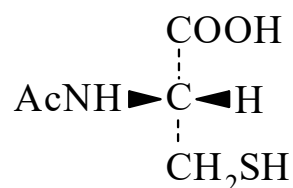




>>Entry Name: *N*-Acetylcysteine

ENTRY UNDER REVIEW

Synonym(s): 2-Acetamido-3-mercaptopropanoic acid. **Acetylcysteine**, BAN, INN, USAN



Molecular Formula: C₅H₉NO₃S

Molecular Weight: 163.197

Accurate Mass: 163.030314

Percentage Composition: C 36.80%; H 5.56%; N 8.58%; O 29.41%; S 19.65%

Biological Use/Importance: Mucolytic agent. Also used as an antidote to paracetamol poisoning

Calculated Log P Data: Log P −0.64 (calc)

Hazard & Toxicity: Adverse effects reported when used therapeutically. LD₅₀ (rat, orl) 5050 mg/kg

>>Variant: (*R*)-form

Synonym(s): L-form. Airbron. Fabrol. Mucomyst. Parvalex. Respaire. Fluimucil. NSC 111180

CAS Registry Number: 616-91-1

Molecular Formula: C₅H₉NO₃S

Molecular Weight: 163.197

Accurate Mass: 163.030314

Percentage Composition: C 36.80%; H 5.56%; N 8.58%; O 29.41%; S 19.65%

Use/Importance: Effective inhibitor of enzymic browning in foods

Physical Description: Cryst. (H₂O)

Melting Point: Mp 109-110°

Optical Rotation: [α]_D +5 (c, 3 in H₂O)

Other Data: Pharmacol. active isomer

Aldrich: 13806-1

Fluka: 1039

Sigma: A9165

>>Derivative: *S*-Ac

Synonym(s): Diacetylcysteine. **Dacisteine**, INN. EL 1035

CAS Registry Number: 18725-37-6

Molecular Formula: C₇H₁₁NO₄S

Molecular Weight: 205.234

Accurate Mass: 205.040879

Percentage Composition: C 40.97%; H 5.40%; N 6.82%; O 31.18%; S 15.62%

Biological Use/Importance: Mucolytic agent

Melting Point: Mp 120.5-122.5°

Optical Rotation: [α]_D²⁵ −42 (c, 2 in H₂O)

Calculated Log P Data: Log P −0.6 (uncertain value) (calc)

>>Derivative: *S*-2-Hydroxybenzoyl ester

Synonym(s): *N*-Acetyl-cysteine salicylate. **Salnacedin**, INN, USAN

CAS Registry Number: 87573-01-1

Molecular Formula: C₁₂H₁₃NO₅S

Molecular Weight: 283.304

Accurate Mass: 283.051444

Percentage Composition: C 50.88%; H 4.62%; N 4.94%; O 28.24%; S 11.32%

Biological Use/Importance: Antiinflammatory agent

>>Derivative: *S*-2-Hydroxybenzoyl, compd. with Erythromycin

Synonym(s): **Erythromycin salnacedin**, USAN

CAS Registry Number: 149908-23-6

Biological Use/Importance: Used in the treatment of acne vulgaris