

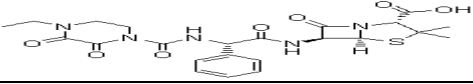


# HAIQIANG CHEMICALS CO., LTD

PHONE: 86-571-86465881, FAX: 86-571-86414728 sales@haiqiangchem.com

## CERTIFICATE OF ANALYSIS

NO: HQC081309294

Product name	Piperacillin, CP2010
CAS Number	61477-96-1
Molecule Structure	
Molecule Formula	C <sub>23</sub> H <sub>27</sub> N <sub>5</sub> O <sub>7</sub> S
Batch number	20130709
Manuf. & Exp. Date	2013-07-09, 2015-03-06
Testing date	2013-07-09

Items	Standard	Result
Appearance	White or almost white crystalline powder	Confirm
Identification	The infrared absorption spectrum of the sample spectrum exhibits maxima at the same wavelengths as that of a know standard of piperacilin monohydrate	Confirm
PH	2.5-4.0	3.4
Specific optical rotation	+160° ~+178°	+173°
Color	Y2 max	Confirm
Appearance of solution	1# max	Confirm
Water	2.0-4.0%	3.6%
Ampicillin	0.2% max	0.01%
Impurities	Impurity A: 1.0% max Impurity B: 0.2% max Impurity C: 0.4% max Impurity D: 2.0% max Other maximum single impurity: 0.1% max Total impurity: 3.8% max	0.14% 0.01% 0.01% 0.44% 0.02% 0.63%
Bacterial endotoxins	0.05EU/mg max	Confirm
Assay (on dry base)	96-103%	98.5%
Conclusion	The above result complies with CP 2010 standard.	

HAIQIANG CHEMICALS CO.LTD  
QUALITY CONTROL:  
QUALITY CONTROL DEP.

CHECK: 姚仙娟

INSPECTOR: 刘清风

Add: RM1605, ZhongDa Plaza, Building 1, NO.366, Zhongshan North Road, Hangzhou, China.