

Grignard Reagents

Grignard Manufacturing at Weylchem US Inc.

Adding Value with Grignard reactions

One of the world's largest producers of custom chemicals, WeylChem offers the proper technical packages and production systems to reliably supply manufacturers with Grignard reagents and Grignard-derived intermediates anywhere in the world. What began in the 1970's as a strategy to produce flavorings synthetically using common Grignard reagents has expanded into industrial-scale production for the manufacturing industries of the world.

Today, we offer commercial Grignard reagents, uncommon Grignard reagents and Grignard-derived intermediates from pilot to industrial scale. If you plan to reconfigure your plant for new projects, or adopt chemistries and processes that change the economics of your in-house Grignard manufacturing capability, consider the manufacturing assets, laboratory services and decades of expertise offered by WeylChem Group of Companies.

Common and Uncommon Grignard Reagents

WeylChem's Grignard reagents have become a valuable tool for the formation of carbon-carbon bonds and for the formation of carbonphosphorus, carbon-tin, carbon-silicon, carbon-boron and other carbon-heteroatom bonds.

Weylchem offers a wide range of Grignard reagents:

Product	CAS	Formula
Allylmagnesium chloride	2622-05-1	C ₃ H ₅ ClMg
Benzylmagnesium chloride	6921-34-2	C ₇ H ₇ ClMg
Cyclohexylmagnesium chloride	931-51-1	C ₆ H ₁₁ ClMg
Ethylmagnesium bromide	925-90-6	C ₂ H ₅ BrMg
Ethylmagnesium chloride	2386-64-3	C ₂ H ₅ ClMg
Isobutylmagnesium bromide	926-62-5	C ₄ H ₉ BrMg
Isobutylmagnesium chloride	5674-02-2	C ₄ H ₉ ClMg
Isopropylmagnesium chloride	1068-55-9	C ₃ H ₇ ClMg
Vinylmagnesium chloride	3536-96-7	C ₂ H ₃ ClMg
Methylmagnesium chloride	676-58-4	CH ₃ ClMg
n-Butylmagnesium chloride	693-04-9	C ₄ H ₉ ClMg
Phenylmagnesium chloride	100-59-4	C ₆ H ₅ ClMg
t-Butylmagnesium chloride	677-22-5	C ₄ H ₉ ClMg
4-Tolylmagnesium chloride	696-61-7	C ₇ H ₇ ClMg

WeylChem Manufacturing Program Benefits

- ✔ 40 years of safe handling
- ✔ Industrial-scale capacity for commercial Grignard reagents
- ✔ Pilot plant to commercial 4,000 gallon scale
- ✔ Confidential handling of Grignard-derived intermediates
- ✔ Manufacturing services available on a commercial, custom or contract basis
- ✔ Multi-purpose, scalable facility for custom and specialty products
- ✔ In-house laboratory and technical services
- ✔ Robust packaging designed to handle hazardous chemistry

Core Technologies

Downstream Chemistry

With multipurpose facilities, WeylChem is equipped to supply a wide range of multi-step chemicals that involve a Grignard reaction. Offering commercial Grignard reagent chemistry as well as downstream chemistry, WeylChem tailors manufacturing to deliver on the promise of higher performance and value.

Material Handling

A multi-purpose production source, WeylChem supports customers with a full range of material handling capabilities.

Organic chlorides:

Allyl Chloride, Allyl Bromide, Allyl Alcohol, Methyl Chloride, Benzyl Chloride, Benzoyl Chloride, Acetyl Chloride, Cyanuric Chloride

Inorganic Chlorides:

Trichlorosilane, Phosphorous Oxychloride, Phosphorous Trichloride, Aluminum Chloride, Thionyl Chloride

Gases and Reagents:

H₂S, Ammonia, CO₂, HCl, HBr, Bromine, Chlorine, Vinyl Chloride

Solvents:

Dichlorobenzene, Methylene Chloride, Chloroform, Hexane, Toluene, MIBK, DMF, DMSO, THF, Diglyme, Methyl-THF, Monoglyme, Butyl Ether

Others:

Sodium Nitrite, Phenol, Potassium Cyanide, Formaldehyde, Dimethylsulfate, Sodium Methoxide, Hydrogen Peroxide; Maleic Anhydride

Manufacturing equipment

A wide range of equipment is in place to produce Grignard reagents and Grignard-derived intermediates from pilot-scale to industrial-scale:

Pilot Scale	100 gallons
Equipment:	650 gallons HF 600 Heinkel Hastelloy
Large Scale	2,800 gallons
Equipment:	4,000 gallons
Vessels/Reactors	67 stirred vessels/reactors
Equipment:	(8-30 cm): 2000-8000 gallon SS & GL
Solids Handling	3 Hastelloy centrifuges for corrosive solids handling
Equipment:	2 Hastelloy dryers 1 tumble dryer
Film Evaporators	6 wiped-film evaporators
Equipment:	(235°C; 1mmHg)
Fractionating Units	12 fractionating units
Equipment:	(170 - 235°C; 10-20 mmHg)
Utilities	Steam (170°C) Chiller (-40°C) Hot oil (265°C)



Let us help you create the Grignard chemistry solution you require.
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