



## Testing method for Acetyl- L-carnitine HCL

1. Specific rotation:

5g of N-acetyl-L-carnitine HCL, accurately weighted, dissolved in 100ml volumetric flask, make up 5% water solution, calculate the specific rotation, then calculate according to the calculating formula.

$$[ \alpha ]^{20} = \frac{A}{c \times l}$$

a: data on the meter

c: v/w

l: rotation tube length

2. Residue on ignition:

Take 1g of N-acetyl-L-carnitine HCL to a crucible of have been ignition to constant weight, Ignite slowly to carbonization, cool to house temperature, add H<sub>2</sub>SO<sub>4</sub> 0.5-1ml, for humidification, heat with low temperature until the total evaporation of H<sub>2</sub>SO<sub>4</sub>, then Ignite at 700-800°C til total carbonization. Move into desiccator, cool to room Temperature. Finally ignite at 700-800°C to constant temperature. Residue on ignition should be less than 0.5%.

3. Heavy metal:

1g of N-acetyl-L-carnitine HCL, two colorimetric tubes.

Tube A: Add 1ml of standard solution of lead, mix with 2ml of acetate (PH 3.5), dilute into 25ml with water.

Tube B: Add 25ml of test solution, then add 2ml of thioacetamide into each of two Tube, wave the tube, lay up for 2 minutes, put two tubes on white paper, compare the Solution colour. Colour of tube B should not be deeper than colour of Tube A. Heavy metal should be less than 10ppm.

4. Arsenic

Prepare the standard arsenic speckle according to the Gutzeit method. Take 1g of sample, make the arsenic speckle. The colour should not be deeper than the standard arsenic speckle.

5. Solubility: make up 5% water solution. it is clarification.

6. PH: make up water solution 1g sample, 20ml water , use the precise PH testing paper to determine

7. water content:

Take N-acetyl-L-carnitine HCL sample 2.0000g, properly weighted, dry at 105°C for 2 hours.

$$\text{water content} = \frac{\Delta w}{wI} \times 100\%$$

Δw: weight lose

WI: sample weight

8. Assay:

. take 0.5g sample (W) , add water 50ml to desolve, add 2-3 drops of phenothalin as indicator. Add 0.1mol/l NaOH into it till the color of the liquid turn pink red in 30 sec. note the volumn of NaOH (V1). Blank calibration and the volumn of the NaOH is V0.



$$\% = \frac{(V1 - V0) \times c_{NaOH} \times 239.7}{W} \times 100\%$$

V1: the volumn of NaOH used

V0: the volumn of NaOH for blank calibration

W: sample weight

C: the concentration of NaOH