

## CERTIFICATE OF ANALYSIS

PRODUCT NAME: Guanidine Hydrochloride,for molecular biology, 99.5% (AT)

ITEM NUMBER: G108673  
BRAND: Aladdin  
CAS NUMBER: 50-01-1  
MDL NUMBER: MFCD00013026  
FORMULA: CH<sub>5</sub>N<sub>3</sub> · HCl  
MOLECULAR WEIGHT: 95.53

| TEST                          | SPECIFICATION                                |         | TARGET VALUE |
|-------------------------------|--|---------|--------------|
|                               | MIN.   | MAX.    |              |
| Al                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Appearance                    | White to Off-White Powder or Solid or Chunks |         |              |
| As                            | 0 ppm  | 0.1 ppm | 0.1 ppm      |
| Ba                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Bi                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Ca                            | 0 ppm  | 10 ppm  | 10 ppm       |
| Cd                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Co                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Cr                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Cu                            | 0 ppm  | 5 ppm   | 5 ppm        |
| DNase                         | none detected                                |         |              |
| Fe                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Ignition residue (as sulfate) | 0 %  | 0.05 %  | 0.05 %       |
| Infrared spectrum             | Conforms to Structure                        |         |              |
| insoluble matter              | passes filter test                           |         |              |
| K                             | 0 ppm  | 50 ppm  | 50 ppm       |
| Li                            | 0 ppm  | 5 ppm   | 5 ppm        |
| Loss on drying                | 0 %  | 0.05 %  | 0.05 %       |
| Melting point                 | 187 ° C                                      | 190 ° C | 190 ° C      |

|   |   |         |         |
|---|---|---------|---------|
| Mg  | 0 ppm   | 5 ppm   | 5 ppm   |
| Mn  | 0 ppm   | 5 ppm   | 5 ppm   |
| Mo  | 0 ppm   | 5 ppm   | 5 ppm   |
| Na  | 0 ppm   | 50 ppm  | 50 ppm  |
| Ni  | 0 ppm   | 5 ppm   | 5 ppm   |
| Pb  | 0 ppm   | 5 ppm   | 5 ppm   |
| pH  | 4.5   | 6       | 6       |
| phosphatases                              | none detected                                       |         |         |
| proteases                                 | none detected                                       |         |         |
| Purity(titration with AgNO <sub>3</sub> ) | 99.5 %  | 100.5 % | 100.5 % |
| RNases                                    | none detected                                       |         |         |
| solubility H <sub>2</sub> O               | Colorless   |         |         |
| Sr  | 0 ppm   | 5 ppm   | 5 ppm   |
| sulfate (SO <sub>4</sub> <sup>2-</sup> )  | 0 ppm   | 50 ppm  | 50 ppm  |
| UV absorption : 260 nm A                  | 0   | 0.03    | 0.03    |
| UV absorption : 280 nm A                  | 0   | 0.02    | 0.02    |
| Zn  | 0 ppm   | 5 ppm   | 5 ppm   |
|   | 6 M in H <sub>2</sub> O (6mol/L, H <sub>2</sub> O ) |         |         |