



# TANABE U.S.A., INC.

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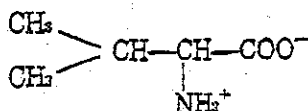
## L-Valine

JP12 USP23 EP3 DAB10

L-Val

### L-Valine

(S)-2-Amino-3-methylbutyric acid



CAS No.72-18-4

C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub>: 117.15  
 Nitrogen: 11.96%

L-Valine, when dried, contains not less than 98.5 percent and not more than 101.0 percent of L-Valine (C<sub>6</sub>H<sub>11</sub>NO<sub>2</sub>).

**Description:** White crystals or crystalline powder; tastes at first slightly sweet and then bitter.  
 Freely soluble in formic acid, soluble in water, practically insoluble in ethanol and in ether.  
 Dissolves in dilute hydrochloric acid.  
 Solubility (H<sub>2</sub>O, g/100g): 5.75 (20°C), 6.50 (40°C), 7.70 (60°C)

**Identification:** Compare the infrared absorption spectrum of the sample with that of the standard by potassium bromide disc method.

### Specifications

Item	Limit	Test
Specific rotation [ $\alpha$ ] <sub>D</sub> <sup>20</sup>	+27.6 to +28.7°	[dried sample, C=8, 6mol/L HCl] <sup>a</sup>
State of solution (Transmittance)	clear and colorless not less than 98.0%	[0.5g in 20mL of H <sub>2</sub> O, spectrophotometer, 430nm, 10mm cell thickness]
Chloride (Cl)	not more than 0.020%	[0.7g, A-1, ref: 0.40mL of 0.01mol/L HCl]
Ammonium (NH <sub>4</sub> )	not more than 0.02%	[B-2]
Sulfate (SO <sub>4</sub> )	not more than 0.020%	[1.2g, (1), ref: 0.50mL of 0.005mol/L H <sub>2</sub> SO <sub>4</sub> ]
Iron (Fe)	not more than 10ppm	[1.5g, ref: 1.5mL of Iron Std. (0.01mg/mL)]
Heavy metals (Pb)	not more than 10ppm	[2.0g, (1), dissolve by warming, ref: 2.0mL of Pb Std. (0.01mg/mL)]
Arsenic (As <sub>2</sub> O <sub>3</sub> )	not more than 1ppm	[2.0g, (1), ref: 2.0mL of As <sub>2</sub> O <sub>3</sub> Std.]
Other amino acids	conforms	[test sample: 50µg, B-8-a, control; L-Val 0.25µg]
Loss on drying	not more than 0.20%	[at 105°C for 3 hours]
Residue on Ignition (sulfated)	not more than 0.10%	
Assay	98.5 to 101.0%	[dried sample, 120mg, (1), 3mL of formic acid, 50mL of glacial acetic acid, 0.1mol/L HClO <sub>4</sub> , 1mL=11.715mg C <sub>6</sub> H <sub>11</sub> NO <sub>2</sub> ]
pH	5.5 to 6.5	[1.0g in 20mL of H <sub>2</sub> O]