



>>Entry Name: Magnesium iodate(V) (Mg(IO₃)₂)

Synonym(s): Iodic(V) acid, magnesium salt, 8Cl

CAS Registry Number: 7990-32-1

Mg(IO₃)₂

Molecular Formula: I₂MgO₆

Molecular Weight: 374.11

Accurate Mass: 373.763478

Percentage Composition: I 67.84%; Mg 6.50%; O 25.66%

Use/Importance: Component of thermochemical hydrogen cycles involving reaction between MgO and I₂ in H₂O; the Mg(IO₃)₂ so formed is dec. thermally to MgO, I₂ and O₂

Physical Description: Colourless hexagonal cryst.

Other Data: ΔH_f° -905.6 kJ mol⁻¹. Dec. on heating with I₂ and O₂ loss to give MgO via Mg₅(IO₆)₂. Forms glasses in the system Mg(IO₃)₂...HIO₃...H₂O

Hazard & Toxicity: Oxidiser, irritant

>>Derivative: Tetrahydrate

CAS Registry Number: 13446-17-8

Molecular Formula: H₈I₂MgO₁₀

Molecular Weight: 446.171

Percentage Composition: H 1.81%; I 56.89%; Mg 5.45%; O 35.86%

Source/Synthesis: Cryst. from aq. solns. of Mg(IO₃)₂

Use/Importance: Commercially available

Physical Description: Colourless monoclinic cryst. (H₂O)

Other Data: ΔH_f° -2092.8 kJ mol⁻¹

References:

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