



Material Identification Guide

Materials Thermoplastics	No Flame	Burns but Extinguishes on Removal of Flame Source			Continues to Burn after Removal of Flame Source				Remarks
	Odor	Odor	Color of Flame	Drips	Odor	Color of Flame	Drips	Speed of	
ABS	-	Acrid	Yellow, blue edges	No	Acrid	Yellow, blue edges	Yes	Slow	Black smoke with soot in air
Acetals	-	-	-	-	Formal dehyde	Blue, no smoke	Yes	Slow	
Acrylics	-	-	-	-	Fruity	Blue, yellow tip	No (cast) Yes (molded)	Slow	Flame may spurt if rubber modified
Cellulosics Acetate	-	Vinegar	Yellow with sparks	No	Vinegar	Yellow	Yes	Slow	Flame may spark
Fluorocarbons FEP	Faint odor of burnt hair	-	-	-	-	-	-	-	Deforms; no com- bustion, but drips
PTFE	Faint odor of burnt hair	-	-	-	-	-	-	-	Deforms; does not drip
CTFE	Faint odor of acetic acid	-	-	-	-	-	-	-	Deforms; no com- bustion, but drips
PVF	Acidic	-	-	-	-	-	-	-	Deforms
Nylons Type 6 & 6/6	-	Burnt Wool	Blue, yellow tip	Yes	-	-	-	-	6/6 More rigid
Polycarbonates	-	Faint, sweet aromatic ester	Orange	Yes	-	-	-	-	Black smoke with soot in air
Polyethylenes	-	-	-	-	Paraffin	Blue, yellow tip	Yes	Slow	Floats in water
Polyimides	b	-	-	-	-	-	-	-	Chars; mat'l rigid
Polypropylenes	-	Acrid	Yellow	No	Sweet	Blue, yellow tip	Yes	Slow	Floats in water; more difficult to scratch than poly- ethylene
Polystyrenes	-	-	-	-	Illuminating gas	Yellow	Yes	Rapid	Dense black smoke with soot in air
Polysulfones	-	b	Orange	Yes	-	-	-	-	Black Smoke
Polyurethanes	-	-	-	-	b	Yellow	No	Slow	Black smoke
Vinyls Flexible-Rigid	-	Hydrochloric Acid	Yellow with green spurts	No	-	-	-	-	Chars; melts
Polyblends ABS/Carbonate	-	-	-	-	b	Yellow, blue edges	No	-	Black smoke with soot in air
ABS-PVC	-	Acrid	Yellow, blue edges	No	-	-	-	-	Black smoke with soot in air
PVC/Acrylic	-	Fruity	Blue, yellow tip	No	-	-	-	-	-
Melamines	Formal dehyde and fish	-	-	-	-	-	-	-	-
Phenolics	Formal dehyde and phenol	Phenol and wood or paper	Yellow	No	-	-	-	-	May crack
Polyesters	-	Hydrochloric Acid	Yellow	No	b	Yellow, blue edges	No	Slow	Cracks and breaks
Silicones	b	-	-	-	-	-	-	-	Deforms
Ureas	Formaldehyde	-	-	-	-	-	-	-	

a, Flame retardant grade. b, Non-descript. c, Inorganic fiber. d, Organic fiber
ref. Materials Engineering, Penton/IPC, Cleveland, Ohio