

Chemical Compatibility of ALZET® Catheters

ALZET Osmotic Pumps can be used with a catheter for various targeted delivery applications. Depending on the research application, researchers can choose among a variety of catheter materials available. The table below contains a list of vehicles/solvents known to be compatible with the inner reservoir material of ALZET pumps. Compatibility of these solvents with ALZET pumps does not imply that they are also compatible with the various catheters available. Refer to the summary table below to confirm catheter compatibility prior to using any of these vehicles, or solvents in your studies. For additional information, please contact ALZET Technical Services (alzet@durect.com; 800-692-2990)

Vehicle/Solvent	Compatibility of Catheter Material			
	Polyurethane†	Silicone‡	Polyethylene	Vinyl
Acids, with pH greater than 1.8	Good	Good	Good	Unknown
Bases, with pH less than 14	Fair	Good	Unknown	Unknown
Cremophor EL, up to 25% in water	Good	Good	Unknown	Unknown
Culture media (1% benzyl alcohol as bacteriostatic)	Good	Good	Good	Good
Cyclodextrins	Good	Good	Good	Good
Dextrose, up to 5%, in water or NaCl	Good	Good	Good	Good
N,N-Dimethyl formamide (DMF), up to 25% in water	Poor	Unknown	Unknown	Poor
DMSO, up to 50% in water or polyethylene glycol	Poor	Good	Good	Poor
DMSO, up to 50% in ethanol (< or =15%) and water	Poor	Good	Good	Poor
Ethanol, up to 15% in water	Poor	Good	Good	Poor
Glycerol	Good*	Good*	Good*	Good*
1-Methyl-2-Pyrrolidone, up to 12.5% in water	Unknown	Unknown	Unknown	Unknown
Phosphate buffer	Good	Good	Good	Good
Polyethylene glycol 300 or 400, neat or in water	Good*	Good*	Good*	Good*
Propylene glycol, neat or in water	Good*	Good*	Good*	Good*
Ringer's solution	Good	Good	Good	Good
Saline, 0.9% (aqueous salt solution)	Good	Good	Good	Good
Serum (rat, mouse, etc.)	Good	Good	Good	Good
Solutol, up to 30% in water	Unknown	Unknown	Unknown	Unknown
Triacetin, up to 5% in water	Unknown	Unknown	Unknown	Unknown
Tween 80, up to 2%	Good	Good	Unknown	Unknown
Water, distilled	Good	Good	Good	Good

Compatibility Key (Recommendation):

Good: compatible for use with solvent

Poor: should not be used with solvent

Unknown: compatibility testing is suggested prior to use

†ALZET polyurethane catheters are made from Dow Pellethane 2363 material

‡ALZET silicone catheters are made from Dow Silastic material

*Be aware of the viscosity (viscosity may be a problem for catheters with very small inner diameter)