

# Organometallics

Organometallics are among the most widely used compounds in modern organic chemistry. With diverse applications ranging from homogenous catalysts to stoichiometric reagents, they continue to play a vital role in today's chemical research and industry.

## Grignard and organozinc reagents

One of the most significant applications of organometallic compounds is their use in the formation of new carbon-carbon bonds. Due to a difference in polarity within the metal-carbon bond, both Grignard reagents and organozincs (specifically organozinc halides) are an excellent source of nucleophilic carbon atoms. These nucleophilic carbon atoms can then react with electrophilic carbon to produce a new carbon-carbon bond. This is a very convenient means of preparing organic compounds from smaller precursor molecules.

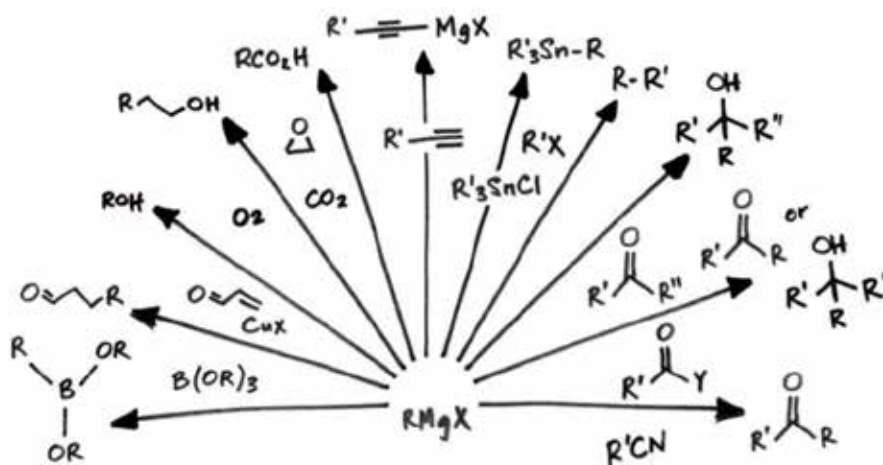
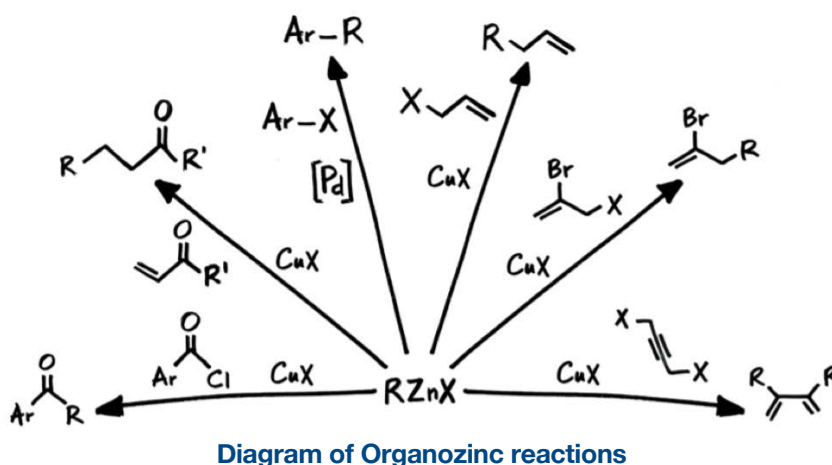


Diagram of Grignard reactions

In these carbon–carbon bond-forming reactions, organozincs are less reactive than Grignard reagents. This can be advantageous for certain sensitive reactions because it allows for higher functional group tolerance. However, this low reactivity means that organozincs often need to be aided by additives or catalysts.

Both Grignard and organozinc reagents are employed in chemical reactions that are highly sensitive to the conditions and chemicals used, so the need for quality organometallic reagents is crucial. If inferior reagents are used, reactions may fail or not go to completion, and product yields will suffer as a result. Furthermore, with complex stereochemical syntheses, it is vital that the appropriate reagents are used to minimize the potential for racemic mixtures.

Alfa Aesar™ brand includes Grignard and organozinc reagents of exceptional quality and variation to give consistent stereochemical and high-yield results, and to ultimately help researchers reach their goals.



### Other organometallic reagents

Due to the electropositive character of their metals, many organometallic compounds are highly reactive, and are vital in many chemical syntheses. Aside from Grignard reagents and organozinc compounds, other organometallics like organolithium, organoaluminum, and organotin reagents have demonstrated their practicality in a number of applications.

Due to the huge variation in organometallics and their many applications, the Alfa Aesar portfolio strives to meet customers' demand for the widest choice of reagents. Whether you're looking for enhanced organometallic reactivity, ease of work-up, or reduced environmental impact solutions, we offer the expertise and extensive range to assist you with all your organometallic reagent needs.

