



# NOVOLYTE

technologies

## Product Data Sheet

### 1,3-Dioxolane (CAS: 646-06-0)

Common Names: Dioxolane, Ethylene glycol methylene ether, Formaldehyde ethylene acetal

#### A polar aprotic cyclic diether with active solvency

1,3-Dioxolane is a highly polar aprotic (no hydroxyl functionality) solvent, having low toxicity. The moderate boiling point allows for easy separation and recovery from reaction mixtures. Novolyte offers the highest purity (99.9%, (99.95% typical), low peroxide (5ppm max), and low moisture (150ppm max).

## Physical Properties

Empirical Formula		C <sub>3</sub> H <sub>6</sub> O
Molecular Weight		74.1
Boiling Point	( °C 760 mm Hg)	75.6
Freezing Point	( °C)	-95
Specific Gravity	(20°C)	1.066
Vapor Pressure	(mm Hg/ 20°C)	82
Volatility	(n-butylacetate = 100)	350
Viscosity	(cp 20°C)	0.6
Surface Tension	(dynes/cm 20°C)	34.05
Explosive limits	(Lower limit, v/v)	2%
	(Upper limit, v/v)	21%
Auto Ignition temp	( °C)	274
Heat of Vaporization	(Kcal/mole)	8.4
Heat of Combustion	(K Cal/mole)	406
Henry's Law Constant	(atm m <sup>3</sup> /mol)	2.4 x10 <sup>-5</sup>
Flash Point	(°C, closed cup)	-6
Refractive Index	(20°C)	1.3974
Appearance		Clear, Colorless
Odor		Ethereal
<b>Solubility</b> at 25°C		
in water		complete
water in		complete

## Process solvent

- For inks and dyes
- For adhesives and coating
- Electrolyte solutions for lithium batteries
- Dielectric constant = 7.34
- Foam production
- To dissolve the resins of polar polymers
- Useful for surface modification of polymers

## Reaction solvent

- At near pH 7
- Reactant to serve as a source of CH<sub>2</sub>
- Acting as a polycarbonate and other polar polymer swelling agent

## Features

- Aprotic
- Moderate boiling point
- Water soluble
- High solvency characteristics
- Powerful diluent
- Friendly tox profile
- Refer to MSDS for detailed handling and disposal information
- Use with proper PPE and engineering controls

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