

# SIMPLE METHODS FOR IDENTIFICATION OF VIRGIN PLASTICS

PE	PP	PA	POM	PETP/PBTP	PC	PMMA	PVC	PEEK	PPS	PVDF	PTFE	PSU	PEI	PAI	PI	PBI
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## behaviour in water:

floats (density < 1 g/cm<sup>3</sup>)

PE	PP
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sinks (density > 1 g/cm<sup>3</sup>)

PA	POM	PETP/PBTP	PC	PMMA	PVC	PEEK	PPS	PVDF	PTFE	PSU	PEI	PAI	PI	PBI
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## behaviour in water, saturated with kitchen salt (NaCl):

floats (density < 1,22 g/cm<sup>3</sup>)

PE	PP	PA
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PC	PMMA
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sinks (density > 1,22 g/cm<sup>3</sup>)

POM	PETP/PBTP
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PVC	PEEK	PPS	PVDF	PTFE	PSU	PEI	PAI	PI	PBI
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## behaviour on burning:

burns very easily, keeps on burning when removed from the flame

PE	PP
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POM
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PMMA
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burns in the flame, extinguishes slowly or not at all outside the flame

PA
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PETP/PBTP
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PSU
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difficult to ignite, extinguishes when removed from the flame

PC
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PVC	PEEK	PPS	PVDF
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PEI	PAI
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does not burn, just glows

PTFE
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PI	PBI
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## colour of the flame:

bright yellow flame

PETP/PBTP	PC
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PVDF
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PSU	PEI
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blue flame with yellow tip

PE	PP
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bluish flame with yellow edge, fibre forming

PA
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clear smokeless blue, almost invisible flame

POM
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yellow, edge of flame is slightly green

PVC
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no flame, just glows

PTFE
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PI	PBI
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## formation of soot:

burns sooty

PETP/PBTP	PC
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PVC
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no or almost no formation of soot

PE	PP	PA	POM
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PMMA
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## odor of vapors:

very irritating (formaldehyde)

POM
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irritating (HF)

PVDF	PTFE
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sweetish irritating

PETP/PBTP
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paraffin-like odor (candle wax)

PE
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slight paraffin-like odor (candle wax)

PP
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sweetish fruity

PMMA
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similar to burnt horn

PA
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typical sulphur-like (rotten eggs)

PPS
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## test with a copper wire (Beilstein test):

positive (green or blue-green flame)

PVC
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