



|                      |                                |
|----------------------|--------------------------------|
| Material             | 20252.420                      |
| Material description | Hydrochloric acid 37%          |
| Grade                | AnalaR NORMAPUR Reag. Ph. Eur. |
| Lot                  | 19B184026                      |
| Expires end of       | 2024-Feb-14                    |
| CAS Number           | 7647-01-0                      |
| Molecular formula    | HCl                            |
| Molecular mass       | 36.46                          |

| Characteristics                     | Specifications          | Measured values         |
|-------------------------------------|-------------------------|-------------------------|
| Assay                               | 35.0 --> 38.0 %         | 36.3 %                  |
| Appearance                          | Clear colourless liquid | Clear colourless liquid |
| Appearance of solution              | Passes test Ph.Eur.     | Passes test Ph.Eur.     |
| Identification A                    | Passes test Ph.Eur.     | Passes test Ph.Eur.     |
| Identification B                    | Passes test Ph.Eur.     | Passes test Ph.Eur.     |
| Colouration                         | Max. 10 APHA            | Max. 10 APHA            |
| Density (20/4)                      | 1.174 --> 1.193         | 1.180                   |
| Evaporation residue                 | Max. 100 ppm            | 57 ppm                  |
| Free chlorine                       | Max. 1 ppm              | Max. 1 ppm              |
| Heavy metals (as Pb)                | Max. 2 ppm              | Max. 2 ppm              |
| Ignition residue (SO <sub>4</sub> ) | Max. 5 ppm              | 4 ppm                   |
| Reducing substances (as O)          | Max. 4 ppm              | Max. 4 ppm              |
| Br (Bromide)                        | Max. 5 ppm              | Max. 5 ppm              |
| NH <sub>4</sub> (Ammonium)          | Max. 1 ppm              | Max. 1 ppm              |
| PO <sub>4</sub> (Phosphate)         | Max. 0.5 ppm            | Max. 0.5 ppm            |
| SO <sub>3</sub> (Sulphite)          | Max. 1 ppm              | Max. 1 ppm              |
| SO <sub>4</sub> (Sulphate)          | Max. 1 ppm              | Max. 1 ppm              |
| Al (Aluminium)                      | Max. 0.2 ppm            | Max. 0.2 ppm            |
| As (Arsenic)                        | Max. 0.01 ppm           | Max. 0.01 ppm           |
| Ba (Barium)                         | Max. 0.02 ppm           | Max. 0.02 ppm           |
| Be (Beryllium)                      | Max. 0.01 ppm           | Max. 0.01 ppm           |
| Bi (Bismuth)                        | Max. 0.02 ppm           | Max. 0.02 ppm           |
| Ca (Calcium)                        | Max. 1 ppm              | Max. 1 ppm              |
| Cd (Cadmium)                        | Max. 0.01 ppm           | Max. 0.01 ppm           |
| Co (Cobalt)                         | Max. 0.01 ppm           | Max. 0.01 ppm           |
| Cr (Chromium)                       | Max. 0.07 ppm           | Max. 0.07 ppm           |
| Cu (Copper)                         | Max. 0.1 ppm            | Max. 0.1 ppm            |
| Fe (Iron)                           | Max. 0.3 ppm            | Max. 0.3 ppm            |

>>> Continued on page 2 >>>



| Characteristics           | Specifications | Measured values |
|---------------------------|----------------|-----------------|
| Ge (Germanium)            | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Hg (Mercury)              | Max. 0.01 ppm  | Max. 0.01 ppm   |
| K (Potassium)             | Max. 0.1 ppm   | Max. 0.1 ppm    |
| Li (Lithium)              | Max. 0.01 ppm  | Max. 0.01 ppm   |
| Mg (Magnesium)            | Max. 0.1 ppm   | Max. 0.1 ppm    |
| Mn (Manganese)            | Max. 0.01 ppm  | Max. 0.01 ppm   |
| Mo (Molybdenum)           | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Na (Sodium)               | Max. 0.5 ppm   | Max. 0.5 ppm    |
| Ni (Nickel)               | Max. 0.04 ppm  | Max. 0.04 ppm   |
| Pb (Lead)                 | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Sr (Strontium)            | Max. 0.01 ppm  | Max. 0.01 ppm   |
| Ti (Titanium)             | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Tl (Thallium)             | Max. 0.02 ppm  | Max. 0.02 ppm   |
| V (Vanadium)              | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Zn (Zinc)                 | Max. 0.5 ppm   | Max. 0.5 ppm    |
| Zr (Zirconium)            | Max. 0.02 ppm  | Max. 0.02 ppm   |
| Conforms to Reag. Ph.Eur. | Passes test    | Passes test     |

## Signature

We certify that this batch conforms to the specifications listed above.

This document has been produced electronically and is valid without a signature.

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