

CHEMICAL RESISTANCE OF RAPIDVAP® COMPONENTS

The RapidVap Evaporation System is designed to be chemical resistant to most compounds that are commonly used in evaporation processes. However, by necessity, the RapidVap is comprised of a number of different materials, some of which may be attacked and degraded by certain chemicals. The degree of degradation is dependent on the concentration and duration of exposure. Some of the major components of the RapidVap that are susceptible to degradation are as follows:

C - Moderate degradation; Limited use
D - Severe degradation; Infrequent use recommended; Immediate thorough cleaning required

Component	Material	Acids							Bases		Solvents											
		Acetic Acid 20%	Boric Acid	Formic Acid	Hydrobromic Acid 20%	Hydrochloric Acid 20%	Nitric Acid 20%	Sulfuric Acid 10%	Trifluoroacetic Acid (TFA)	Ammonium Hydroxide	Potassium Hydroxide	Acetone	Acetonitrile	Chloroform	Dimethyl Formamide	Dimethyl Sulfoxide (DMSO)	Ethanol	Ethyl Acetate	Hexanes	Isopropanol	Methylene Chloride	Toluene
<div>- Moderate degradation; Limited use</div> <div>- Severe degradation; Infrequent use commended; Immediate thorough cleaning required</div>																						
Manifold (N2/48)	Acetal (Delrin)	C			C	C	D	D	D	C					D							C
Exhaust Elbow (N2)	Polyamid (Nylon)	D		D	D	D	D	D	D		C									D	C	
Blower Fan (N2)	Polyamid (Nylon)	D		D	D	D	D	D	D		C									D	C	
Exhaust Hose (N2)	Polyethylene						C					C	C				C	C			C	C
Vacuum Fittings	Polypropylene												C									C
Blower Housing (N2)	Polypropylene												C									C
Vacuum Hose	PVC	D		C			D		D			D	D		D	C	D	D			D	D
Trim Ring	Bromyl Butyl							C	D			D	D	D				D			D	D
O-Rings	Neoprene		D		D	C	D		D			C	D	D	D		D				D	D
Block Hardware	Stainless Steel																					
Nozzle (N2)	Stainless Steel				D	D		D														
Vacuum Sensor	Stainless Steel				D	D		D														

- If a rotary vane vacuum pump is used, most compounds used in the RapidVap will degrade the oil if allowed to enter the pump. Generally, a rotary vane pump is not suitable for use with the RapidVap.
- Diaphragm vacuum pumps sold by Labconco have wetted parts either made from Teflon* or protected by Teflon coatings and are suitable for nearly all procedures.
- Glass lids are suitable for use with all common compounds.

When using compounds in the RapidVap that are hostile to the materials of construction, it is imperative that the equipment is properly maintained.

- After each run, clean up all residues, spills, and materials that might have splashed in the chamber. Use agents suitable for the substance involved.
- When using a rotary vane pump, the oil in the pump should be checked often. It must be changed if it is cloudy, shows particles or is discolored. The useful life of vacuum pump oil can be extended if the vacuum pump is operated for an extended period of time after the RapidVap run is

over. This allows contaminants to be purged from the hot oil. This must be done with the inlet to the pump blocked off to prevent air from free-flowing through the pump. If the pump is operated at an elevated vacuum level, oil will be expelled from the pump and damage will occur.

With prudent maintenance the RapidVap will provide years of service. Warranty on the affected parts will be void if maintenance has been obviously neglected. If you have questions about using specific compounds in your RapidVap, contact Labconco Technical Service at 1-800-821-5525 or 816-333-8811 or e-mail labconco@labconco.com.

*Teflon® is a registered trademark of E. I. DuPont.