>>**Entry Name: Sodium bromate(*V*)**
Synonym(s): Bromic(*V*) acid, sodium salt, 8CI

CAS Registry Number: 7789-38-0
$NaBrO_3$

Molecular Formula: $BrNaO_3$
Molecular Weight: 150.892
Accurate Mass: 149.912848
Percentage Composition: Br 52.95%; Na 15.24%; O 31.81%

Source/Synthesis: Manuf. by electrolysis of aq. NaBr. Synth. (with NaBr) by adding bromine to aq. NaOH. Also prepared by mixing aq. solns. of Na_2SO_4 and $Ba(BrO_3)_2$
Use/Importance: Commercially available. Component of oxidising solns. Used to set hair. Component of the Belousov-Zhabotinskii oscillating reaction (malonic acid, H_2SO_4, $Ce_2(SO_4)_3$, [or $[Fe(bipy)_3]^{2(+)}$] and $NaBrO_3$)
Physical Description: Colourless cubic cryst. Dec. on heating with O_2 evolution and formation of NaBr
Solubility: V. sol. H_2O (28 g per 100 cm^3 at 0°; 91 g per 100 cm^3 at 100°); insol. EtOH
Other Data: ΔH_f° –334 kJ mol^{-1}; ΔG_f° –243 kJ mol^{-1}; S° 129 JK^{-1} mol^{-1}
Hazard & Toxicity: Oxidiser, irritant

Aldrich: 22487-1
Fluka: 71325

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