

Certificate of Analysis

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| Creation date 08.02.2019 | Your order no. / Date 023609 / 17.01.2019 | Delivery note / Date of dispatch 80737876 000090 / 08.02.2019 |
| Our reference / Date 688822 000090 / 17.01.2019 | Client number | Date of arrival 12.02.2019 |
| Material / Product / Description 100016 / / Citric Acid Anhydrous CAA N1560 in 25 kg bags | | Country of origin: AT |
| Shipping point | | |

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|------------------|----------------------|----------------------------------|---------------------------|--|
| Batch 1242556 | Quantity 2.000 KG | Date of production 05.02.2019 | Date of expiry 02.2022 | Production plant Pernhofen/Wulzeshofen AT |
|------------------|----------------------|----------------------------------|---------------------------|--|

| Parameter | Unit | Specification | Value |
|--|-------|---------------|-----------|
| Characteristics | | | conforms |
| colourless crystals or a white, crystalline powder; very soluble in water, freely soluble in ethanol (96%), sparingly soluble in ether | | | |
| Odour | | | conforms |
| typical, practically odourless | | | |
| Identification | | | conforms* |
| Appearance of solution | | | conforms* |
| clear and colourless | | | |
| Clarity of solution | | | conforms* |
| Colour of solution | | | conforms* |
| Assay | % | 99,7 - 100,3 | 99,9 |
| Water | % | <= 0,50 | 0,06 |
| Readily carbonisable substances | | | conforms* |
| Calcium | mg/kg | <= 30 | conforms* |
| Heavy metals | mg/kg | <= 5 | conforms* |
| Iron | mg/kg | <= 3 | conforms* |
| Arsenic | mg/kg | <= 1 | conforms* |
| Lead | mg/kg | <= 0,5 | conforms* |
| Mercury | mg/kg | <= 0,5 | conforms* |
| Chloride | mg/kg | <= 5 | conforms* |
| Oxalic acid / oxalate | mg/kg | <= 100 | conforms* |
| Sulphate | mg/kg | <= 100 | conforms* |
| Residue on ignition | % | <= 0,05 | conforms* |
| Sulphated ash | % | <= 0,05 | conforms* |
| Particles > 1.25 mm (mesh 14) | % | <= 5 | conforms* |
| Particles < 0.40 mm (mesh 45) | % | <= 10 | conforms* |

We herewith confirm that this product meets the requirements of the latest edition of the European Pharmacopoeia (Ph. Eur.), the United States Pharmacopeia (USP), the Food Chemicals Codex (FCC) and of Commission Regulation (EU) No 231/2012. All analytical methods are in accordance with the latest requirements of the Ph. Eur., the USP, the FCC or are equivalent. Test methods are available on request.

*) analysis is confirmed based on In-Process-Control or by random testing.

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