



>>Entry Name: Magnesium bromide (MgBr₂), 8Cl

CAS Registry Number: 7789-48-2

MgBr₂

Molecular Formula: Br₂Mg

Molecular Weight: 184.113

Accurate Mass: 181.861714

Percentage Composition: Br 86.80%; Mg 13.20%

Source/Synthesis: Prepd. by reaction of magnesium metal with [NH₄]Cl in liq. NH₃

Use/Importance: Catalyst for esterification. Used to convert organolithium reagents into Grignard reagents

Biological Use/Importance: Anticonvulsant and sedative

Physical Description: White, hexagonal cryst.; deliquescent

Melting Point: Mp 711°

Solubility: V. sol. H₂O (101.5 g per 100 cm³ at 20°, 125.6 g per 100 cm³ at 100°), sol. EtOH, MeOH

Other Data: ΔH_f° -524 kJ mol⁻¹; ΔG_f° -504 kJ mol⁻¹; S° 117 J K⁻¹ mol⁻¹

Hazard & Toxicity: Irritant

Aldrich: 36007-4

>>Derivative: Hexahydrate

Synonym(s): Hexaaquamagnesium(2+) dibromide

CAS Registry Number: 13446-53-2

Molecular Formula: Br₂H₁₂MgO₆

Molecular Weight: 292.204

Accurate Mass: 289.925104

Percentage Composition: Br 54.69%; H 4.14%; Mg 8.32%; O 32.85%

Use/Importance: Commercially available. Heat storage material used in conjunction with CaCl₂·6H₂O

Physical Description: Colourless, hygroscopic, monoclinic cryst.; dec. on heating with loss of H₂O and hydrol.

Melting Point: Mp 172.4°

Solubility: V. sol. H₂O (316 g per 100 cm³ H₂O at 0°); sol. Me₂CO, EtOH

Other Data: ΔH_f° -2410 kJ mol⁻¹; ΔG_f° -2056 kJ mol⁻¹; S° 397 J K⁻¹ mol⁻¹

Aldrich: 21684-4

Fluka: 63060

Sigma: M3263

>>Derivative: Et₂O complex

CAS Registry Number: 29858-07-9

Molecular Formula: C₄H₁₀Br₂MgO

Molecular Weight: 258.235

Accurate Mass: 255.934879

Percentage Composition: C 18.60%; H 3.90%; Br 61.88%; Mg 9.41%; O 6.20%

Use/Importance: Commercially available. Reagent for conversion of aliphatic ethylene oxides and cyclohexene oxides to corresp. ketones; Lewis acid catalyst for Diels-Alder reactions; reagent for selective removal of *p*-methoxybenzyl protecting groups

Physical Description: Colourless monoclinic cubes

Melting Point: Mp 300°

Hazard & Toxicity: Flammable

Aldrich: 22595-9

Fluka: 63057

>>Derivative: THF complex

Source/Synthesis: Synth. e.g. from Mg and Br₂ in THF

Physical Description: Orange soln. in THF

Other Data: Not isol. Used as soln. in THF

References: