MERCK

GREAT SOLVENTS SMALLER FOOTPRINT

New bio-renewable Cyrene™ solvent blends for responsible scientific research

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Sigma-Aldrich®
Lab & Production Materials

A SIMPLE SWITCH. A HUGE DIFFERENCE. BIORENEWABLE SOLVENTS.

Dipolar aprotic solvents are regularly used in many research and production applications, from cross-coupling reactions to graphene ink printing. However, petroleum-based solvents, such as DMF (*N,N*-Dimethylformamide) and NMP (1-Methyl-2-pyrrolididinone) are known to have high toxicity.

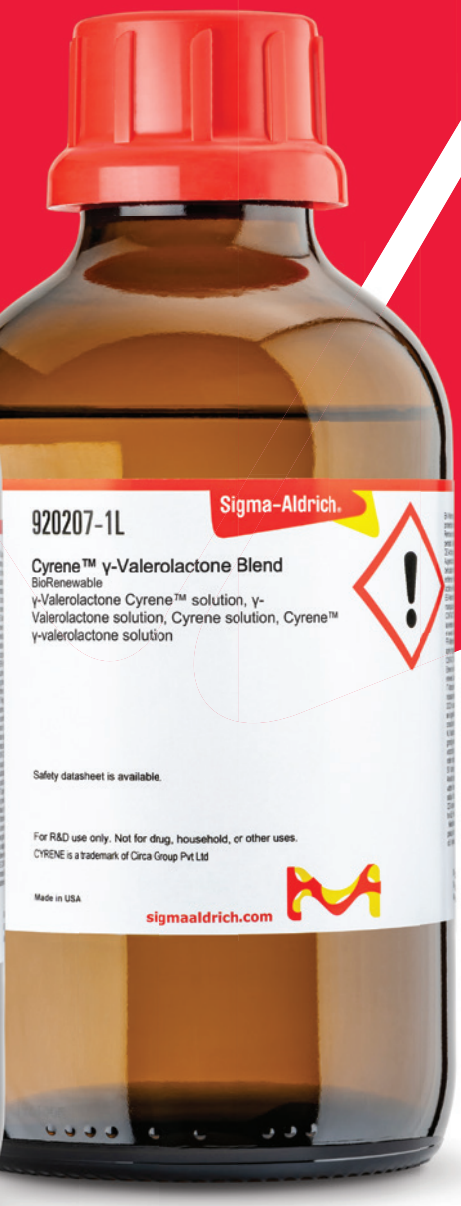
We make it easy to protect you and the planet with a growing portfolio of safer, greener solvents, like Cyrene™ and 2-Methyltetrahydrofuran (2MeTHF). Now, we have expanded the range to offer you new Cyrene™ blends, and give you even more reasons to switch. Discover how our latest innovations will keep your work performing – sustainably.

Mixed to match your needs
Cyrene™ γ-Valerolactone & Cyrene™ 2-MeTHF blends

Cyrene™ 2-Methyltetrahydrofuran Blend and Cyrene™ γ-Valerolactone Blend combine the benefits of classic Cyrene™ with those of two BioRenewable solvents. While they maintain the excellent efficacy of Cyrene™, the new blends offer considerably lower viscosity. This greatly simplifies their handling and broadens their applicability, leading to even higher product yields in automated processes. Experience greater performance with lower environmental impact by switching from NMP and DMF to our new Cyrene™ blends.

Features & Benefits

- Independently certified as 100% renewable carbon
- Sustainably produced and less hazardous for the environment
- Non-toxic, much safer to handle than petroleum-based aprotic solvents
- Physical properties more analogous to those of NMP and DMF
- Same high reaction yields as traditional solvents
- Optimized for automated processes due to lower viscosity
- Lower boiling point facilitates removal from automated systems



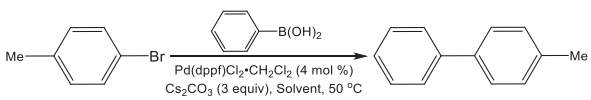
Applications

- HATU amide coupling
- Suzuki–Miyaura coupling
- Sonogashira coupling

Description	Viscosity (cP)	Density (g/mL)	Product No.
Cyrene™ γ-Valerolactone Blend	4.05	**1.14**	**920207**
Cyrene™ 2-MeTHF Blend	3.72	**1.15**	**920193**
Cyrene™, BioRenewable	10.5	**1.25**	**807796**
N,N-Dimethylformamide (DMF)	0.9	**0.94**	**319937**
1-Methyl-2-pyrrolidinone (NMP)	1.7	**1.03**	**443778**

Read our tech article to learn how the new Cyrene™ blends performed in cross-coupling reactions.
>> Link to application note

Suzuki–Miyaura Coupling: Synthesis of 4-Phenyltoluene



Entry	Solvent	Isolated Yield
1	Cyrene™	**85.0%**
2	Cyrene™ γ-Valerolactone Blend	**99.1%**
3	Cyrene™ 2-MeTHF Blend	**95.4%**
4	*N,N*-Dimethylformamide (DMF)	**99.7%**
5	1-Methyl-2-pyrrolidinone (NMP)	**97.8%**

To discover full range of BioRenewable solvents, visit SigmaAldrich.com/biorenewable

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