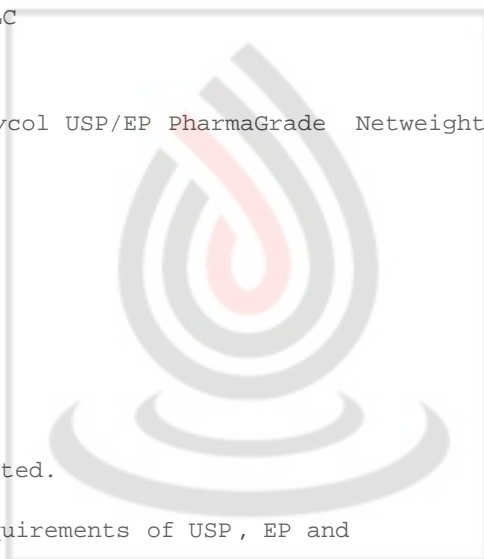
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ZUR VERFUEGUNG LUERCHEM LLC
XX
RUS-0 RUSSIA

Product: Monopropylene Glycol USP/EP PharmaGrade Netweight

Sales Office-no
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000010



^Values are quarterly updated.

This product meets the requirements of USP, EP and
FCC. Expiry Date: 2 years

This certificate was produced by using an edp-equipment and therefore is issued
unsigned.

Weight measurements from Enterprise Resource Planning (SAP). These calibrated
measurements can be reviewed by the receiver.

For any questions please contact the customer service center.

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Производство и продажа химии