

## Certificate of Analysis

Nitric acid high purity acid for trace analysis

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|                         |   |               |                |
|-------------------------|---|---------------|----------------|
| <b>Code No.</b>         | <b>HPA-0020- ...</b>  |               |                |
| <b>Lot</b>              | <b>3040</b>   |               |                |
| <b>Expiry date</b>      | <b>30/04/2019</b>   |               |                |
|                         | <small>The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks / packages.</small> |               |                |
| <b>CAS-No.</b>          | <b>[7697-37-2]</b>  | <b>EINECS</b> | <b>2317142</b> |
| <b>Formula</b>          | <b>H N O<sub>3</sub></b>  | <b>UN</b>     | <b>2031</b>    |
| <b>Molecular weight</b> | <b>63.01 g/mol</b>  |               |                |

This lot complies with the specification mentioned below.

### Specification

|           |                 |               |              |
|-----------|-----------------|---------------|--------------|
| Assay     | > 67 % min.     | Colour (APHA) | < 10         |
| Phosphate | < 0.1 ppm max.  | Residue       | < 1 ppm max. |
| Sulphate  | < 5 ppm max.    | Density       | 1,39 g/mL    |
| Chloride  | < 0.08 ppm max. |               |              |

### Metals

|                |           |                 |           |
|----------------|-----------|-----------------|-----------|
| Aluminium (Al) | < 0.5 ppb | Mercury (Hg)    | < 0.2 ppb |
| Antimony (Sb)  | -         | Molybdenum (Mo) | < 0.1 ppb |
| Arsenic (As)   | < 0.1 ppb | Nickel (Ni)     | < 0.1 ppb |
| Barium (Ba)    | < 0.1 ppb | Potassium (K)   | < 0.2 ppb |
| Beryllium (Be) | < 0.1 ppb | Selenium (Se)   | < 0.1 ppb |
| Bismuth (Bi)   | < 0.1 ppb | Silver (Ag)     | < 0.1 ppb |
| Cadmium (Cd)   | < 0.1 ppb | Sodium (Na)     | < 0.5 ppb |
| Calcium (Ca)   | < 0.5 ppb | Strontium (Sr)  | < 0.1 ppb |
| Chromium (Cr)  | < 0.2 ppb | Thallium (Tl)   | -         |
| Cobalt (Co)    | < 0.1 ppb | Thorium (Th)    | < 0.1 ppb |
| Copper (Cu)    | < 0.1 ppb | Tin (Sn)        | < 0.1 ppb |
| Iron (Fe)      | < 0.5 ppb | Titanium (Ti)   | < 0.1 ppb |
| Lead (Pb)      | < 0.1 ppb | Uranium (U)     | -         |
| Lithium (Li)   | < 0.1 ppb | Vanadium (V)    | < 0.1 ppb |
| Magnesium (Mg) | < 0.5 ppb | Zinc (Zn)       | < 0.5 ppb |
| Manganese (Mn) | < 0.1 ppb | Zirconium (Zr)  | -         |

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08-02-2018

**Martin Schröder** (Labmanager)

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