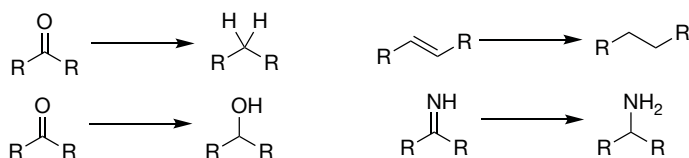


Reducing agents and reactions

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A commonly used and important step in many synthetic routes, our reducing agents and chemicals from Thermo Scientific brings about the performance you need to achieve this necessary reaction in your synthetic workflow with confidence.

Refer to the product tables below to find out more about our reducing agents in detail by clicking on their catalog numbers.



Sodium borohydride (NaBH₄)

Uses: As a reducing agent for organic, inorganic and organometallic compounds, as a bleaching agent, in the recycling of gold and platinum metals, in organic synthesis, nonaqueous reducing agent for aldehydes, ketones, and schiff bases.

Cat. No.	Product name	Pack size
035788	Sodium borohydride, 97%, Thermo Scientific Chemicals	100 g, 500 g
42913	Sodium borohydride, 12% solution in 40% aq. NaOH solution, AcroSeal, Thermo Scientific Chemicals	100 mL
18930	Sodium borohydride, 98%, powder, Thermo Scientific Chemicals	5 g, 10 g, 100 g, 500 g, 2.5 kg

Lithium aluminum hydride (LiAlH₄)

Uses: Lithium aluminum hydride is used as a reducing agent used in the conversion of esters, carboxylic acids, acyl chlorides, aldehydes and ketones into their corresponding alcohols. It also involved in the conversion of amide, nitro, nitrile, imine, oxime and azide compounds into their amines as well as reduces alkyl halides to alkanes.

Cat. No.	Product name	Pack size
089643	Lithium aluminum hydride, pellets, 97%, Thermo Scientific Chemicals	25 g, 100 g, 500 g
19951	Lithium aluminum hydride, 4.0M solution in diethyl ether, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL
19949	Lithium aluminum hydride, 1M solution in THF, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL



Sodium cyanoborohydride (Na(CN)BH₃)

Uses: Selective reduction for aldehydes, ketones, oximes, enamines. Reductive amination of ketones, aldehydes. Reductive alkylation of amines, hydrazines. It is also used in reductive amination of aldehydes, ketones, oximes and enamines.

Cat. No.	Product name	Pack size
087839	Sodium cyanoborohydride, 95%, Thermo Scientific Chemicals	5 g, 25 g, 100 g
16855	Sodium cyanoborohydride, 95%, Thermo Scientific Chemicals	50 g, 250 g
37245	Sodium cyanoborohydride, 1M solution in THF, AcroSeal, Thermo Scientific Chemicals	100 mL, 800 mL

Hydrogenation reactions

Various metal catalysts used in the hydrogenation process of alkynes and alkenes to saturated hydrocarbons. When palladium metal is poisoned with lead, it becomes a selective reducing agent known as Lindlar's catalyst that selectively reduces alkynes to Z-alkenes.

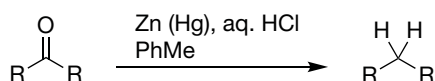
Cat. No.	Product name	Pack size
043172	Palladium, 5% on calcium carbonate, Type A306060-5, lead poisoned, Thermo Scientific Chemicals	25 g, 100 g
A12623	Palladium, 5% on carbon, Type 87L, dry, Thermo Scientific Chemicals	10 g, 50 g
A11186	Platinum, 5% on carbon, dry, Thermo Scientific Chemicals	1 g, 5 g, 25 g

Diisobutylaluminum hydride (DIBAL-H)

Uses: Selectively reduces esters into aldehydes. While reports have shown low yields, it is still a viable route to achieving an aldehyde in a single step reaction.

Cat. No.	Product name	Pack size
18379	Diisobutylaluminum hydride, 1M solution in hexane, AcroSeal, Thermo Scientific Chemicals	100 mL, 400 mL, 800 mL
20108	Diisobutylaluminum hydride, 1.2M (20 wt%) solution in toluene, AcroSeal, Thermo Scientific Chemicals	100 mL, 400 mL, 800 mL
H37108	Diisobutylaluminum hydride, 1.1M in cyclohexane, packaged under Nitrogen in resealable AcroSeal bottles, Thermo Scientific Chemicals	100 mL, 800 mL

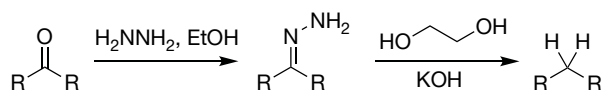
Clemmensen reduction



Reduction of carbonyls to methylene groups.

