WHEATON

Technical Bulletin

Chemical Compatibility

Chemical	Container Materials					Closure Liner Materials						Closure Materials				Septa and Stopper Materials					
	Glass	HDPE	LDPE	PET	PP	Al Foil	LDPE	Poly-Vinyl	SBR	Silicone	PTFE	PBT	Phenolic	PP	Urea	Butyl Rubber	Natural EPDM	Natural Rubber	Silicone	PTFE	FKM
Acetic Acid, Gglacial	A	A	B	A	A	A	B	B	C	B	A	C	A	A	D	B	B	B	B	A	D
Acetone	A	D	D	C	B	A	D	D	D	B	A	D	A	B	A	B	A	B	B	A	D
Acetonitrile	A	A	A	B	A	A	A	D	B	D	A	—	A	A	—	D	B	D	D	A	D
Acrylonitrile	A	A	A	B	B	B	A	D	C	D	A	—	D	B	—	D	A	D	D	A	D
Ammonium Sulfide	A	A	A	—	A	D	A	A	B	A	A	—	A	A	C	A	A	A	A	A	C
Benzene	A	D	D	C	D	B	D	D	D	D	A	A	A	D	A	D	D	D	D	A	A
Bleach	A	A	B	C	B	D	B	A	D	B	A	C	D	B	—	A	A	D	B	A	A
Boric Acid	A	A	A	A	A	D	A	A	A	A	A	A	B	A	—	A	A	A	A	A	A
Carbonic Acid	A	A	A	—	A	B	A	A	B	A	A	—	—	A	—	A	A	A	A	A	A
Chlorobenzene	A	C	D	B	C	A	D	D	D	D	A	B	A	C	B	D	D	D	D	A	A
Chloroform	A	C	C	D	D	A	C	D	D	D	A	D	A	D	A	D	D	D	D	A	A
Dichloromethane (DCM)	A	C	D	D	C	D	D	D	D	D	A	D	C	C	B	D	D	D	D	A	B
Diethylamine	A	C	D	—	B	A	D	D	B	B	A	—	—	B	—	B	B	B	B	A	C
Dimethyl Formamide (DMF)	A	A	A	B	A	A	A	D	D	B	A	—	A	A	—	D	B	D	B	A	D
Dimethyl Sulfoxide (DMSO)	A	A	A	B	A	A	A	D	D	D	A	—	—	A	—	D	A	D	D	A	D
Dioxane	A	B	B	A	D	D	B	D	D	D	A	B	A	D	—	B	B	D	D	A	D
Ether	A	C	D	A	D	B	D	D	D	D	A	—	B	D	B	D	C	D	D	A	C
Ethyl Acetate	A	B	B	B	C	B	B	D	D	C	A	C	A	C	B	C	C	D	C	A	D
Ethyl Alcohol	A	A	A	A	A	B	A	B	A	B	A	A	B	A	A	A	A	A	B	A	A
Ethylene Glycol	A	A	A	A	A	B	A	A	A	A	A	A	B	A	B	A	A	A	A	A	A
Formaldehyde	A	A	A	B	A	A	A	C	B	B	A	—	B	A	A	A	A	C	B	A	C
Formic Acid 50%	A	A	B	—	A	C	B	B	B	C	A	A	C	A	D	A	A	B	C	A	C
Gasoline	A	C	D	B	C	A	D	D	D	D	A	A	B	C	A	D	D	D	D	A	A
Glycerine	A	A	A	—	A	A	A	C	A	B	A	—	A	A	—	A	A	A	B	A	A
Heptane	A	C	D	B	C	A	D	C	D	D	A	A	A	C	A	D	D	D	D	A	A
Hexane	A	B	D	C	B	A	D	D	D	D	A	A	B	B	—	D	D	D	D	A	A
Hydrochloric Acid (HCL) 50%	A	A	A	B	A	D	A	B	D	D	A	C	A	A	D	A	D	B	D	A	A
Hydrofluoric Acid (HF) 50%	D	A	A	C	A	D	A	C	D	D	A	C	D	A	D	C	D	C	D	A	A
Hydrogen Peroxide 50%	B	A	A	B	A	A	A	C	C	B	A	B	D	A	D	B	B	B	B	A	A
Iodine	A	C	D	A	C	A	D	C	B	A	A	—	—	C	—	B	B	D	A	A	A
Isopropyl Alcohol	A	A	A	A	A	A	A	B	B	A	A	A	A	A	—	A	A	A	A	A	A
