Technical support information

Chemical resistance of Socorex® dispensers

Bottle-top dispensers are used daily for dispensing a wide range of chemicals. Therefore, instruments have to meet various requirements assuring safety of the laboratory staff and their work. Dispensers must not give off any substances which may interfere with trace analysis, have cytotoxic properties, distort optical tests or influence chromatographic methods and residue analysis.

Materials

Special attention was paid to component materials (see charts below). All parts of the Acurex™ and Calibrex™ dispensers in contact with the liquid are made of robust and chemically inert materials providing for long instrument life.

Parts	Acurex™ 501
Valve	Pyrex glass and synthetic ruby
Barrel	Neutral glass
Plunger	PTFE coated glass
Reservoir	Amber glass or borosilicate glass
Delivery jet and union	PTFE / ETFE / PFA

Parts	Calibrex™ 520	Calibrex™ 521
Feed tube	PTFE	
Intake valve	Ceramic	Borosilicate glass
Valve balls	Pyrex glass	Ceramic, ruby
Valve springs	Platinum-Iridium	
Barrel	Borosilicate glass	
Barrel plate	PTFE	- -
Plunger	PFA coated glass	
Outlet valve	Ceramic	
Body	ETFE	
Delivery jet assembly	PTFE/ETFE	

Chemicals from A to Z

The following list includes most currently used chemicals. It provides useful information for the safe and adequate use of Acurex™ 501 and Calibrex™ 520/521 dispensers. However, safety precautions and recommendations in operating instructions must be followed carefully.

Code explanations

A = Good resistance

B = Acceptable with limitations

C = Not recommended

1 = Possible crystallisation - blockage (do not let dry plunger/barrel together).

2 = Swell of plunger protection layer, possible peeling.

3 = Acid vapours (better resistance with lower concentration). Do not leave instrument on bottle.

4 = Risk of softening or discoloration of external parts through vapours. Do not leave instrument on bottle.

5 = Chemical degradation of glass parts (plunger/barrel).

Technical support information

Chemicals A - Z	Acurex 501	Calibrex 520	Calibrex 521
A			
Acetic acid 100%	A	A	B/1
Acetic anhydride	B/4	B/4	B/4
Acetone	A	B/4	A
Acetonitrile	A	A	A
Ammonium hydoxide	A	A	B/4
Ammonium molybdate	A	A	A
Aniline	A	A	B/4
Antimony trichloride	B/2	A	A
Ascorbic acid	A	A	A
B			
Benzaldehyde	A	A	A
Benzene	A	B/4	B/4
Bis-(2-ethylhexyl) phthalate	A	B/4	B/4
Boric acid	A	A	A
Bromine	B/2	B/2	C/2/4
Butanol	A	A	A
Butanone	A	B/4	A
Butyl acetate	A	A	B/4
Butyl acrylate	A	A	A
C			
Calcium chloride	B/1	A	A
Carbon disulfide	A	A	A
Carbon tetrachloride	A	A	B/4
Chlorine water	C/2/4	B/2/4	C/2/4
Chlorobenzene	A	A	A
Chlorobutane	A	A	A
Chloroethanol	A	A	A
Chloroform	A	B/4	B/4
Chloronitric acid 100%	B/2/3	B/3	C/3
Chlorosulphuric acid 100%	B/2/3	B/3	B/3
Chromic acid 100%	B/2/3	B/3	B/3
Citric acid	A	A	A
Copper fluoride	A	A	B/4
Cyanocrylate	C/1	C/1	C/1
Cyclohexane	A	A	A
Cyclohexanone	A	A	A
D			
Di (2-ethylhexyl) peroxydicarb.	B/1	B/4	B/4
Dichlorethane (DCE)	B/4	B/4	A
Diethylene glycol	A	A	A
Diethylether	A	A	A
Dimethylformamide (DMF)	A	B/4	A
Dimethylsulfoxide (DMSO)	A	A	A
Dioxane /Diethylene dioxide	A	A	B/4
Dioxide chlorine	B/2/4	B/2/4	B/2/4
E			
Ethanol	A	A	A
Ether	A	B/4	B/4

