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HOW TO GIVE YOUR PRODUCTS NEW SHADES OF BEAUTY.

Symrise can find the right tone for every kind of cosmetic and body-care article. DragoColor® offers an extensive range of soluble colorants, lakes and pigments for use in coloring cosmetics. It opens the door for you to custom-color your products however you like: bath products (shampoo, bubble bath, shower gel, soap, bath salts), oral and dental care products (toothpaste, mouth wash), personal care products (creams, lotions), cosmetics (foundation, powder, eye cosmetics, lipsticks) and hair-color products. Let us show you which DragoColor® colorant will be the best match for you.

SAFETY AND DRAGOCOLOR®: QUALITY YOU CAN COUNT ON.

Analyzed, tested, approved: DragoColor® cosmetic colorants fulfill the legal guidelines of the member states of the European Union as well as those of many other countries.

The four fields of applications for cosmetic products according to EU directives are as follows:

Field 1

Coloring agents allowed in all cosmetic products.

There are two kinds of DragoColor® products in this category: food colorants which are approved for use in the EU are referred to as “food dyes,” and all other colorants are referred to as “cosmetic colorants.”

Field 2

Coloring agents allowed in all cosmetic products except those intended to be applied in the vicinity of the eyes.

Field 3

Coloring agents allowed exclusively in cosmetic products intended not to come into contact with the mucous membranes.

Field 4

Coloring agents allowed exclusively in cosmetic products intended to come into contact only briefly with the skin.

DragoColor® colorants for fields 2-4 are labeled correspondingly. There is also a range of suitable colorants which have received FDA approval and can be used in cosmetic products intended for export to the US.

SYMRISE-SERVICE: WHAT WE CAN DO FOR YOU.

Everything at a glance:

The overview below will provide you with everything you need to know about the product descriptions, application instructions and recommended doses. If you have further questions about legal guidelines and using DragoColor® colorants for international export, we would be more than happy to assist you.

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Our complete Dictionary of Colors can be found online at www.symrise.com.

1. DragoColor® colorants for cosmetics

Listed in numerical order by Color Index Number (C.I.)

E ... : also permitted for use as a food dye in the European Union

\$: can be provided in FDA-certified quality for use in the USA

\$\$: can be used in the USA without certificate

Color Index Number	Color	Product Number	Name	Delivery form, Solubility	Cosmetic Application Field
without	brown	656815	Caramel E 150c	powder, water soluble	1: e.g. creams, lotions
11680	yellow	656569	Yellow	powder, pigment	3: e.g. toilet soap, syndet
11680	yellow	656845	Yellow	powder, water dispersible pigment	3: e.g. toilet soap, syndet, liquid tensid products
11710	yellow	656864	Yellow 2	dispersion, water dispersible pigment	3: e.g. toilet soap, syndet, liquid tensid products
12010	brown	656869	Dark Brown	powder, oil soluble	3: oil products
12085	red	656575	Light Red (yellowish)	powder, pigment	1 ¹ : e.g. foundation, powder, lipstick
12085	red	677583	Light Red	pigment paste	1: e.g. toilet soap, syndet soap
12490	red	100380	Fast Red (dark)	powder, pigment	1: e.g. foundation, powder, lipstick, hair mascara, soap
12490	red	656595	Red	powder, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products
12490	red	656262	Red	pigment paste	1: e.g. toilet soap, syndet
12490	red	656866	Red 2	dispersion, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products
12700	yellow	656870	Oil Yellow	powder, oil soluble	4: oil products
13015	yellow	656517	Fast Yellow approx. 38%	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, mouth wash, alcoholic perfumery
13015	yellow	656800	Yellow approx. 90%	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products
14700	red	620093 (\$)	FD&C Red No. 4	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, alcoholic perfumery
14720	red	100293	Carmoisin E 122	powder, water soluble	1: e.g. liquid tensid products, mouth wash
14720	red	656832	Carmoisin lake E 122	powder, lake	1: e.g. foundation, powder, lipsticks
15510	orange	656852 (\$)	Orange	powder, water soluble	2: e.g. toilet soap, syndet, liquid tensid products, alcoholic perfumery
15850	red	656572	Purple Red (Ca-salt)	powder, pigment	1: e.g. foundation, powder, lipsticks
15985	orange	100291 (\$)	Sunset Yellow E 110	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
15985	orange	645571	Sunset Yellow granular E 110	granular, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery

¹ European Union: highest permitted dose: max. 3%.

