MERCK

green up!

Sustainable and safer solvent alternatives

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

Supelco®
Analytical Products

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. It's sustainable and safer chemistry – perfected for your intended use.

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

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**
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**
	2.5 L GL	**1.08293.4000**

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

Supelco®

Analytical Products

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