



## PT CHEIL JEDANG INDONESIA

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February 08<sup>th</sup>, 2015

### CERTIFICATE OF ANALYSIS

Commodity : L-Arginine Hydrochloride  
Stuffing Date : February 06<sup>th</sup>, 2015  
Production Date : Nov 19<sup>th</sup>, 2014  
Lot. No. : BHF141119  
Packaging : 25 kg/Drum Kraf  
Quantity : 0.500 M/T  
Destination : New York, USA  
Container No : SEGU 1737809  
PO No. : 4500028566  
Manufactured by : PT. Cheil Jedang Indonesia

#### 1. Description

Odourless, colourless or white crystals, or a white crystalline powder

#### 2. Identification tests

Solubility : soluble in water, sparingly soluble in alcohol, and practically insoluble in ether.

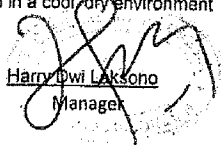
#### 3. Specification:

This product meets quality requirements of current EP 8th, USP 37 and FCC monographs

No	Items	Limits	Results	
			BHF141119	
1	Assay (HPLC)	99.0 ~ 101.0 %	100.81	
2	Clarity and color of Solution	Passes test	Passes test	
3	Status of Solution	Not less than 98.0 %	98.38	
4	pH	4.7 ~ 6.2	5.28	
5	Bulk Density	- g/ml	0.71	
6	Specific Optical Rotation	20°C: +22.1° ~ +22.9°	+22.74	
7	Loss on Drying (105°C, 3 hrs)	Not more than 0.2%	0.15	
8	Identification	Conform to USP STD	Passes test	
9	Inorganic Impurities	Residue on ignition	Not more than 0.1 %	Passes test
		Chloride	16.6 ~ 17.0%	16.90
		Sulfate	Not more than 0.02 %	Passes test
		Ammonium	Not more than 0.02 %	Passes test
		Heavy metals	Not more than 5 ppm	Passes test
		Lead	Not more than 1 ppm	Passes test
		Arsenic	Not more than 1 ppm	Passes test
		Cadmium	Not more than 1 ppm	Passes test
		Mercury	Not more than 0.1 ppm	Passes test
	Iron	Not more than 10 ppm	Passes test	
10	Chromatographic Impurity	Not more than 0.5%	Not detected	
11	Organic volatile impurities	Meets the requirement	Passes test	
12	Microbiology	Total Viable Count	Not more than 100 cfu/g	< 10
		Yeast & Mould	Negative/g	Negative
		Coliforms	Negative/g	Negative
		Salmonella	Negative/25g	Negative
		E.coli	Negative/g	Negative
		Staphylococcus aureus	Negative/g	Negative
13	Expired	Years	3 (Three)	18.11.2017
14	Quantity	M/T		0.500

We certify that the quality of this product conforms to USP, EP and FCC.

L-Arginine Hydrochloride will remain stable and effective for 3 years or more from the date of production when stored in a cool, dry environment

  
Harry Dwi Laksono  
Manager

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