Color Index Number	Color	Product Number	Name	Delivery form, Solubility	Cosmetic Application Field
15985	orange	656831	Sunset Yellow lake E 110	powder, lake	1: e.g. foundation, powder, lipsticks
16035	red	100304 (\$)	Allurared E 129	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
16035	red	100295	FD&C Red No. 40	powder, water soluble	1: e.g. liquid tensid products
16035	red	181248	FD&C Red No. 40 granular	granular, water soluble	1: e.g. liquid tensid products
16185	red	100292	Amaranth E 123	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
16255	red	100300	Ponceau 4R, E 124	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
17200	bluish red	656855 (\$)	D&C Red No. 33	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
18050	red	656589	Brilliant Pink	powder, water soluble	3: e.g. liquid tensid products
18965	yellow	656588	Yellow	powder, water soluble	1: e.g. liquid tensid products, alcoholic perfumery
19140	yellow	100296 (\$)	Tartrazin E 102	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
19140	yellow	656828	Tartrazin lake E 102	powder, lake	1: e.g. foundation, powder, lipsticks
28440	black	100303	Brilliant Black BN, E 151	powder, water soluble	1: e.g. liquid tensid products
40800	orange	656818	β-Carotene E 160a	liquid, oil soluble	1: oil products
40800	orange	656819	β-Carotene E 160a	powder, water dispersible	1: e.g. O/W-creams
42045	blue	656477	Blue	powder, water soluble	3: e.g. liquid tensid products
42045	blue	656841	Patent Blue VF	powder, water soluble	3: e.g. liquid tensid products
42051	blue	100294	Patent Blue V, E 131	powder, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
42051	blue	645295	Patent Blue granular E 131	granular, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
42051	blue	656484	Blue paste	paste, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
42053	green	656806 (\$)	FD&C Green No. 3	powder, water soluble	1: e.g. mouth wash
42080	blue	656840	Acid Blue 7	powder, water soluble	4: e.g. liquid tensid products
42090	blue	656482	Blue 20%, E 133	powder, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
42090	blue	656601	Brilliant Blue FCF, E 133	powder, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste
42090	blue	645367	Brilliant Blue granular E 133	granular, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
42090	blue	656480	Blue paste	paste, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
44090	green	656805	Brilliant Green E 142	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
45100	red (fluorescent)	656859	Rhodamine EB 4	powder, water soluble	4: e.g. liquid tensid products, laundry detergent (liquid), fabric softener
45350	yellow (fluorescent)	656846	Uranine	powder, water soluble	1 ² : e.g. liquid tensid products

² European Union: highest permitted quantity in cosmetic product: 6% (calculated in terms of pure colorant).

Color Index Number	Color	Product Number	Name	Delivery form, Solubility	Cosmetic Application Field
45410	pink (fluorescent)	656858	Phloxine	powder, water soluble	1: e.g. lipsticks ³
47005	yellow	100290	Quinoline Yellow E 104	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, mouth wash, alcoholic perfumery
47005	yellow	645296	Quinoline Yellow granular E 104	granular, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, mouth wash, alcoholic perfumery
47005	yellow	656829	Quinoline Yellow lake E 104	powder, lake	1: e.g. foundation, powder, lipsticks
51319	violet	656867	Violet	dispersion, water dispersible pigment	4: e.g. toilet soap, syndet, liquid tensid products ⁴
59040	green (fluorescent)	656533 (\$)	Pyranine	powder, water soluble	3: e.g. toilet soap, syndet, liquid tensid products
60725	violet (bluish)	656873	Violet (bluish)	powder, oil soluble	1: oil products
60730	Violet	656861	Alizarine Brilliant Violet R	powder, water soluble	3: e.g. alcoholic perfumery, but also for hair-coloring
61565	green (turquoise)	656871	Turquoise	powder, oil soluble	1: oil products
61570	green	656555	Green (bluish) approx. 36%	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, mouth wash, liquid detergent, fabric softener
61585	blue	656839	Blue	powder, water soluble	4: e.g. toilet soap, syndet, liquid tensid products, liquid detergent, fabric softener
61585	blue	656586	Blue granular	granular, water soluble	4: e.g. toilet soap, syndet, liquid tensid products
73015	blue	100298	Indigotine E 132	powder, water soluble	1: application in cosmetics unknown
73015	blue	656827	Indigotine lake E 132	powder, lake	1: e.g. foundation, powder, lipsticks
73360	red	100383 (\$)	Brilliant Pink Z	powder, pigment	1: e.g. toothpaste, foundation, powder, lipsticks
73360	red	656263	Pink 15%	pigment paste	1: toothpaste
74160	blue	656568	Heliogen Blue, Phthalo Blue	powder, pigment	1: e.g. foundation, toilet soap, syndet, toothpaste
74160	blue	656842	Heliogen Blue 40%	powder, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products, laundry detergent (powder and liquid), fabric softener
74160	blue	656488	Heliogen Blue paste	pigment paste	1: toothpaste
74160	blue	656862	Phthalocyanine Blue	dispersion, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products
74260	green	100379	Fast Green	powder, pigment	2: e.g. toilet soap, syndet, toothpaste, laundry detergent (powder)
74260	green	656851	Green	powder, water dispersible pigment	2: e.g. toilet soap, syndet, liquid tensid products, laundry detergent (powder and liquid), fabric softener
74260	green	656558	Green paste	pigment paste	2: toothpaste
74260	green	656865	Phthalocyanine Green	dispersion, water dispersible pigment	2: e.g. toilet soap, syndet, liquid tensid products
75120	orange	656816	Annatto E 160b	liquid, oil soluble	1: oil products

³ Colors skin and lips directly.

⁴ Not for bubble baths.

+	+	+	+	+	+
Color Index Number	Color	Product Number	Name	Delivery form, Solubility	Cosmetic Application Field
75470	red	656825	Carmine E 120	powder, water soluble	1: e.g. mouth wash
75810	green	656821	Copper Chlorophyll E 141	liquid, oil soluble	1: e.g. toilet soap, oil products, alcoholic perfumery
75815 ⁵	green	100308	Sodium Copper Chlorophylline E 141	powder, water soluble	1: e.g. dentifrice, mouth wash
77007	blue	656879 (\$\$)	Ultramarine Blue	powder, pigment	1 ⁶ : e.g. toilet soap, syndet, foundation, powder, lipsticks, laundry detergent (powder)
77007	blue	135659	Ultramarin Blue paste 30%	pigment paste	1: e.g. toilet soap, syndet
77007	violet	656573 (\$\$)	Ultramarine Violet	powder, pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks, laundry detergent (powder)
77266	black	656860	Black	powder, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products
77491	red	656836 (\$\$)	Iron oxide Red E 172	powder, pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks
77491	red	656843	Iron oxide Red E 172	powder, water dispersible pigment	1: e.g. toilet soap, syndet, liquid tensid products
77492	yellow	656835 (\$\$)	Iron oxide Yellow E 172	powder, pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks
77492	yellow	656529 (\$\$)	Iron oxide Yellow paste	pigment paste	1: e.g. toilet soap, syndet
77492	yellow	656578	Iron oxide Yellow (Pearlescent Pigment Gold)	powder, pigment	1: e.g. toilet soap, syndet, foundation
77499	black	656837 (\$\$)	Iron oxide Black E 172	powder, pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks
77891	white	656838 (\$\$)	Titanium dioxide E 171	powder, pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks, toothpaste
77891	white	656275 (\$\$)	Titanium dioxide paste	pigment paste	1: e.g. toothpaste, toilet soap, syndet
77891	white	100012	Titanium dioxide E 171 (Pearlescent Pigment Silver)	powder, pigment	1: e.g. toilet soap, syndet

⁵ The Color Index Number stated in the cosmetics guideline, 75810, is incorrect.

