>>**Entry Name: Potassium peroxymonosulfate**
Synonym(s): Peroxymonosulfuric acid, monopotassium salt, $_{8Cl}$. Potassium caroate. Potassium monopersulfate

CAS Registry Number: 10058-23-8
Related CAS Registry Numbers(s): 25482-78-4

$K[S(O)_3OOH]$

Molecular Formula: HKO_5S
Molecular Weight: 152.169
Accurate Mass: 151.918177
Percentage Composition: H 0.66%; K 25.69%; O 52.57%; S 21.07%

salt $K_5(HSO_5)_2(HSO_4)(SO_4)$
Source/Synthesis: Synth. by (i) addition of aq. K_2CO_3 to aq. H_2SO_5 obt. by mixing H_2O_2 and oleum or (ii) treatment of $KHSO_4$ with aq. H_2O_2 at 80° or (iii) reaction of $K_2S_2O_8$ with aq. H_2O_2 at 60°
Use/Importance: Powerful oxidising agent used as a bleach and bactericidal disinfectant. Component of acrylonitrile polym. catalysts
Physical Description: Opaque cryst.
Melting Point: Mp 109°
Solubility: Sol. H_2O
Hazard & Toxicity: Parent acid highly explosive. Salt forms explosive mixtures with organic matter

>>**Derivative:** Monohydrate

CAS Registry Number: 14696-73-2
Molecular Formula: H_3KO_6S
Molecular Weight: 170.184
Accurate Mass: 169.928742
Percentage Composition: H 1.78%; K 22.97%; O 56.41%; S 18.84%
Source/Synthesis: Synth. by slow cryst. from an aq. soln. obt. by addition of K_2CO_3 (50%) to a monopersulfuric acid soln. (H_2SO_5 61.6, H_2O_2 3.5, H_2SO_4 20 wt%)
Physical Description: Monoclinic cryst. (H_2O)
Solubility: Sol. H_2O
Other Data: Interatomic distances: S-O_{peroxo} 163, O-O_{peroxo} 146 pm

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