>>**Entry Name: Potassium carbonate (K_2CO_3)**
ENTRY UNDER REVIEW
Synonym(s): Carbonic acid, dipotassium salt, $_{8Cl}$. Pearl ash

CAS Registry Number: 584-08-7

K_2CO_3

Molecular Formula: CK_2O_3
Molecular Weight: 138.206
Accurate Mass: 137.912159
Percentage Composition: C 8.69%; K 56.58%; O 34.73%
Source/Synthesis: Synth. by reaction of CO_2 with KOH dissolved in MeOH or EtOH, or by thermal dehydration of the sesquihydrate
Use/Importance: Commercially available. Catalyst for coal gasification. Also used in photographic developers, fire extinguishers and the production of speciality glasses and ceramics
Biological Use/Importance: Diuretic
Physical Description: Hygroscopic colourless monoclinic cryst. Undergoes polymorphic change at 250°. Dec. on heating with CO_2 loss
Melting Point: Mp 901°
Solubility: V. sol. H_2O (112 g per 100 cm^3 at 20°; 156 g per 100 cm^3); insol. EtOH, Me_2CO
Other Data: ΔH_f° –1150 kJ mol^{-1}; ΔG_f° –1065 kJ mol^{-1}; S° 155.5 J K^{-1} mol^{-1}
Hazard & Toxicity: Irritant
Aldrich: 31026-3
Fluka: 60110
Sigma: P4379

>>**Derivative:** Sesquihydrate

CAS Registry Number: 6381-79-9
Molecular Formula: $C_2H_6K_4O_9$
Molecular Weight: 330.457
Accurate Mass: 329.856013
Percentage Composition: C 7.27%; H 1.83%; K 47.33%; O 43.57%
Source/Synthesis: Cryst. from aq. solns. of K_2CO_3 at 40°
Use/Importance: Commercially available
Physical Description: Colourless monoclinic cryst. Dec. on heating with H_2O loss (–½ H_2O at 235°; –1½ H_2O at 273°)
Solubility: V. sol. H_2O (268 g per 100 cm^3 at 100°); insol. EtOH
Hazard & Toxicity: Irritant
Aldrich: 24355-8
Fluka: 60115
Sigma: P2808

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