



>>Entry Name: Hydrogen iodide

Synonym(s): Hydriodic acid, 9CI

CAS Registry Number: 10034-85-2

Related CAS Registry Numbers(s): 14104-45-1
HI

Molecular Formula: HI

Molecular Weight: 127.912

Accurate Mass: 127.912298

Percentage Composition: H 0.79%; I 99.21%

Source/Synthesis: Formed by catalytic combination of H₂ and I₂. Also prepd. by reaction of H₂S or N₂H₄ with I₂ or by reaction of solid I₂ with tetrahydronaphthalene

Use/Importance: Used in the synth. of iodo compds. Commercially available

Physical Description: Colourless, acrid, non-flammable gas. Turns yellow or brown on exposure to light or air. When heated, dec. to H₂ and I₂. Aq. solns. are strongly acid. Attacks natural rubber

Melting Point: Mp -51°

Boiling Point: Bp -35°

Solubility: V. sol. H₂O; spar sol. org. solvs.

Other Data: ΔH_f° 26.48 kJ mol⁻¹; ΔG_f° 1.72 kJ mol⁻¹; S_f° 206.48 J K⁻¹ mol⁻¹. Ir $\nu_{\text{H-I}}$ 2309 cm⁻¹

Hazard & Toxicity: Mildly toxic. Irritant to skin and eyes

Aldrich: 39809-8

Fluka: 58162

Sigma: H0397

References:

Inorg. Synth., 1939, **1**, 157; 1963, **7**, 180, (*synth*)

Irving, H. *et al.*, *Chem. Ind. (London)*, 1964, 653, (*purif*)

Compr. Inorg. Chem., Pergamon, Oxford, 1973, **2**, 1280, (*rev*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 299, (*synth*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **4**, 244, (*rev*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1990, **15**, 166, (*use*)

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