Methyl Alcohol	A	A	A	B	A	A	A	C	A	A	A	B	B	A	A	A	A	A	A	A	D
Methyl Ethyl Ketone (MEK)	A	D	D	B	B	A	D	D	D	D	A	C	A	B	—	A	B	D	D	A	D
Methylene Chloride	A	C	D	D	C	D	D	D	D	D	A	D	C	C	B	D	D	D	D	A	B
Nitric Acid 50%	A	C	B	C	C	D	B	B	D	D	A	C	B	C	D	C	D	C	D	A	B
Pentane	A	C	C	—	D	A	C	D	D	D	A	—	—	D	—	D	D	D	D	A	A
Perchloric Acid 50%	B	B	B	B	B	D	B	D	D	D	B	—	—	B	—	B	B	D	D	B	A
Phenol 50%	A	D	D	D	D	A	D	C	D	D	A	D	A	D	—	D	C	D	D	A	A
Phosphoric Acid 50%	A	A	A	B	A	B	A	B	D	D	A	B	B	A	D	B	B	D	D	A	A
Picric Acid	A	D	D	B	D	A	D	D	B	D	A	—	A	D	D	B	B	B	D	A	A
Potassium Hydroxide	D	A	A	D	A	D	A	A	B	C	A	C	D	A	—	A	A	B	C	A	B
Sodium Hydroxide 50%	D	A	B	D	A	D	B	C	A	B	A	C	D	A	C	A	A	A	B	A	B
Sodium Peroxide	A	B	B	—	B	C	B	A	B	D	A	—	B	B	D	A	A	B	D	A	A
Sodium Thiosulfate	A	A	A	B	A	A	A	A	B	A	A	—	A	A	B	A	A	B	A	A	A
Sulfuric Acid 50%	A	A	A	B	B	C	A	C	D	D	A	B	C	B	D	D	C	D	D	A	A
Tetrahydrofuran (THF)	A	C	C	A	B	A	C	D	D	D	A	D	A	B	—	C	C	D	D	A	D
Toluene	A	C	C	C	C	A	C	C	D	D	A	D	A	C	—	D	D	D	D	A	B
Trifluroacetic acid (TFA) 50%	A	A	A	B	A	—	A	A	—	D	—	—	—	A	—	—	A	—	D	—	—
Vegetable Oil	A	B	B	A	A	A	B	A	D	A	A	A	A	A	A	C	C	D	A	A	A
Xylene	A	C	D	C	D	A	D	D	D	D	A	C	A	D	B	D	D	D	D	A	A

(Tests conducted at room temp) **A** - Resistant **B** - Limited Resistance **C** - Poor Resistance **D** - Not Resistant **—** - Unknown

Al Foil ... aluminum foil **EPDM** ... ethylene propylene diene monomer **FMK** ... fluoroelastomer **HDPE** ... high density polyethylene **LDPE** ... low density polyethylene **PBT** ... polybutylene terephthalate
PET ... poyethylene terephthalate **PP** ... polypropylene **PTFE** ... polytetrafluoroethylene **SBR** ...styrene butadiene rubber **Urea** ... urea

Although the information in this chart was acquired from reputable sources, it should only be used as a guide in selecting a container and closure system. Because so many factors can affect the chemical resistance of a material, in-house testing under actual conditions should be performed. WHEATON accepts no responsibility for the accuracy of this data or for any consequences resulting from its use.

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