

pH INDICATORS

The list given below is not exhaustive but gives details of the most commonly used indicators. The list is divided into two sections, with the usual titrimetric indicators in the first section, but both lists are arranged in order of pH ranges covered.

Name	pH Range	Colour change	Usual solution
Methyl Orange	2.8 - 4.0	Red – Yellow	0.05% in water
Congo Red	3.0 - 5.0	Blue – Red	0.1% in water
Methyl Red	4.2 - 6.3	Red – Yellow	0.1% in 60% ethanol
Phenolphthalein	8.3 - 10.0	Colourless – Red	0.5% in 50% ethanol
Thymolphthalein	9.3 - 10.5	Colourless – Blue	0.04% in 60% ethanol
Cresol Red	0.2 - 1.8	Red – Yellow	1g+26.2cm ³ 0.1M NaOH acid and dilute to 1 litre with water
	7.2 – 8.8	Yellow – Red	
Thymol Blue	1.2 - 2.8	Red – Yellow	1g+21.5cm ³ 0.1M NaOH etc
	8.0 - 9.6	Yellow – Violet	
Bromophenol Blue	2.8 - 4.6	Yellow – Blue	1g+15.0cm ³ 0.1M NaOH etc
Bromocresol Green	3.6 - 5.2	Yellow – Blue	1g+14.4cm ³ 0.1M NaOH etc
Bromocresol Purple	5.2 - 6.8	Yellow – Violet	1g+18.6cm ³ 0.1M NaOH etc
Bromothymol Blue	6.0 - 7.6	Yellow – Blue	1g+16.0cm ³ 0.1M NaOH etc
Phenol Red	6.8 - 8.4	Yellow – Red	1g+28.4cm ³ 0.1M NaOH etc

OTHER TITRIMETRIC INDICATORS

Name	Usual Solution	Quantity Used
Barium diphenylamine sulphonate	0.3% aqueous	5 drops
N-phenylanthranilic acid	0.107g + 0.1g Na ₂ CO ₃ made up to 100cm ³ water	0.5cm ³
Feroin	1.487g o-phenanthroline in Water, add 0.656g iron (II) sulphate heptahydrate and make up to 100cm ³	1 drop
Potassium chromate	5% aqueous	1 cm ³
Dichlorofluorescein	0.1% in 65% ethanol	5 drops
Iron (III) alum	14g iron(III) alum in water, add HNO ₃ until yellow and dilute to 100cm ³	1cm ³
Eriochrome Black T	0.5g + 100g NaCl powdered	about 0.2g
Murexide	1g + 100g NaCl powdered	about 0.2g
Pyrocatecol violet	0.1% aqueous	2-3 drops
Xylenol orange	0.1% in 50% ethanol	2-3 drops
Starch	1g shaken in water and poured into 100cm ³ of boiling water	1cm ³