

## Specification

### L-Arginine Hydrochloride (Ph. Eur., USP) pure, pharma grade

**A1700**

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Solubility:</b>           | 900 g/L (H <sub>2</sub> O)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Physical Description:</b> | Solid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Product Code:</b>         | A1700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Product Name:</b>         | L-Arginine Hydrochloride (Ph. Eur., USP) pure, pharma grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Headline Comment:</b>     | • All amino acids from AppliChem are of non-animal origin!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Specifications:</b>       | <p>Assay (titr., calc. on dried subst.): 98.5 - 101.0 %</p> <p><math>\alpha</math>20°C/D; 8 %, 6 M HCl: +21.4° - +23.6°</p> <p>Appearance of solution: passes test</p> <p>Identity: passes test</p> <p>Heavy metals (as Pb): max. 0.002 %</p> <p>Sulfated ash: max. 0.1 %</p> <p>Loss on drying (2 h; 105°C): max. 0.2 %</p> <p><math>\alpha</math>20°C/D; 8 %, 250 g/L HCl, calc. on dried subst.: +21.0° - +23.5°</p> <p>Ammonium: max. 0.02 %</p> <p>Chloride: 16.5 - 17.1 %</p> <p>Sulfate: max. 0.03 %</p> <p>Fe: max. 0.001 %</p> <p>Ninhydrin positive substances (HPLC)</p> <p>each individual impurity: max. 0.2 %</p> <p>Total impurities: max. 0.5 %</p> <p>Ninhydrin positive substances (TLC)</p> <p>Each individual impurity: max. 0.5 %</p> <p>Total impurities: max. 2 %</p> <p>Elemental impurities (according to ICH Q3D):</p> <p>Class 1 (Cd): max. 0.5 ppm</p> <p>Class 2B (Au): max. 10 ppm</p> <p>Class 2B (Rh): max. 10 ppm</p> <p>Class 2A (Co): max. 5 ppm</p> <p>Class 3 (Li): max. 55 ppm</p> |

#### AppliChem GmbH

Ottoweg 4 • D-64291 Darmstadt • Phone +49 6151 9357 0 • Fax +49 6151 9357 11 • [info.de@itwreagents.com](mailto:info.de@itwreagents.com) • [www.itwreagents.com](http://www.itwreagents.com)  
 CEO Joan Roget • Commerzbank Darmstadt • Bank 508 800 50 • Account 0186989900 IBAN DE24 5088 0050 0186 9899 00 • Swiftcode DRESDEFF508 • Finanzamt Darmstadt 007 225 00192 • Register court Darmstadt HRB Nr. 7340

Specification

**L-Arginine Hydrochloride (Ph. Eur., USP) pure, pharma grade**

**A1700**

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | Class 1 (Pb): max. 0.5 ppm<br>Class 1 (As): max. 1.5 ppm<br>Class 1 (Hg): max. 1.5 ppm<br>Class 2A (V): max. 10 ppm<br>Class 2A (Ni): max. 20 ppm<br>Class 2B (Tl): max. 0.8 ppm<br>Class 2B (Pd): max. 10 ppm<br>Class 2B (Ir): max. 10 ppm<br>Class 2B (Os): max. 10 ppm<br>Class 2B (Ru): max. 10 ppm<br>Class 2B (Pt): max. 10 ppm<br>Class 2B (Se): max. 15 ppm<br>Class 2B (Ag): max. 15 ppm<br>Class 3 (Sb): max. 120 ppm<br>Class 3 (Ba): max. 140 ppm<br>Class 3 (Mo): max. 25 ppm<br>Class 3 (Cr): max. 25 ppm<br>Class 3 (Cu): max. 250 ppm<br>Class 3 (Sn): max. 600 ppm |
| <b>WGK:</b>               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Storage:</b>           | RT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Molecular Formula:</b> | $C_6H_{14}N_4O_2 \cdot HCl$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>M:</b>                 | 210.66 g/mol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>CAS:</b>               | 1119-34-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>EINECS:</b>            | 214-275-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>CS:</b>                | 29224985                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**AppliChem GmbH**

Ottoweg 4 • D-64291 Darmstadt • Phone +49 6151 9357 0 • Fax +49 6151 9357 11 • [info.de@itwreagents.com](mailto:info.de@itwreagents.com) • [www.itwreagents.com](http://www.itwreagents.com)  
 CEO Joan Roget • Commerzbank Darmstadt • Bank 508 800 50 • Account 0186989900 IBAN DE24 5088 0050 0186 9899 00 • Swiftcode DRESDEFF508 • Finanzamt Darmstadt 007 225 00192 • Register court Darmstadt HRB Nr. 7340