



>>Entry Name: Betaine

Synonym(s): Carboxy-*N,N,N*-trimethylmethanaminium hydroxide inner salt, 9Cl. (Carboxymethyl)trimethylammonium. Glycine betaine. Glycocoll betaine. Lycine. Abromine. Pluchine. Oxyneurine

CAS Registry Number: 107-43-7

Related CAS Registry Numbers(s): 590-47-6



Molecular Formula: C₅H₁₁NO₂

Molecular Weight: 117.147

Accurate Mass: 117.078979

Percentage Composition: C 51.26%; H 9.46%; N 11.96%; O 27.31%

Biological Source: Prod. by *Aspergillus oryzae*, *Patella vulgata*, *Claviceps purpurea* and other fungi. Occurs widely in plants and animals. Alkaloid from *Abroma augusta* (Sterculiaceae)

Use/Importance: May play a part in cytoplasmic osmoregulation. Causes myoatrophy in combination with Guanidinoacetic acid [CVS98-F](#)

Physical Description: Deliquescent scales or cryst.; cryst. + 1H₂O (H₂O)

pKa Value: p*K*_a 3.84 (free acid)

Other Data: Dec. at ca. 310° (293-4°) with isom. to Me₂NCH₂COOMe

Hazard & Toxicity: LD₅₀ (mus, scu) 10800 mg/kg

Aldrich: 21906-1

Fluka: 14290

Rare Chemicals Library: S39806-3

Sigma: B5648

>>Derivative: Monohydrate

Synonym(s): Trimethylglycine hydroxide. Pluchine

CAS Registry Number: 17146-86-0

Use/Importance: Lipotropic

Physical Description: Cryst.

Other Data: Loses water at 100° to form inner salt

Fluka: 14300

>>Derivative: Hydrochloride

Synonym(s): Betaine hydrochloride, *USAN*. Acidol. Lysine hydrochloride. Achylin. Acidin. Acinorm. Acipepsol. Aciventral forte. Euacid. Muriat. Pepsacid

CAS Registry Number: 590-46-5

Use/Importance: Used in solders, fluxes and in org. synth. Lipotropic. Electrolyte replenisher, gastric acidifier

Physical Description: Needles

Melting Point: Mp 243-244 dec.°

Optical Rotation: [*α*]_D²⁰ -29.51 (H₂O)

Aldrich: 14793-1

Fluka: 14295

Rare Chemicals Library: S91431-2

Sigma: B3501

>>Derivative: Aspartate (1:1)

Synonym(s): Hepastyl. Somabet. Somatyl

CAS Registry Number: 52921-08-1

Use/Importance: Used in treatment of liver and stomach disorders

>>Derivative: Picrate

Physical Description: Yellow prisms (H₂O)

Melting Point: Mp 181-182°

>>Derivative: Chloride

see 2-Chloro-*N,N,N*-trimethyl-2-oxoethanaminium(1+), [DGN71-D](#)

References: