

ANNEX 4

Examples of anthraquinone dyes;
flavonoid dyes
(Source: Hancock)

Examples of natural anthraquinone dyes

Dye name	CI Number	CI Name	Natural source
alizarin	75330	Natural Red 6,8,9,10,11,12	madder, chayroot
purpuroxanthin or xanthopurpurin	75340	Natural Red 8, 16	madder, munjeet
rubuadin	75350	Natural Red 8,16	madder, Gallium
morindanigrin	75360	Natural Red 19	Morinda umbellata
munjistin or purpurin-xanthin-carboxylic acid	75370	Natural Red 16,8	madder, munjeet
morindadiol	75380	Natural Red 18	morinda root
sorajidiol	75390	Natural Red 18	morinda root
chrysophanic acid	75400	Natural Red 23	turkey rhubarb
purpurin	75410	Natural Red 16,8	munjeet, madder
pseudopurpurin	75420	Natural Red 14,9,8	Gallium, madder
morindon	75430	Natural Red 19, Yellow 13	oungkouda
emodin or frangula-emodin	75440	Natural Green 2, Yellow 14	Persian berries
laccaic acid	75450	Natural Red 25	Coccus laccae
kermesic acid	75460	Natural Red 3	C. ilici
caminic acid or cochineal	75470	Natural Red 4	C. cacti

Source: Kirk *et al* (1979).

Examples of natural alpha-naphthoquinone dyes

Dye name	CI Number	CI Name	Natural source
lawsone	75480	Natural Orange 6	Lawsonia inermis
lapachol	75490	Natural Yellow 16	taigu or lapachol wood
juglone	75500	Natural Brown 7	walnut shells
deoxysantalol	75510	Natural Red 22,23	sanderswood, barwood
alkannan	75520	Natural Red 20	Anchusa tinctoria
alkaninor or anchusin	75530	Natural Red 20	Anchusa tinctoria
shikonin or Tokyo violet	75535		Lithospermum erythrorhizon

Examples of natural flavonoid dyes

Dye name	CI Number	CI Name	Natural source
pratol	75570	Natural Yellow 10	red clover
apigenin	75590	Natural Yellow 1,2	Greek chaxnomiles, weld
luteolin	75590	Natural Yellow 2	dyers rocket, dyers wood
fulsugetin	75600		Garcinia spicata dyers
genistein or prunetol	75610		broom, greenweed
fisetin	75620	Natural Brown I	Venetian sumac
datiscetin	75630	Natural Yellow 12	bastard hemp
kaempferol, trifolitin or indigo yellow	75640	Natural Yellow 13,10	natal indigo, dyers knotgrass
kaempferol 7-methyl ether	75650	Natural Green 2, Natural Yellow 13	sap green, Hungarian berries
morin	75660	Natural Yellow 8,11	dyers mulberry, osage orange
quercetin, meletin or sophoretin	75670	Natural Yellow 10, Natural Red I	Persian berries, toon or Indian mahogany tree
isorhamnetin	75680	Natural Yellow 10	red clover
rhamnetin	75690	Natural Yellow 13	buckthorn
xanthorhamnin	75700	Natural Green 2, Natural Yellow 13	sap green, Hungarian berries
rhamnazin	75710	Natural Yellow 13	Persian berries, dyers buckthorn
quercimeritrin	75720	Natural Yellow 10	Indian cotton
quercitrin	75730	Natural Yellow 10	quercitron bark
rutin	75740	Natural Yellow 10	Chinese or Avignon berries
gossypetin	75750	Natural Brown 5, Natural Yellow 10	Indian cotton