⁶ Not suitable for acidic media.

2. DragoColor® dye and pigment compounds

a) Dyes

+	+	+	+	+	+
Color	Product Number	Name	Color Index Number	Delivery form, Solubility	Cosmetic Application Field
brown	656496	Brown	14720, 19140, 28440	powder, water soluble	1: e.g. liquid tensid products
brown	656498	Havanna Brown	14720, 19140, 28440	powder, water soluble	1: e.g. liquid tensid products
brown	656605	Cognac Brown	19140, 14720, 28440	powder, water soluble	1: e.g. liquid tensid products
brown	100306	Chocolate Brown	19140, 16255, 28440	powder, water soluble	1: e.g. liquid tensid products
brown	656614	Coffee Brown	19140, 15985, 16255, 28440	powder, water soluble	1: e.g. liquid tensid products
brown	656615	Chocolate Brown	15985, 28440	powder, water soluble	1: e.g. liquid tensid products
yellow	656639	Egg Yellow	19140, 15985, 16255	powder, water soluble	1: e.g. liquid tensid products
yellow	656642	Yellow	47005, 15985	powder, water soluble	1: e.g. liquid tensid products
yellow	656645	Egg Yellow	19140, 15985, 16255	powder, water soluble	1: e.g. liquid tensid products
yellow	656649	Egg Yellow	19140, 15985	powder, water soluble	1: e.g. liquid tensid products
yellow	656651	Golden Yellow	19140, 15985	powder, water soluble	1: e.g. liquid tensid products
yellow	656526	Egg Yellow	13015, 15510	powder, water soluble	2: e.g. toilet soap, syndet, liquid tensid products
yellow	656527	Golden Yellow	15510, 19140	powder, water soluble	2: e.g. liquid tensid products
green	614253	Green fluorescent	19140, 45350, 42051	powder, water soluble	1: e.g. liquid tensid products
green	656662	Brilliant Green	19140, 42051	powder, water soluble	1: e.g. mouth wash, liquid tensid products
green	656668	Green BT	47005, 15985, 42051	powder, water soluble	1: e.g. liquid tensid products
green	656534	May Green	47005, 61570	powder, water soluble	1: e.g. toilet soap, syndet, mouth wash, liquid tensid products
green	656535	Green fluorescent	19140, 45350, 61570	powder, water soluble	1: e.g. liquid tensid products
green	656537	Spruce Needle Green	19140, 42090	powder, water soluble	1: e.g. mouth wash, liquid tensid products
green	656539	Green	19140, 42090	powder, water soluble	1: e.g. mouth wash, liquid tensid products
green	656541	Green	13015, 61570	powder, water soluble	1: liquid tensid products
green	656542	Green POV fluorescent	42090, 59040	powder, water soluble	3: e.g. liquid tensid products
green	656543	Green fluorescent	42090, 45350, 47005, 61570	powder, water soluble	1: e.g. liquid tensid products
green	656544	May Green	19140, 42090	powder, water soluble	1: e.g. mouth wash, liquid tensid products
green	656545	Apple Green fluorescent	59040, 74260	powder, water dispersible pigment	3: e.g. liquid tensid products