Cat. No.	Product name	Pack size
42393	Mercury(II) chloride, 99.5+%, ACS reagent, Thermo Scientific Chemicals	100 g, 500 g, 2.5 kg
20145	Zinc, +99%, mossy, Thermo Scientific Chemicals	500 g, 1 kg, 5 kg
42455	Toluene, 99.5%, ACS reagent, Thermo Scientific Chemicals	500 mL, 1 L, 2.5 L
035607	Hydrochloric acid, 50% v/v aq. soln., Thermo Scientific Chemicals	1 L, 4 L
14949	Acetic Anhydride 99+%, Thermo Scientific Chemicals	1 L, 2.5 L

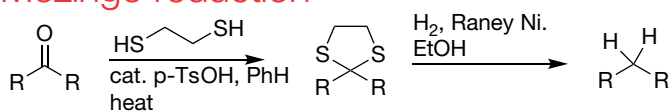
Wolff-Kishner reduction



Reduction of carbonyls to methylene groups.

Cat. No.	Product name	Pack size
20959	Hydrazine hydrate, 80% (Hydrazine, 51%), Thermo Scientific Chemicals	250 g, 1 kg
42414	Potassium hydroxide, ca. 85%, ACS reagent, Thermo Scientific Chemicals	25 g, 500 g, 2.5 kg, 5 kg
14675	Ethylene glycol, 99+%, extra pure, Thermo Scientific Chemicals	1 L, 2.5 L
61509	Ethanol, 99.5%, ACS reagent, absolute, 200 proof, Thermo Scientific Chemicals	500 mL, 1 L, 2 L, 4L

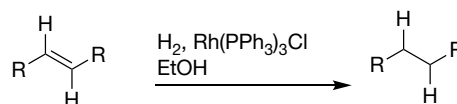
Mozingo reduction



Reduction of carbonyls to methylene groups.

Cat. No.	Product name	Pack size
L12865	1,2-Ethanedithiol, 98+%, Thermo Scientific Chemicals	25 g, 100 g, 500 g
42121	p-Toluenesulfonic acid monohydrate, ACS reagent, Thermo Scientific Chemicals	25 g, 500 g
36441	Toluene, 99.85%, Extra Dry over Molecular Sieve, AcroSeal, Thermo Scientific	100 mL, 500 mL, 2.5 L
61509	Ethanol, 99.5%, ACS reagent, absolute, 200 proof, Thermo Scientific Chemicals	500 mL, 1 L, 2 L, 4L
39592	Raney™-Nickel, Activated Catalyst, 50% slurry in water, Thermo Scientific Chemicals	100 g, 500 g

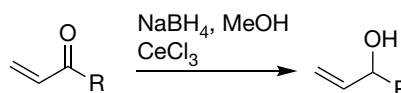
Hydrogenation by Wilkinson's catalyst



Using a rhodium-based complex catalyst, Wilkinson's catalyst allows the reduction of alkenes to alkanes. This reaction is especially useful in selective reduction, when tri- and quaternary substituted alkenes are not intended to be reduced. Complement your reaction with our extra-dry ethanol in AcroSeal packaging to ensure your reaction goes to completion without being consumed by moisture.

Cat. No.	Product name	Pack size
010468	Chlorotris(triphenylphosphine)rhodium(I), 97%, Thermo Scientific Chemicals	1 g, 5 g
19042	Tris(triphenylphosphine)rhodium(I) chloride, 98%, Thermo Scientific Chemicals	1 g, 5 g
39769	Ethanol, 99.5%, Extra Dry, absolute, AcroSeal, Thermo Scientific Chemicals	1 L, 2.5 L

Luche reduction



Selective reduction of α,β -unsaturated carbonyls to allylic alcohols.

Cat. No.	Product name	Pack size
013432	Sodium borohydride, 98%, Thermo Scientific Chemicals	100 g, 500 g
A12947	Cerium(III) chloride heptahydrate, 99%, Thermo Scientific Chemicals	50 g, 250 g, 1000 g
17684	Methanol, 99.9%, for analysis, Thermo Scientific Chemicals	500 mL, 1 L, 2.5 L, 10 L

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