Technical support information

Chemicals A - Z	Acurex 501	Calibrex 520	Calibrex 521
E (continued)			
Ethyl acetate	A	A	B/4
Ethylene diamine	A	A	A
Ethylene glycol	A	A	A
F			
Formaldehyde (Formalin)	A	A	A
Formic acid	A	A	A
G			
Gamma-butyrolactone	A	A	A
Gazoline	A	A	A
Glycerin <40%	A	A	A
H			
Heptane	A	A	A
Hexane	A	A	A
Hydrofluoric acid (HF)	C/5	C/5	C/5
Hydrochloric acid 37% (HCl)	B/2/3	A	B/3
Hydrogen peroxide	A	A	A
I			
Iod (J2)/ Iodine	A	A	A
Iodine Bromide	C/2/4	C/2/4	C/2/4
Iodine Chloride	C/2/4	C/2/4	C/2/4
Isooctane	A	A	A
Isopropanol	A	A	A
Iso-propylamide	A	A	A
L			
Lactic acid	A	A	A
Liquid ammonia	A	A	A
M			
Methanol	A	A	A
Methyl chloride	A	A	A
2-Methoxyethanol	A	A	A
Methyl ethyl ketone (MEK)	A	B/4	A
Methylene chloride (DCM)	A	B/2/4	B/2/4
Methyliodide	A	A	A
Methylmethacrylate (MMA)	A	A	A
Methylpentanone	B/4	B/4	B/4
N			
N-Butylamin	B/4	B/4	B/4
Nitric acid 100%	B/2/3	B/3	C/3
Nitric acid dil. <30%	A	A	A
Nitromethane	A	B/4	B/4
N-methyl-pyrolidone (NMP)	A	A	A
O			
Octane	A	A	A
Octanol	A	A	A
Oil (vegetable, mineral, animal)	A	A	A
Oxalic acid	A	A	A

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Chemicals A - Z	Acurex 501	Calibrex 520	Calibrex 521
P			
Pentane	B/4	B/4	B/4
Perchloric acid 100%	B/2/3	B/3	B/3
Perchloric acid diluted	A	A	A
Petrol benzene	A	A	B/4
Petroleum ether / spirit	A	A	B/4
Phenol	A	A	A
Phenylhydrazine	A	A	B/4
Phosphine	A	A	A
Phosphoric acid 100%	A	A	A
Potassium chloride	B/1	A	A
Potassium dichromate	A	A	A
Potassium fluoride	C/4/5	C/4/5	C/4/5
Potassium hydroxide	B/1	B/1	B/1
Potassium iodide	A	A	A
Potassium permanganate	A	A	A
Propronic acid	A	A	A
Propylene oxide	A	A	A
Pyric acid (Trinitrophenol)	A	A	B/4
Pyridine	B/4	B/4	B/4
R			
Resorcin	B/4	B/4	B/4
S			
Silver nitrate	A	B/1	B/1
Sodium acetate	A	A	A
Sodium chloride/salt for cooking	B/1	A	A
Sodium hydroxide	B/1	B/1	B/1
Sodium hypochloride	A	A	A
Sodium thiosulfate	A	A	A
Sulfochromic acid 100%	B/2/3	B/2/3	B/2/3
Sulfonitric acid 100%	B/2/3	B/2/3	B/2/3
Sulfur dioxide	B/4	B/4	B/4
Sulfuric acid 100%	B/2/3	B/2	B/2
T			
Terebentine oil	A	A	B/4
Tetrachlorethylene/methylene	B/4	B/4	B/4
Tetrahydrofurane THF	B/2/4	B/2/4	B/2/4
Tetramin	A	A	A
Toluene	A	B/4	B/4
Trichlorethylene	B/4	B/4	B/4
Trichloroacetic acid	A	A	A
Trichloroethane/methane	B/4	B/4	B/4
1,1,2 - Trichlortrifluoroethane	B/4	B/4	B/4
Trifluoroacetic anhydride (TFAA)	B/3	B/3	B/4
Trifluoroacetic acid (TFA)	B/3	B/3	B/4
X			
Xylene	A	B/4	B/4

The above guidelines have been carefully reviewed prior to publication.
Should you require information on chemicals not listed, please feel free to contact us.