+	+	+	+	+	+
Color	Product Number	Name	Color Index Number	Delivery form, Solubility	Cosmetic Application Field
green	656546	Green	13015, 15510, 42090, 45350	powder, water soluble	2: e.g. liquid tensid products
green	656547	Dark Green	47005, 61570	powder, water soluble	1: e.g. liquid tensid products
green	656549	Green	13015, 15510, 61570	powder, water soluble	2: e.g. liquid tensid products
green	656554	Spruce Needle Green	47005, 61570	powder, water soluble	1: e.g. liquid tensid products
red	656252	Rose Red II	13015, 14720, 16035	powder, water soluble	1: e.g. mouth wash, liquid tensid products
blue	656483	Blue	16185, 42090	powder, water soluble	1: e.g. liquid tensid products
black	656463	Black	28440, 15985, 19140	powder, water soluble	1: e.g. liquid tensid products
violet	656269	Lilac Redviolet	16185, 42090	powder, water soluble	1: e.g. liquid tensid products
violet	656271	Violet III	16185, 42090	powder, water soluble	1: e.g. liquid tensid products

b) Color lakes and pigments

+	+	+	+	+	+
Color	Product Number	Name	Color Index Number	Delivery form, Solubility	Cosmetic Application Field
blue (turquoise)	656486	Turquoise	74260, 77007	pigment paste	2: e.g. toilet soap, syndet
brown	607980	Sun Brown	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656530	Ochre	77491, 77492	powder, pigment	1: e.g. foundation, powder
brown	656617	Naturell	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656625	Brown	77492, 77499	powder, pigment	1: e.g. foundation, powder
brown	656623	Brown 1478/14	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656624	Brown CT	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656627	Brown 1642/10	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656628	Brown 1464	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656630	Brown 1060/81	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656507	Cream Brown	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656509	Dark Brown	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656510	Naturell BB	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656511	Naturell	77491, 77492, 77499, 77891	powder, pigment	1: e.g. foundation, powder
brown	656512	Brown/Khaki	74260, 77492, 77499	pigment paste	2: e.g. toilet soap, syndet

+	+	+	+	+	+
Color	Product Number	Name	Color Index Number	Delivery form, Solubility	Cosmetic Application Field
gold	656579	Pearlescent Gold	77492, 77499, 77891	powder, pearlescent pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks
green	656830	Green lake E 104, 132	47005, 73015	powder, lake	1: e.g. foundation
green	656681	Green (yellowish) lake E 104, 132	47005, 73015	powder, lake	1: e.g. foundation
green	656557	Light Green	74260, 77492	pigment paste	2: e.g. toilet soap, syndet
green	656559	Green RXA	11680, 74260	pigment paste	3: e.g. toilet soap, syndet
green	656560	Brilliant Green	11680, 74260, 77492	pigment paste	3: e.g. toilet soap, syndet
green	656561	May Green	74260, 77492	pigment paste	2: e.g. toilet soap, syndet
green	608264	Green RXA	11680, 74260	pigment paste	3: e.g. toilet soap, syndet
orange	606552	Orange SPK 2	11680, 12490	pigment paste	3: e.g. toilet soap, syndet
red	656260	Flamingo Red	12490, 77492	pigment paste	1: e.g. toilet soap, syndet
black	656268	Soap Black	77499, 77492	pigment paste	1: e.g. toilet soap, syndet
white (silver)	656577	Pearlescent Silver	77891 (77019)	powder, pearlescent pigment	1: e.g. toilet soap, syndet, foundation, powder, lipsticks

3. DragoColor[®] cosmetic colorants with FDA certification

+	+	+	+	+	+
Color	Product Number	Color Index Number	CTFA/FDA-Name	Delivery form, Solubility	Cosmetic Application Field
blue	100301	42090	FD&C Blue No. 1	powder, water soluble	1: e.g. liquid tensid products, mouth wash, gel toothpaste, alcoholic perfumery
yellow	656802	19140	FD&C Yellow No. 5	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
yellow	656804	47005	D&C Yellow No. 10	powder, water soluble	e.g. liquid tensid products, mouth wash, alcoholic perfumery ⁷
green	656806	42053	FD&C Green No. 3	powder, water soluble	1: e.g. mouth wash
green (fluorescent)	656847	59040	D&C Green No. 8	powder, water soluble	3: e.g. toilet soap, syndet, liquid tensid products
green	656848	61570	D&C Green No. 5	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, mouth wash, liquid detergent, fabric softener
orange	656803	15985	FD&C Yellow No. 6	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
orange	656853	15510	D&C Orange No. 4	powder, water soluble	2: e.g. toilet soap, syndet, liquid tensid products, alcoholic perfumery
red	620093	14700	FD&C Red No. 4	powder, water soluble	1: e.g. toilet soap, syndet, liquid tensid products, alcoholic perfumery
red	100295	16035	FD&C Red No. 40	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
red	656855	17200	D&C Red No. 33	powder, water soluble	1: e.g. liquid tensid products, mouth wash, alcoholic perfumery
red	100383	73360	D&C Red No. 30	powder, pigment	1: e.g. foundation, powder, lipsticks, toothpaste

