



NEWAY SINOPHC TECH. LIMITED

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Certificate of Analysis (Tupinal-SI (=HEDP))

Issue Date: 29 FEB 2026 Quality Release Date: 29 FEB 2026

Product Name

Tupinal-SI (=HEDP) 1-Hydroxyethylidene-1,1-diphosphonic Acid

Product Information

Product Number HEDP-20260229

Batch Number HEDP-SH2026022901

Brand SIGALD

CAS Number 2809-21-4

MDL Number MFCD00002120

Formula $C_2H_8 O_7 P_2$

Formula Weight 206.03 g/mol

Form Colorless to pale yellow clear aqueous liquid

Test Results

Test	Specification (Industry Standard)	Result	Unit	Test Method
Appearance (Color/Form)	Colorless to pale yellow clear liquid, no sediment	Conforms	-	Visual Inspection (25°C)
Assay (HEDP)	≥ 50.0%	52.3%	%	Potentiometric Titration
pH Value (1% aqueous solution, 25°C)	1.0 ~ 3.0	1.8	-	Digital pH Meter
Phosphorous Acid (H_3PO_3)	≤ 1.0%	0.4%	%	Iodometric Titration
Orthophosphoric Acid (H_3PO_4)	≤ 0.5%	0.2%	%	Mo-Sb Colorimetric Method
Chloride (Cl^-)	≤ 0.01%	0.003%	%	Volumetric Titration
Sulfate (SO_4^{2-})	≤ 0.01%	0.002%	%	Turbidimetric Method
Heavy Metals (Pb)	≤ 5 ppm	0.6 ppm	ppm	Atomic Absorption Spectrometry (AAS)
Iron (Fe)	≤ 10 ppm	3.2 ppm	ppm	Atomic Absorption Spectrometry (AAS)
Density (25°C)	1.30 ~ 1.38 g/cm ³	1.35 g/cm ³	g/cm ³	Hydrometer Method
Calcium Sequestering Power	≥ 300 mg CaCO ₃ /g	328 mg CaCO ₃ /g	mg CaCO ₃ /g	Complexometric Titration

Certification

This batch of product has been tested in accordance with industrial standards for HEDP (Tupinal-SI) and meets all specified requirements. It is qualified for use in water treatment, industrial scale inhibition, metal corrosion inhibition and cosmetic chelating agent fields.