Find exactly what you need quickly and easily. Our extensive range of high quality Alfa Aesar synthetic reagents come in a variety of grades, specifications and pack sizes. And they're there when you need them.

## Grignard reagents

Stock No.	Description	Size	CAS No.
H51170	Allylmagnesium chloride, 1M in MeTHF	100ml, 500ml	2622-05-1
H54820	2-Chlorobenzylmagnesium chloride, 0.50M in 2-MeTHF	100ml	29874-00-8
H54237	3-Chlorobenzylmagnesium chloride, 0.50M in 2-MeTHF	100ml	29874-01-9
H54625	4-Chlorobenzylmagnesium chloride, 0.50M in 2-Me-THF	100ml	874-72-6
H51161	3-Chlorophenylmagnesium bromide, 1M in MeTHF	50ml, 100ml	36229-42-2
H26273	Cyclopropylmagnesium bromide, 0.5M-0.7M in THF	25ml, 100ml	23719-80-4
H54197	3,4-Difluorophenylmagnesium bromide, 0.50 M in 2-MeTHF	100ml	90897-92-0
H54881	2-Fluorobenzylmagnesium chloride, 0.50M in 2-MeTHF	100ml	120608-58-4
H54840	Isopropylmagnesium bromide, 3M in 2-MeTHF	100ml	920-39-8
H51155	Isopropylmagnesium chloride, 1M in MeTHF	100ml, 500ml	1068-55-9
H51156	Isopropylmagnesium chloride - LiCl complex, 1M in MeTHF	100ml, 500ml	807329-97-1
87324	Methylmagnesium bromide, 3M in ether	500ml	75-16-1
41252	Methylmagnesium bromide, 3M in ether, packaged under Argon in resealable ChemSeal™ bottles.	100ml, 500ml	75-16-1
42859	Phenylmagnesium bromide, 3M in ether, packaged under Argon in resealable ChemSeal™ bottles	100ml, 500ml	100-58-3
H54282	2,4,6-Trimethylphenylmagnesium bromide, 1M in 2-MeTHF	100ml	2633-66-1

## Organozinc reagents

Stock No.	Description	Size	CAS No.
H58408	1-Adamantylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	312624-15-0
H58012	Allylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	18925-10-5
H58014	Benzylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	62673-31-8
H58266	4-Chlorobutylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	155589-48-3
H58897	4-Cyanobutylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	226570-68-9
H58247	Cyclobutylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	
H58852	Cyclohexylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	7565-57-3
H58764	Cyclopentylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	171860-68-7
H58008	Cyclopropylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	26403-68-7
H26739	2-(Ethoxycarbonyl)ethylzinc bromide, 0.5M in THF	50ml	193065-68-8
H58023	3-(Ethoxycarbonyl)propylzinc bromide, 0.5M in THF, packaged under Argon in resealable ChemSeal™ bottles	50ml	131379-39-0

## Additional organometallics

Stock No.	Description	Size	CAS No.
14007	Aluminum isopropoxide, 98+%	100g, 1kg, 5kg	555-31-7
B23615	Copper(II) acetate, anhydrous, 98%	25g, 100g, 500g	142-71-2
71130	Di-n-butyltin dilaurate, 95%	25g, 100g, 500g	77-58-7
42593	Diisobutylaluminum hydride, 1M solution in hexane, packaged under Argon in resealable ChemSeal™ bottles	50ml, 200ml, 800ml	1191-15-7
A17638	Hexamethylditin, 97%	1g, 5g, 25g	661-69-8
14643	Tantalum(V) ethoxide, 99.999% (metals basis), Nb <100ppm	1g, 10g, 50g	6074-84-6
77115	Titanium(IV) isopropoxide, 97+%	10g, 100g, 500g, 4x500g	546-68-9
77124	Titanium(IV) n-butoxide, 99+%	10g, 100g, 500g	5593-70-4
H55870	2-(Tri-n-butylstannyl)oxazole, 95%	1g, 5g	145214-05-7
89798	Vanadium(V) triisopropoxide oxide, 96%	1g, 5g, 25g, 100g, 500g	5588-84-1

Full product listing is available online.

Find out more at [www.thermofisher.in/chemicals](http://www.thermofisher.in/chemicals)

**Thermo Fisher Scientific India Pvt. Ltd.**

403-404, Delphi 'B' Wing, Hiranandani Business Park, Powai, Mumbai - 400 076.

Phone No.: 022-6680 3000 | Fax: 022-6680 3001/2

India Toll Free No.: 1-800-222-230

Email : [Lsi\\_marketing@thermofisher.com](mailto:Lsi_marketing@thermofisher.com)

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