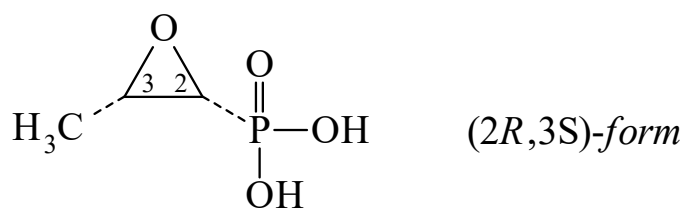




>>Entry Name: (3-Methyloxiranyl)phosphonic acid, 9CI

Synonym(s): (1,2-Epoxypropyl)phosphonic acid, 8CI. 3-Methyl-2-oxiranephosphonic acid



CAS Registry Number: 23112-90-5

Related CAS Registry Numbers(s): 26016-98-8 26016-99-9

Molecular Formula: C₃H₇O₄P

Molecular Weight: 138.06

Accurate Mass: 138.008197

Percentage Composition: C 26.10%; H 5.11%; O 46.36%; P 22.44%

>>Variant: (2R,3S)-form

Synonym(s): (–)-*cis*-form. **Fosfomycin**, BAN, INN, USAN. Phosphonomycin. MK 955. Antibiotic MK 955. Antibiotic 833A. Phosphomycin

CAS Registry Number: 23155-02-4

Molecular Formula: C₃H₇O₄P

Molecular Weight: 138.06

Accurate Mass: 138.008197

Percentage Composition: C 26.10%; H 5.11%; O 46.36%; P 22.44%

Biological Source: Isol. from *Streptomyces* spp.

Biological Use/Importance: Broad spectrum bactericide acting on early stages in synth. of cell wall. Low toxicity. V. effective against gram-negative bacteria, incl. resistant *S. aureus* spp.

Solubility: BERDY SOL: Sol. H₂O; poorly sol. MeOH, hexane

Calculated Log P Data: Log P –0.26 (uncertain value) (calc)

UV: [neutral] λ_{max} 0 (end) (ε) (H₂O) (Derep) [neutral] λ_{max} (H₂O) (Berdy)

Hazard & Toxicity: BERDY HAZD : LD₅₀ (mus, ipr) 4000 mg/kg

>>Derivative: Di-Na salt

CAS Registry Number: 26016-99-9

Physical Description: Solid

Optical Rotation: [α]₄₀₅²⁸ –14 (c, 5 in H₂O)

Hazard & Toxicity: LD₅₀ (rat, orl) 4550 mg/kg. Exp. reprod. and teratogenic effects

Fluka: 79492

Sigma: P5396

>>Derivative: Ca salt

Synonym(s): Fosfomycin calcium, JAN

CAS Registry Number: 26472-47-9

Physical Description: Solid

Melting Point: Mp 250°

Optical Rotation: [α]₄₀₅²⁸ –12 (in 0.4M ethylenediamine aq.). [α]_D +3.8 (c, 0.7 in H₂O)

>>Derivative: Monobenzyllammonium salt

CAS Registry Number: 24349-90-4

Physical Description: Solid

Melting Point: Mp 170-174° (sealed tube)

Optical Rotation: [α]₄₀₅ –9.1 (c, 5 in H₂O)

>>Derivative: Mono-(+)-1-phenylethylammonium salt

CAS Registry Number: 25383-07-7

Physical Description: Cryst. (EtOH)

Melting Point: Mp 169-171° (131-132°, 139-140°)

Optical Rotation: [α]₄₀₅²⁸ –2.6

>>Derivative: Monoamphetamine salt