



# VertecBio ELSOL™ – AR

Patent Pending Blend of Biobased Solvents

- Biobased Replacement for Acetone
- High Performance, Versatile Solvent Blend for Formulations
- Excellent Solvency for Paint, Coating and Ink Formulations
- 20% - 30% More Efficient in Viscosity Reduction than Acetone
- 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”)
- Custom Blends Available for Maximum Performance
- 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

10/10/08

## GENERAL PHYSICAL PROPERTIES

### VERTECBIO ELSOL- AR

Flash Point ..39° F ASTM D3278 (Setaflash)  
Vapor Pressure.....≈75 mmHg @ 68 F  
PH of Water Dispersion.....4  
Specific Gravity.....0.857  
Evaporation Rate.....2.84  
Boiling Point Range.....160°-312° F



## Vertec BioSolvents ELSOL™ -AR Performance Sheet

### Suggested Replacement for Acetone

#### Introduction

Acetone's 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 Acetone 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

<b>Hazardous Solvents</b>	Acetone
<b>BioBased Replacements</b>	<b>ELSOL™-AR</b>

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	Flash	Hansen Solubility Parameters			Total
	Evaporation Rate	Point(°F)	Dispersion	Polar	H Bonding	
<b>ELSOL™-AR</b>	<b>2.84</b>	<b>39</b>	<b>7.7</b>	<b>3.4</b>	<b>6.1</b>	<b>10.4</b>
Acetone	6.0	0	7.6	5.1	3.4	9.8

#### Reformulation Solvents Typical Properties

Blend	Environmental	Uses	Comments
<b>ELSOL™-AR</b>	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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## Acetone Replacement

### Specifications

Item	Unit	Specification
Appearance		Free From Insoluble and Haze
Specific Gravity	20/20° C	0.857
Acidity	Wt % as Acetic Acid, Max.	0.05
Purity	Wt % Min.	99.5
Water Content	Wt % Max.	0.20
Viscosity	cps @ 20° C	0.60
Color	APHA, Max	10

### Physical Properties

Item	AR
Molecular Weight	65.78
Specific Gravity 20/20° C	0.857
Boiling Point	160° - 312°F
Flash Point	39°F
Viscosity @ 20°C (cps)	0.60
Evaporation Rate	2.84
Vapor Pressure, mm Hg, @20°C	75