



>> **Name:** Ammonium carbonate, USAN

ENTRY UNDER REVIEW

Synonym(s): Carbonic acid ammonium salt. Diammonium carbonate. Sal volatile. Hartshorn

CAS Registry Number: 10361-29-2

Related CAS Registry Numbers(s): 506-87-6

Extra CAS Registry Numbers(s): 8000-73-5

$(\text{NH}_4)_2\text{CO}_3$

Molecular Formula: $\text{CH}_8\text{N}_2\text{O}_3$

Molecular Weight: 96.086

Accurate Mass: 96.053493

Percentage Composition: C 12.50%; H 8.39%; N 29.15%; O 49.95%

Source/Synthesis: Synth. from aq. $\text{NH}_3 + \text{CO}_2$

Use/Importance: Commercially available. Used in baking powders, in tanning, as dye mordant, in manuf. rubber articles, casein glue, smelling salts, fire extinguishers, as analytical reagent, as source of NH_3 (pharmaceut.) and as an expectorant

Physical Description: Colourless cryst. Strong odour of NH_3 . Sharp taste

Melting Point: Mp 58 dec.°

Solubility: V. sol. H_2O

Other Data: Dec. in air $\rightarrow \text{NH}_3 + \text{CO}_2 + \text{H}_2\text{O}$. Converts to [KKS21-O](#)

Hazard & Toxicity: LD₅₀ (mus, ivn) 96 mg/kg

>> **Derivative:** Monohydrate

CAS Registry Number: 16799-91-0

Molecular Formula: $\text{CH}_{10}\text{N}_2\text{O}_4$

Molecular Weight: 114.101

Accurate Mass: 114.064058

Percentage Composition: C 10.53%; H 8.83%; N 24.55%; O 56.09%

Physical Description: Colourless cubes

Solubility: V. sol. cold H_2O ; dec. hot H_2O

>> **Derivative:** Compd. with H_2O_2

Synonym(s): Ammonium carbonate peroxohydrate

CAS Registry Number: 76261-70-6

Molecular Formula: $\text{CH}_{10}\text{N}_2\text{O}_5$

Molecular Weight: 130.1

Accurate Mass: 130.058973

Percentage Composition: C 9.23%; H 7.75%; N 21.53%; O 61.49%

Source/Synthesis: Synth. by cryst. of soln. of NH_4HCO_3 in aq. H_2O_2 at 5°

Physical Description: Colourless cryst.

References:

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Jones, D.P. *et al.*, *J.C.S. Dalton*, 1980, 2526, (synth, ir, Raman)

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