

Chemical resistance of laboratory countertops

How five countertop materials react to 80 laboratory reagents. Reagents in alphabetical order.

KEY  No effect  Slight discoloration  Discoloration					
Reagent	COUNTERTOP MATERIAL				
	Epoxy resin	Quartz-granite composite	Phenolic resin	Monolithic ceramics	Polypropylene
Acetic acid 5%					
Acetic acid, glacial					
Acetic anhydride					
Acetone					
Acetonitrile					
Acridine orange					
Alizarin					
Ammonia solution 25%					
Ammonium hydroxide 28%					
Aniline blue					
Aniline oil					
Basic fuchsin					
Benzene					
Boiling water (5 min)					
2-Butane					
Butyl acetate					
Carbol fuchsin					
Carbon tetrachloride					
Carmine					
Chromic acid 40%					
Chromic-sulfuric acid					
Chromium oxide					
Citric acid 10%					
Congo red					
Copper(II) sulfate					
Cottonseed oil					
Crystal violet					
1,2-Dichloroethane					
Dichloromethane					
Diethyl ether					
N,N-Dimethylformamide					
1,4-Dioxane					
Distilled water					
Eosin					
Ethanol 50%					
Ethanol 95%					
Ethyl acetate					

Reagent	COUNTERTOP MATERIAL				
	Epoxy resin	Quartz-granite composite	Phenolic resin	Monolithic ceramics	Polypropylene
Ethylene glycol	✓	✓	✓	✓	✓
Formaldehyde 37%	✓	✓	✓	✓	✓
Furfural	🟡	🔴	✓	✓	✓
Giemsa stain	✓	🔴	✓	✓	✓
Heptane	✓	✓	✓	✓	✓
<i>n</i> -Hexane	✓	✓	✓	✓	✓
Hydrofluoric acid 48%	🔴	🟡	🔴	✓	🔴
Hydrogen peroxide 3%	✓	✓	✓	✓	✓
Hydrogen peroxide 20%	✓	✓	✓	✓	✓
Iodine, crystalline	✓	🟡	🔴	✓	✓
Iron chloride	✓	✓	✓	✓	✓
Isooctane	✓	✓	✓	✓	✓
Kerosene	✓	✓	✓	✓	✓
Malachite green	✓	🟡	✓	✓	✓
Methyl violet	✓	🔴	✓	✓	✓
Mineral oil	✓	✓	✓	✓	✓
Nitric acid 10%	✓	✓	✓	✓	✓
Nitric acid approx. 65%	🟡	🔴	🟡	✓	🟡
Oleic acid	✓	✓	✓	✓	✓
Olive oil	✓	✓	✓	✓	✓
Phenol	✓	✓	✓	✓	✓
Phosphoric acid 85%	✓	✓	✓	✓	✓
Potassium dichromate	✓	✓	✓	✓	✓
Potassium iodide 10%	✓	✓	✓	✓	✓
Potassium permanganate	✓	✓	✓	✓	✓
Safranin	✓	✓	✓	✓	✓
Soap solution 1%	✓	✓	✓	✓	✓
Sodium carbonate 2%	✓	✓	✓	✓	✓
Sodium carbonate 20%	✓	✓	✓	✓	✓
Sodium chloride 10%	✓	✓	✓	✓	✓
Sodium hydroxide 10%	✓	✓	✓	✓	✓
Sodium hydroxide 50%	✓	✓	✓	✓	✓
Sodium hypochlorite 5%	✓	✓	✓	✓	✓
Sudan III	✓	✓	✓	✓	✓
Sulfuric acid 33%	✓	✓	✓	✓	✓
Sulfuric acid 60%	✓	✓	✓	✓	✓
Sulfuric acid 96%	🔴	🟡	✓	✓	🟡
Tetrahydrofuran	✓	✓	✓	✓	✓
Toluene	✓	✓	✓	✓	✓
Transformer oil	✓	✓	✓	✓	✓
Trichloroethylene	✓	✓	✓	✓	✓
Turpentine	✓	✓	✓	✓	✓
Xylene	✓	✓	✓	✓	✓