

Sigma-Aldrich®

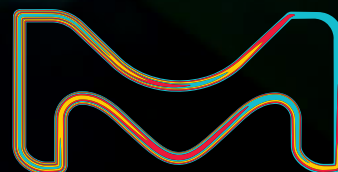
Lab & Production Materials

MERCK

Bio-based meets anhydrous performance

Precision in every drop

Our anhydrous solvents combine bio-based origin with anhydrous specifications to ensure consistency and reliable performance in moisture-sensitive applications. Crafted for a cleaner and greener future, they enable more sustainable chemistry without compromise.



Dihdropinene (DHP)

Dihdropinene (DHP), also known as pinane, is a bio-based solvent obtained from turpentine oil extracted from pine trees. With its structural similarity to cyclohexane, DHP serves as a renewable and safer alternative to petroleum-derived solvents such as

toluene, hexane, and dichloromethane. It combines high boiling point, low volatility, and excellent solvent efficiency, making it suitable for various synthesis and extraction applications.

Features & Benefits:

- ≥99.9% renewable carbon content (C14 ASTM D6866-16 verified)
- Free from petroleum-based contaminants
- Reduces carbon footprint by minimizing fossil fuel use
- Ideal for targeted synthesis due to its azeotropic nature with water
- Low volatility ensures safer handling and reduces solvent loss
- High boiling point and viscosity enable efficient recovery, reuse, and waste reduction
- Anhydrous grade with water content ≤10 ppm

Applications:

- Thalidomide synthesis
- Halogenation and N-alkylation reactions
- Cross-coupling reactions
- Diels-Alder reaction
- Ring-closing metathesis
- Knoevenagel condensation
- Quinazolone synthesis

Cat. No.	Product Description	CAS No.
937169	BioRenewable, anhydrous	473-55-2

γ-Valerolactone (GVL)

The bio-based γ-Valerolactone (GVL), a dipolar aprotic solvent, is produced from renewable resources, offering a more sustainable alternative to traditional solvents such as NMP, DMF, and DMA. It is fully biodegradable

according to OECD Guideline 301b and supports the Green Chemistry principles of "Use of Renewable Feedstocks" and "Safer Solvents and Auxiliaries".

Features & Benefits:

- Derived from renewable, non-petroleum feedstocks
- ≥99.9% renewable carbon content (ASTM D6866 verified)
- Low volatility and higher boiling point for safer handling
- Excellent solubility across a wide range of compounds
- Anhydrous grade with water content ≤50 ppm

Applications:

- Peptide synthesis
- Cross-coupling reactions
- Polymerization and extraction processes
- Nonaqueous redox-flow batteries

Cat. No.	Product Description	CAS No.
933856	BioRenewable, anhydrous, DMF and NMP substitute, ≥99%	108-29-2

Dimethyl Isosorbide (DMI)

Bio-based Dimethyl Isosorbide (DMI), a dipolar aprotic solvent, offers a safer, more sustainable alternative to conventional options such as DMF and NMP. DMI supports the Green Chemistry principles of “Use of

Renewable Feedstocks” and “Safer Solvents and Auxiliaries,” delivering high solvating power and reliable performance across different applications.

Features & Benefits:

- Derived from renewable, straw-based feedstocks
- ≥99.9% renewable carbon content (ASTM D6866 verified)
- High boiling point and strong solvating capacity
- Non-toxic and non-irritant for safer handling
- Anhydrous grade with water content ≤50 ppm

Applications:

- Peptide synthesis and cross-coupling reactions
- Polymer membrane preparation
- Lithium battery recycling
- Use as a co-solvent to enhance solubility of nonpolar compounds

Cat. No.	Product Description	CAS No.
933864	BioRenewable, anhydrous, DMF and NMP substitute, ≥99%	5306-85-4

Ethyl Acetate

Bio-based ethyl acetate is produced from renewable corn feedstocks, offering a more sustainable replacement for petroleum-derived ethyl acetate. With

identical performance and compatibility, it serves as a drop-in replacement, helping to reduce environmental impact and fossil fuel dependency.

Features & Benefits:

- Free from many non-renewable contaminants, such as benzene, phthalates, and other phenols, leading to a higher quality product
- ≥99.9% renewable carbon content (ASTM D6866 verified)
- Drop-in replacement for petroleum-based ethyl acetate
- Lower environmental footprint and reduced fossil resource use
- Excellent solvating power across diverse applications
- Anhydrous grade with water content ≤50 ppm

Applications:

- Extraction and purification of natural compounds
- Thin-layer and flash chromatography
- Esterification and acylation reactions
- Condensation and formulation processes

Cat. No.	Product Description	CAS No.
937150	BioRenewable, anhydrous	141-78-6

2-Propanol

Bio-based 2-Propanol is an anhydrous-grade solvent made from renewable corn waste. It reduces carbon footprint and fossil fuel dependence while

maintaining the same performance and compatibility as petroleum-based isopropanol.

Features & Benefits:

- >78.0% renewable carbon content (C14 ASTM D6866-16 verified)
- Derived from renewable corn waste
- Drop-in replacement for petroleum-based 2-Propanol
- Free from non-renewable contaminants such as benzene, phthalates, and phenols
- Lower environmental impact through reduced fossil resource use
- Anhydrous grade with water content ≤ 30 ppm

Applications:

- Sample preparation and cleaning
- Synthesis and extraction processes
- Precipitation and crystallization
- General-purpose laboratory and production applications

Cat. No.	Product Description	CAS No.
937142	BioRenewable, anhydrous	67-63-0



To place an order or receive technical assistance:
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