>>**Entry Name: Magnesium iodide (MgI_2),** 8CI

CAS Registry Number: 10377-58-9
Related CAS Registry Numbers(s): 29054-07-7

MgI_2

Molecular Formula: I_2Mg
Molecular Weight: 278.114
Accurate Mass: 277.793988
Percentage Composition: I 91.26%; Mg 8.74%

Source/Synthesis: Prepd. e.g. by reaction of Mg metal with NH_4I in liq. NH_3
Use/Importance: Catalyst for Diels-Alder reactions
Physical Description: Deliquescent colourless hexagonal cryst.
Melting Point: Mp 634°
Solubility: V. sol. H_2O (148 g per 100 cm^3 at 18°; 165 g per 100 cm^3 at 110°); sol. EtOH, Et_2O, *N*,*N*-diisopropylethylamine
Other Data: ΔH_f° –367 kJ mol^{-1}; ΔG_f° –361 kJ mol^{-1}; S° 130 J K^{-1} mol^{-1}

Aldrich: 39459-9
Fluka: 63073

>>**Derivative:** Hexahydrate

CAS Registry Number: 66778-21-0
Molecular Formula: $H_{12}I_2MgO_6$
Molecular Weight: 386.205
Accurate Mass: 385.857378
Percentage Composition: H 3.13%; I 65.72%; Mg 6.29%; O 24.86%
Source/Synthesis: Prepd. from octahydrate
Physical Description: Undergoes pyrolytic hydrolysis forming MgO via $Mg(OH)I.H_2O$ and $Mg_2(OH)_3I$

>>**Derivative:** Octahydrate

CAS Registry Number: 7790-31-0
Molecular Formula: $H_{16}I_2MgO_8$
Molecular Weight: 422.236
Accurate Mass: 421.878508
Percentage Composition: H 3.82%; I 60.11%; Mg 5.76%; O 30.31%
Source/Synthesis: Synth. either by reaction of MgO with aq. HI (57%) or by dropwise addition of H_2O to an intimate mix of iodine and powdered Mg
Physical Description: Dec. on heating initially with loss of H_2O and finally with pyrolytic hydrolysis to form MgO

>>**Derivative:** Et_2O complex (1:2)

CAS Registry Number: 29964-67-8
Molecular Formula: $C_8H_{20}I_2MgO_2$
Molecular Weight: 426.359
Accurate Mass: 425.940318
Percentage Composition: C 22.54%; H 4.73%; I 59.53%; Mg 5.70%; O 7.51%
Source/Synthesis: Obt. e.g. by disproportionation of RMgI
Physical Description: Colourless triclinic plates

References:

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