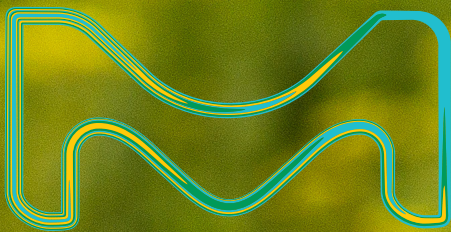


Green up!

Sustainable and safer
solvent alternatives



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

Supelco[®]
Analytical Products

Bio-Based Solvents





One of the sustainable initiatives we actively pursue is the change from solvents based on synthetic chemicals to those from renewable raw materials. Whenever possible, we favor chemical products which preserve functional efficacy while reducing toxicity and environmental impact. Since their supply risk is independent of petrochemical production, bio-based solvents are also reliably available. Furthermore, production processes are safer for the environment than with fossil-based solvents.

Bio-Based Ethanol

Instead of synthetic ethanol, we use bioethanol produced from grain or sugar cane. High quality, affordability, and ready availability make our bioethanol an obvious choice for a sustainable future.

Benefits

- Produced from grain or sugar cane, a renewable source
- Less toxic than synthetic ethanol (no toxic by-products)
- Reliable availability
- Production method is safer for the environment


Product description	Qty/Pk	Cat. No.
Bio-Based Ethanol		
Ethanol absolute for analysis EMSURE® ACS, ISO, Reag. Ph Eur	 1 L GL	1.00983.1000
	1 L HDPE	1.00983.1011
	2.5 L GL	1.00983.2500
	2.5 L HDPE	1.00983.2511
	4 L GL	1.00983.4000
	5 L HDPE	1.00983.5000
	10 L VA drum	1.00983.6010
	25 L VA drum	1.00983.6025
	25 L ME/ PE drum	1.00983.9025
	180 L ME/ PE drum	1.00983.9180
190 L VA drum	1.00983.6190	
Ethanol absolute for analysis EMPARTA® ACS	 2.5 L HDPE	1.07017.2511
	4 L GL	1.07017.4000
	25 L ME drum	1.07017.9026
Ethanol absolute EMPLURA®	 1 L HDPE	8.18760.1000
	2.5 L HDPE	8.18760.2500
	25 L ME drum	8.18760.9025
	180 L ME/ PE drum	8.18760.9180
Ethanol 96% EMSURE® Reag. Ph Eur	 500 mL GL	1.59010.0500
	2.5 L GL	1.59010.2500

Ethyl(-)-L-Lactate

Ethyl lactate is a safer and more sustainable alternative to ethyl acetate and acetone. It is an ester of natural L-lactic acid, which is produced by fermentation of sugar.

Benefits

- Increased user safety due to less toxicity (non-carcinogenic)
- No waste due to 100% biodegradability
- Non-corrosive in contact with metals

Product description	Qty/Pk	Cat. No.
Ethyl(-)-L-Lactate		
Ethyl(-)-L-Lactate EMPLURA®	 1 L GL	1.09639.1000
	2.5 L GL	1.09639.2500
	4 L GL	1.09639.4000



NEW Bio-Based Glycerol

Our bio-based glycerol is produced from rapeseed, a renewable raw material, and a by-product of biodiesel production. It offers numerous advantages compared to petroleum-derived glycerol.

Benefits

- Non-toxic, nonirritating
- Nonflammable (flash point 160 °C, autoflammability 400 °C)
- No waste due to 100% biodegradability
- Low vapor pressure (environmental advantage)
- Reliable availability (independent of petrochemical production)

Product description	Qty/Pk	Cat. No.
Bio-Based Glycerol		
Glycerol (vegetable origin) for analysis EMSURE® ACS, Reag. Ph Eur	2.5 L HDPE	1.04057.2511
	10 L PE	1.04057.9011
	25 L PE	1.04057.9026

2-Methyltetrahydrofuran (Methyl THF)

2-Methyltetrahydrofuran is a safer and more sustainable alternative to dichloromethane and tetrahydrofuran. It is derived from renewable resources, such as corncobs and sugarcane bagasse.

Benefits

- Less solvent consumption due to more efficient extraction and higher reaction yields
- Lower volatility and higher flash point increase user safety
- Limited miscibility in water reduces waste stream
- Reliable availability (independent of petrochemical production)

Product description	Qty/Pk	Cat. No.
2-Methyltetrahydrofuran (Methyl THF)		
2-Methyltetrahydrofuran EMPLURA®	1 L GL	1.08292.1000
	2.5 L GL	1.08292.2500
	4 L GL	1.08292.4000

Synthetic-Based Sustainable and Safer Alternatives

NEW 1-Butylpyrrolidin-2-One

1-Butylpyrrolidin-2-one is a safer alternative to N-Methyl-2-pyrrolidone (NMP), N,N-Dimethylacetamide (DMA), Dimethyl sulfoxide (DMSO) and N,N-Dimethylformamide (DMF), which face increasing regulatory pressure. As opposed to NMP, DMF and DMA, 1-Butylpyrrolidin-2-one is not classified as developmentally reprotoxic.

Benefits

- Excellent solvency power and water miscibility
- High boiling point
- High chemical and thermal stability
- Not classified as a developmental- or geno-toxin
- Inherently bio-degradable
- Lower volatility compared to NMP
- Reliable alternative for REACH-restricted DMA, DMF, NMP


Product description	Qty/Pk	Cat. No.
1-Butylpyrrolidin-2-One		
1-Butylpyrrolidin-2-one EMPLURA® 	1 L GL	1.03818.1000
	2.5 L GL	1.03818.2500

Cyclopentyl Methyl Ether (CPME)

Cyclopentyl methyl ether is a safer substitute for tetrahydrofuran, tert-butyl methyl ether, 1,4 dioxane and other ether solvents. It is produced by a 100% atomic catalytic reaction without any formation of by-products.

Benefits

- Resistance to peroxide formation improves laboratory safety
- One-step reaction saves energy and reduces wastewater
- More stable than tetrahydrofuran
- Higher hydrophobicity increases yields and selectivity
- Limited miscibility in water reduces waste stream

Product description	Qty/Pk	Cat. No.
Cyclopentyl Methyl Ether (CPME)		
Cyclopentyl methyl ether EMPLURA® 	1 L GL	1.08293.1000
	2.5 L GL	1.08293.2500
	4 L GL	1.08293.4000

GL = Glass
VA drum = stainless steel drum
ME drum = metal drum





GREEN up!

Bio-based and synthetic-
based sustainable and safer
solvent alternatives

The products we create help our customers improve people's lives every day. But we realize that everything we make also has an environmental impact. That's why we are committed to continually enhancing the sustainability of our products, and adopting environmentally friendly chemical processes. What's more, we strive to make your daily work with solvents safer by offering less toxic alternatives.

Our advances include **bio-based solvents** that avoid the use of non-renewable resources, as well as **safer substitutes** for commonly used solvents that pose health or environmental concerns. While these products are more ecological, they maintain the trusted quality and reliability of the Supelco® brand portfolio. It's sustainable and safer chemistry – perfected for your intended use.



Learn more about our
greener solvents:
SigmaAldrich.com/greener-solvents

Supelco®

Analytical Products

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