

**KYOWA HAKKO BIO CO., LTD.**

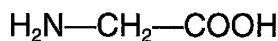
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<http://www.kyowahakko-bio.co.jp/>**Specification of GLYCINE (AMINOACETIC ACID)** CAS No.: 56-40-6

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Revision index: 16

**MOLECULAR  
STRUCTURE  
AND FORMULA**C<sub>2</sub>H<sub>5</sub>NO<sub>2</sub>: 75.07  
N: 18.66%**DESCRIPTION**White crystals or crystalline powder  
Odorless  
Sweet taste**SPECIFICATION  
AND PROCEDURE**

Test Item	Acceptance Criteria	Methods
APPEARANCE	WHITE CRYSTALLINE POWDER	Visual
IDENTIFICATION	PASS TEST	IR
STATE OF SOLUTION (T%)	NOT LESS THAN 97.0%	In-house
pH	5.9 ~ 6.4	JP
AMMONIUM (NH <sub>4</sub> )	NOT MORE THAN 0.020%	In-house
CHLORIDE (Cl)	NOT MORE THAN 0.007%	JP
SULFATE (SO <sub>4</sub> )	NOT MORE THAN 0.006%	JP
IRON (Fe)	NOT MORE THAN 10 ppm	In-house
HEAVY METALS (Pb)*	NOT MORE THAN 10 ppm	JP
ARSENIC (As <sub>2</sub> O <sub>3</sub> )	NOT MORE THAN 1 ppm	In-house
RELATED SUBSTANCES (AAA <sup>1</sup> ) ANY DETECTABLE IMPURITY TOTAL IMPURITIES	NOT MORE THAN 0.10% NOT MORE THAN 1.0%	In-house
RELATED SUBSTANCES (HPLC <sup>2</sup> ) ANY DETECTABLE IMPURITY TOTAL IMPURITIES	NOT MORE THAN 0.10% NOT MORE THAN 0.2%	EP
LOSS ON DRYING	NOT MORE THAN 0.20%	JP
RESIDUE ON IGNITION	NOT MORE THAN 0.10%	JP
ENDOTOXIN**	LESS THAN 6.0 EU/g	JP
ASSAY(DRY BASIS)	98.5 ~ 101.0%	JP
TOTAL COUNT (CFU)***	NOT MORE THAN 1,000/g	JP
YEAST AND MOLDS (CFU)***	NOT MORE THAN 100/g	JP
E. COLI***	NEGATIVE /g	JP

<sup>1</sup> AAA: Amino acid analysis, <sup>2</sup> HPLC: Liquid chromatography

\* Heavy Metals (Pb): "Not more than 5 ppm" will be supplied on request.

\*\* The endotoxin-certified grade will be supplied on request.

\*\*\* The microbiological parameters are tested and confirmed for every lot although they are not indicated on the Certificate of Analysis.

**STATEMENT**

The specification meets or exceeds the current JP, USP and EP product monographs and residual solvents requirements of USP and EP. Made in Japan without using any animal origin raw materials. The FCC-certified grade (Insoluble Foreign Matter: Pass Test) will be supplied on request.

**STORAGE**

Keep containers tightly closed in a dry, well-ventilated place at room temperature

**RETEST DATE**

3 years from manufacturing date