



>>Entry Name: 2-Amino-6-diazo-5-oxohexanoic acid

Synonym(s): 6-Diazo-5-oxonorleucine, 9Cl. DON. NSC 7365



CAS Registry Number: 764-17-0

Molecular Formula: C₆H₉N₃O₃

Molecular Weight: 171.155

Accurate Mass: 171.064392

Percentage Composition: C 42.11%; H 5.30%; N 24.55%; O 28.04%

General Statement: Amino acid antibiotic

Use/Importance: Antineoplastic agent active against human carcinoma but of limited use owing to toxicity

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

UV: [neutral] λ_{max} 244 (E1%/1cm 376); 274 (E1%/1cm 683) (pH 7 buffer) (Berdy) [acid] λ_{max} (HCl) (Berdy) [neutral] λ_{max} 274 (ε 10889) (H₂O) (Berdy)

Hazard & Toxicity: BERDY HAZD : LD₅₀ (mus, ivn) 62 - 90 mg/kg

>>Variant: (R)-form

Synonym(s): D-form

CAS Registry Number: 71629-86-2

Molecular Formula: C₆H₉N₃O₃

Molecular Weight: 171.155

Accurate Mass: 171.064392

Percentage Composition: C 42.11%; H 5.30%; N 24.55%; O 28.04%

Physical Description: Cryst. (EtOH aq.)

Optical Rotation: [α]_D²⁵ -16.1 (c, 1.98 in H₂O)

Sigma: D0778

>>Variant: (S)-form

Synonym(s): L-form

CAS Registry Number: 157-03-9

Molecular Formula: C₆H₉N₃O₃

Molecular Weight: 171.155

Accurate Mass: 171.064392

Percentage Composition: C 42.11%; H 5.30%; N 24.55%; O 28.04%

Biological Source: Prod. by *Streptomyces ambofaciens*

Physical Description: Yellow cryst. (EtOH aq.)

Melting Point: Mp 142-150 dec.°

Optical Rotation: [α]_D²⁶ +21 (c, 5.4 in H₂O)

Other Data: Unstable in soln., v. unstable in acid or alkali. λ_{max} 244, 274 nm (H₂O). Pharmacol. active isomer

Hazard & Toxicity: LD₅₀ (mus, orl) 197 mg/kg. Exp. reprod. and teratogenic effects

Fluka: 33515

Sigma: D2141

>>Derivative: N-Ac

Synonym(s): N-Acetyl-6-diazo-5-oxo-L-norleucine, 9Cl. **Duazomycin**, INN, USAN. Duazomycin A. N-Acetyl DON. Antibiotic BA 8509A. NSC 51097. Diazamycin A. BA 8509A

CAS Registry Number: 2508-89-6

Molecular Formula: C₈H₁₁N₃O₄

Molecular Weight: 213.193

Accurate Mass: 213.074957

Percentage Composition: C 45.07%; H 5.20%; N 19.71%; O 30.02%

Biological Source: From *Streptomyces ambofaciens*

Use/Importance: Active against tumours, yeast and gram-positive bacteria

Physical Description: Yellow powder

Solubility: BERDY SOL: Sol. H₂O, MeOH, butanol; poorly sol. Me₂CO, hexane

UV: [neutral] λ_{max} 245 (sh) (ε 5330); 275 (ε 10700) (MeOH) (Derep) [neutral] λ_{max} 245 (E1%/1cm 228); 275 (E1%/1cm 440) (MeOH) (Berdy) [neutral] λ_{max} 245 (E1%/1cm 315); 275 (E1%/1cm 530) (pH 7 buffer) (Berdy)