



>>Entry Name: Potassium periodate (KIO₄)

Synonym(s): Potassium iodate(VII). Periodic acid, potassium salt, 8Cl. Iodic(VII) acid, potassium salt. Potassium metaperiodate

CAS Registry Number: 7790-21-8

Related CAS Registry Numbers(s): 15056-35-6

KIO₄

Molecular Formula: KIO₄

Molecular Weight: 230

Accurate Mass: 229.84784

Percentage Composition: I 55.18%; K 17.00%; O 27.82%

Source/Synthesis: Synth. by bubbling chlorine through aq. soln. of KI and NaOH

Use/Importance: Commercially available. Used in the dyeing industry to improve fixing, and as an oxidising agent

Physical Description: Colourless tetragonal cryst.

Melting Point: Mp 582°

Solubility: Spar. sol. H₂O (0.66 g per 100 cm³ at 13°)

Other Data: ΔH_f° -467 kJ mol⁻¹; ΔG_f° -361 kJ mol⁻¹; S° 176 J K⁻¹ mol⁻¹

Hazard & Toxicity: Oxidiser, irritant

Aldrich: 21005-6

Fluka: 60451

Sigma: P0517

References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 1255D, (ir)

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Griffiths, T.R. *et al.*, *Anal. Chem.*, 1959, **31**, 1338, (uv)

Schlessinger, G.G., *Gannon Coll. Chem. J.*, 1965, **1**, (synth)

Dratovsky, M. *et al.*, *Coll. Czech. Chem. Comm.*, 1971, **36**, 3810, (ir)

Segel, S.L. *et al.*, *J. Chem. Phys.*, 1980, **72**, 1406, (I-127 nmr)

Shurvell, H.F. *et al.*, *Can. J. Spectrosc.*, 1981, **26**, 44, (Raman)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 2908A, (haz)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, PLO750