

Chemistry of Organic Compounds— Master Materials Guide



(for a class of 30 students working in pairs)

Experiments and Demonstrations

Chemicals	Flinn Scientific Catalog No.	Models of Organic Compounds	Making Soap	Preparation of Esters	Synthesis of Aspirin	Steam Distillation of Cinnamon	Cleaning with Charcoal	The Carbon Sulfide	Feeling Blue	Kalderoscope Optical Activity	Salt-Out the Red, White, and Blue
Acetic acid, glacial	A0177			60 mL							
Acetic anhydride	A0156				15 mL						
Aspirin	A0201				1						
Benzoic acid	B0197			30 g							
Boiling stones	B0136			15							
Calcium chloride, dihydrate	C0196		8 g								
Charcoal, activated	C0202						3 g				
Cinnamaldehyde	C0400					10 mL					
Copper(II) sulfate, pentahydrate	C0102										1 g
Corn syrup	C0091									450 mL	
Dextrose	D0002								1 g		
Ethyl alcohol	E0007			60 mL	56 mL						
Hexanes	H0002					225 mL					
Iron(III) chloride, hexahydrate	F0006		14 g								
Iron(III) chloride solution, 0.1 M	F0045				50 mL						
Isopentyl (Isoamyl) alcohol	I0031			60 mL							
Magnesium chloride, dihydrate	M0146		11 g								
Methyl alcohol	M0054			60 mL							80 mL
Methylene blue solution, 1%	M0074								1 mL		
1-Octanol (Octyl alcohol)	Q0024			60 mL							
Olive oil	Q0004		45 g								
Potassium carbonate, anhydrous	P0038										55 g
Potassium hydroxide	P0058									6 g	
Propionic acid	P0187			60 mL							
<i>n</i> -Propyl alcohol	P0028			60 mL							
Salicylic acid	S0341			30 g	8 g						
Schiff reagent	S0180					30 mL					
Sodium bicarbonate solution, saturated	S0267			300 mL							
Sodium carbonate, anhydrous	S0051							25 g			
Sodium chloride	S0061					150 g					
Sodium hydroxide solution, 6 M	S0242		100 mL								
Sucrose	S0134							60 g			
Sudan III	S0152										1 g

Continued on next page

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Chemicals, continued											
Sulfuric acid, 18 M	S0228			30 mL	2 mL			60 mL			
Tallow	T0084		105 g								
Toluene	T0019										80 mL
Glassware											
Beakers											
50-mL	GP1005	15		15							
150-mL	GP1015										3
250-mL	GP1020	15		30		1					1
400-mL	GP1025			5		15					
400-mL, tall-form, Pyrex®	GP1059						1				
500-mL, tall-form, Pyrex®	GP1060							1			
Bottle, French square, 240-mL	AP8452										1
Capillary tubes, one end open	GP7047				1 pkg.						
Erlenmeyer flasks											
50-mL	GP3021				15	30					
125-mL	GP3040					15	1				
250-mL	GP3045				15						
500-mL	GP3050							1			
Funnel	GP5050				15		1				
Graduated cylinders											
10-mL	GP2005	15	30	15							
100-mL	GP2020							1	1		
Organic distillation set*	AP6351					15					
Pipets, Pasteur	GP7042			15	15						
Pipets, Volumetric, 25-mL	GP7031										1
Separatory funnels, 125-mL	GP5059					15					
Stirring rods	GP5075	15		15	15	1	1				1
Test tubes, 13 × 100 mm	GP6063	75		45	30						
Test tubes, 16 × 150 mm	GP6066			120							
Test tubes, 25 × 50 mm	GP6069					15					
Watch glasses	GP8006			60	15						

*Organic distillation set includes a one-piece custom distillation head (3-way adapter, condenser, and outlet adapter), as well as both a round-bottom distilling flask (250-mL) and a round-bottom receiving flask (100-mL).

Continued on next page

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General Equipment and Miscellaneous											
Balance, centigram (0.01-g precision)	OB2059		3	3	3	3	1	1	1		1
Clamp, buret, plain jaw	AP8354				15	30					
Filter paper, 12.5 cm diameter	AP8998				15		1				
Hot plate	AP4674		3	5	5	5					
Heating mantle	AP4372					15					
Melting point apparatus	AP6042				1						
Microspatula	AP9015										2
Organic small-group model set	AP5453	10									
pH test paper, pH 0–13	AP5894		1								
Pipets, Beral-type, graduated	AP1721		60	60	60	45			1		
Pipet filler	AP1887										1
Polarizing film	AP8913									3	
Ring support, 2-inch	AP1320				15		1				
Rubber stopper, size 7	AP2229								1		
Rubber tubing, 1/4 inch	AP1176					30					
Scissors	AP5394									1	
Spatula	AP8338		15		15						
Support stand	AP8226				15	30		1			
Test tube clamp	AP8217			15							
Test tube rack	AP1319		15	15							
Thermometer, digital	AP6049		15	15	15	15*					
Thermometer holder, rubber	AP1636					15					
Tongs, utility	AP1359							1			
Variable transformer (temperature controller)	AP4434					15					
Wash bottle	AP1668		15	15	15				1		
Water, distilled or deionized	W0007, W0001		✓	✓	✓	✓			✓		✓
Wax marking pencils	AP8291			15	15						
Weighing dishes, small	AP1277		30				1				
Weighing dishes, large	AP1279					15					1

*Regular glass-bulb thermometers are needed for steam distillation.