3.1 General processing information

Soluble dyes

Usually 30 to 50 g of dye are *dissolved* in one liter of hot water to process water soluble dyes. It must be noted that the appearance (i.e. aspect) of a dye powder, whether in individual dyes or mixtures of dyes, is normally *not* identical to the color of the solution and can vary from batch to batch. A comparison with the color standard must thus be performed by comparing the dye solutions (concentration of 1 g/l, for example).

Oil soluble dyes are dissolved in the oil that is used in the formulation of the cosmetic product being manufactured. The dose of the dye in the finished product usually ranges between 50 to 500 g/ton and can be varied as desired. Care must always be taken that the dye used is completely dissolved before being added to the product being developed. If necessary, this can be monitored by filtering the stock solution.

Color lakes and pigments

Pigments and lakes are insoluble dyes which achieve their colorant effect by being evenly distributed throughout the final product. Optimal processing of the dye and the desired color saturation can be ensured by means of appropriate technical equipment.

Water dispersible pigments

Unlike pure pigments, water dispersible pigments contain a dispersion agent which makes it possible to process these colorants like water soluble dyes. The use of cold water is recommended. Whereas water soluble dyes form a clear dispersion, water dispersible pigments yield a cloudy dispersion and an opaque solution. This is of no relevance in processing, however.

⁷ Not approved for use in the EU.

4. DragoColor® colorants for hair-coloring products

4.1 Legal guidelines and product safety

In the European Union there are no legal guidelines mandating the use of specific dyes for hair-coloring products (cf. the positive list, last dated January 2001). It goes without saying that any dyes used in such products must demonstrate high levels of tolerability in skin and hair. To this end, tests of five individual components in the dye compounds listed below were conducted on rabbit skin and mucous membranes; the tests yielded no intolerability reactions (see Ringbuch Kosmetische Färbemittel by the colorant commission of the German Research Society, 1984). No allergic reactions have been demonstrated.

4.2 Product description and examples for application

The DragoColor® hair-coloring dyes listed below are cationic and show a good affinity with hair. In developing formulations, consideration needs to be given to the fact that only cationic or amphoteric tensides can be used, since anionic materials can result in undesired precipitation.

All of the dyes can be combined with each other, which means that a wide variety of color nuances are possible. The dyes are soluble in water and in water-alcohol mixtures. They can be used in pH-values of 3 to 9.5 ; higher pH-values have a positive influence on absorbing capacity. Depending on the application and the desired shade, the dose of DragoColor® hair-color dyes is 0.05–0.5%. The colors reach their maximum intensity if they are allowed to penetrate for some 20 minutes.

The main applications for DragoColor® hair-coloring dyes are color-enhancing mousses, treatments and shampoos as well as conditioners for color-treated hair or tinted conditioners.

4.3 Table of DragoColor® hair-coloring dyes

a) Individual dyes

+	+	+
Product Number	Name	Color Index Number
656874	Mahogany	12250
656875	Yellow	12719
656876	Blue	56059
656877	Red	12245
656878	Brown	12251

b) Mixtures

+	+	+
Product Number	Name	Color Index Number
656276	Blond	12719, 12251, 56059
656277	Silver	12245, 56059
656278	Tobacco	12250, 12251, 12719, 56059
656279	Chestnut	12250, 12251, 56059
656280	Black I	56059, 12245
656281	Black II	56059, 12251
656285	Brown	12250, 12251, 12719, 56059
656286	Brown Z	12251, 12245, 56059