



VertecBio ELSOL™ - DBER

Patent Pending Blend of Biobased Solvents

- 100% Biobased Replacement for Dibasic Ester
- Better Cleaning Power and Reduced Solvent Usage vs. Petroleum Based DBE
- High Performance, Versatile Solvent Blend for Formulations and Cleaning
- Excellent Solvency for Paint, Coating and Ink Formulations
- 20% - 30% More Efficient in Viscosity Reduction than Dibasic Ester
- Provides Excellent Flow Characteristics When Used in Formulation
- High Loading Capacity
- Easy and Inexpensive to Distill/Recycle
- 100% Biodegradable to Carbon Dioxide and Water
- Sustainable Chemistry – No Impact on Global Warming (“Carbon Neutral”)
- EPA Approved SNAP Solvent – No Ozone Depleting Chemicals
- No Environmentally Hazardous Ingredients
- Safe, Non-Toxic, Non-Carcinogenic
- No HAP’s – No Hazardous Air Pollutants
- Manufactured in the United States

GENERAL PHYSICAL PROPERTIES

VERTECBIO ELSOL™ - DBER

Flash Point 155°F ASTM D3278 (Setaflash)
Vapor Pressure.....1 mmHg @ 68 F
PH of Water Dispersion.....4
Specific Gravity.....1.08
Evaporation Rate..... 0.005
Boiling Point Range.....320°- 460°F

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Vertec BioSolvents ELSOL™ - DBER Performance Sheet

Suggested Replacement for DBE (Dibasic Ester)

Introduction

Dibasic Ester largest use is in industrial coatings applications and industrial cleaning and surface preparation applications. For coatings formulators looking to replace petroleum based solvents with a biobased, sustainable, carbon neutral alternative, Vertec BioSolvents blend is an ideal replacement for DBE in a wide array of coatings formulations and cleaning applications.

Vertec BioSolvents suggests a replacement blend with renewable, carbon neutral biobased solvents. These biobased solvents are derived from corn, soybeans, citrus fruits and other renewable feedstocks, and have a reduced toxicity profile.

Reformulation Solvents

Hazardous Solvents	Dibasic Ester
BioBased Replacements	ELSOL™ - DBER

The solvent blends shown are only suggested starting points for developing alternative systems. All blends should be thoroughly evaluated to determine suitability for specific applications

	Relative Evaporation Rate	Hansen Solubility Parameters			Total
		Dispersion	Polar	H Bonding	
ELSOL™ - DBER	.005	8.5	5.8	4.5	11.2
Dibasic Ester	.009	8.3	2.3	4.8	9.9

Reformulation Solvents Typical Properties

Blend	Environmental	Uses	Comments
ELSOL™ - DBER	Non Hap	Paint, coatings	Renewable, carbon neutral
	Non SARA reportable	cleaners, adhesives	Reduced toxicity profile

Conclusion

Formulators and applicators are looking for alternatives to hazardous solvents as more regulations are enforced. This can be seen in many industries including paint and coatings, adhesives and inks. Formulators are not only feeling the pressures at the federal and state level, but abroad as well. The suggested replacements using the sustainable, carbon neutral, biobased solvents above should assist in meeting your requirements and the regulatory challenges.



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DBE Replacement

Specifications

Item	Unit	Specification
Appearance		Free From Insoluble and Haze
Specific Gravity	20/20° C	1.08
Acidity	Wt % as Acetic Acid, Max.	0.05
Purity	Wt % Min.	99.5
Water Content	Wt % Max.	0.20
Viscosity	cps @ 20° C	2.7
Color	APHA, Max	10

Physical Properties

Item	DBER
Molecular Weight	109.54
Specific Gravity 20/20° C	1.08
Boiling Point	320°F - 460°F
Flash Point	155°F
Viscosity @ 20°C (cps)	2.7
Evaporation Rate	0.005
Vapor Pressure, mm Hg, @20°C	1.0