**JINAN JIUAN ESTER CHEMICAL CO.,LTD.**
SHUIZHAI VILLAGE,SHUIZHAI TOWN,ZHANGQIU CITY,SHANDONG,CHINA
TEL:0086-531-82687186 FAX: 0086-531-82687186
Http:// www.pengbobio.com E-mail:info@pengbobio.com

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| Product Name : | Betaine Monohydrate | Country of Origin: | China |
| Batch No.: | 20170511 | Quantity: | 500Kg |
| Manufacture Date: | 2017.05.23 | Package: | 25Kg/Drum |
| Expiry Date: | 2019.05.22 | Standard: | In-house |

| Item | Specification | Results | Test Method |
|---|---|---|---|
| Appearance | White crystalliner powder | Conform | Visual |
| Assay(on dry basis) | NLT 98.0% | 99.20% | Titration |
| Loss on Drying | NMT 15% | 13.32% | Drying(105℃,3h) |
| pH(10% aqua): | 5.0-7.0 | 6.90 | pH meter |
| Color | NMT 20. | 5 | FCC |
| Sulphate: | NMT 0.01% | Conform | Colorimetric method |
| Residue on Ignition | NMT 0.2% | 0.02% | Electric furnace(550℃) |
| Heavy Metals | NMT 10 ppm | Conform | Colorimetric method |
| Arsenic | NMT 1ppm | Conform | ICP |
| Lead | NMT 1ppm | Conform | ICP |
| Total Plate Count | NMT 1000cfu/g | Conform | Viable plate count |
| Yeast and Mold | NMT 100cfu/g | Conform | Viable plate count |
| E.coli: | Negative | Conform | USP<62> |
| Salmonella: | Negative | Conform | USP<62> |
| Staphylococcus: | Negative | Conform | USP<62> |
| Particle Size | Thru20 mesh | 100% | Sieving |

**Conclusion:**
**The test results correspond to EC2...**

JINAN JIUAN ESTER CHEMICAL CO.,LTD.