

COLORANTS FOR THE PLASTICS INDUSTRY



PIGMENTS, PIGMENT PREPARATIONS AND DYES FROM SUDARSHAN

Sudarshan supplies pigments and dyes. These ranges, supplemented by pigment preparations and special grades, offer a wide variety of products for Plastics.

For the standard range of pigments we give a general overview indicating their possible technical uses in the main fields of application.

It is not appropriate to treat the special grades, pigment preparations, dyes and intermediates/chemicals in the same way as the standard ranges and therefore they appear in the brochure as separate ranges with less details of their special fields of application.

THE SYMBOLS MEAN:

- Main field of application
- Limited Suitability
- Not recommended

We would however point out that this classification is simply a general guide that is intended to make it easier to select suitable products from our range of colorants.

Our sales organizations and our technical service and development department will be pleased to give you further information at any time.

Suitability e. g. for the coloration and printing of food packaging or use in cosmetic products is subject to statutory requirements which differ from country to country. It is the customers responsibility to comply with applicable laws and regulations.

NOTES ON DIARYL PIGMENTS

It has been known for some considerable time that diaryl pigments can release 3,3'-DCB when they are processed in polymers at temperatures above 200 °C.

The following pigments supplied by Sudarshan are diaryl pigments:

Pigment Yellow 13	Pigment Orange 34
Pigment Yellow 17	Pigment Red 38
Pigment Yellow 83	

All products based on the above diaryl pigments can be found in this brochure.

These products must not be used at processing temperatures above 200 °C because of possible thermal decomposition (see safety data sheets) even if no shade change occurs at elevated processing temperatures.

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1

STANDARD RANGE OF PIGMENTS

1.1

PV FAST PIGMENTS

Highly fast organic pigments with outstanding heat resistance, light fastness and bleeding fastness in various polymers.

PRODUCT NAME		COLOUR INDEX												Rubber / TPV	SBC	TPO	TPU
PV FAST		PP	PE	PVC	PS / SAN	ABS	PC	POM	PA	PET	PBT	PMMA					
YELLOW H9G	Pigment Yellow 214	■	■	■	■	■	—	■	—	—	●	●	■	■	■	■	■
YELLOW H9G 01	Pigment Yellow 214	■	■	■	■	■	—	■	—	—	●	●	■	■	■	■	■
YELLOW H4G	Pigment Yellow 151	■	■	■	●	●	—	—	—	●	●	—	■	■	■	■	■
YELLOW H2G	Pigment Yellow 120	■	■	■	■	■	—	—	—	—	—	●	■	■	■	■	●
YELLOW HG 01	Pigment Yellow 180	■	■	■	■	■	■	■	—	—	■	■	■	■	■	■	■
YELLOW HG	Pigment Yellow 180	■	■	■	■	■	■	■	—	—	■	■	■	■	■	■	■
YELLOW H2GR	Pigment Yellow 191	■	■	■	■	■	■	●	—	—	■	■	■	■	■	■	■
YELLOW HGR	Pigment Yellow 191	■	■	■	■	■	■	●	—	—	■	■	■	■	■	■	■
YELLOW HR 02*	Pigment Yellow 83	—	●	■	—	—	—	—	—	—	—	—	■	■	●	●	●
YELLOW HR*	Pigment Yellow 83	—	●	■	—	—	—	—	—	—	—	—	■	■	●	●	●
YELLOW H3R	Pigment Yellow 181	■	■	■	■	■	—	■	—	—	■	●	■	■	■	■	■
ORANGE H4GL 01	Pigment Orange 72	■	■	■	■	■	—	■	—	—	—	●	■	■	■	■	■
ORANGE H2GL	Pigment Orange 64	■	■	■	■	■	●	●	—	—	●	●	■	■	■	■	●
ORANGE GRL	Pigment Orange 43	■	■	■	■	■	■	—	●	—	■	●	■	■	■	■	■
ORANGE 6RL	Pigment Orange 68	■	■	■	■	■	■	■	■	—	■	●	■	■	■	■	■
SCARLET 4RF	Pigment Red 242	■	■	■	■	■	■	■	—	■	■	■	■	■	■	■	■
RED B	Pigment Red 149	■	■	■	■	■	■	■	●	■	■	■	■	■	■	■	■
RED D3G-CN	Pigment Red 254	■	■	■	●	●	—	■	—	—	●	—	■	■	■	■	■
RED HB	Pigment Red 247	■	■	■	■	■	■	—	—	—	■	●	■	■	■	■	■
RED BNP	Pigment Red 214	■	■	■	■	■	■	■	—	●	■	■	■	■	■	■	■
RED HF4B	Pigment Red 187	■	■	■	■	■	■	■	—	—	■	■	■	■	■	■	■
RED E3B	Pigment Violet 19	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■
RED E5B	Pigment Violet 19	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■
PINK E	Pigment Red 122	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■
PINK E 01	Pigment Red 122	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■
PINK E2B	Pigment Red 122	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■
VIOLET BLP	Pigment Violet 23	■	■	■	■	—	—	—	●	—	—	—	■	■	■	■	●
VIOLET RL	Pigment Violet 23	■	■	■	■	●	—	—	●	—	—	—	■	■	■	■	●
BLUE A4R	Pigment Blue 15 : 1	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■	■
BLUE A2R	Pigment Blue 15 : 1	■	■	■	■	■	●	■	●	■	●	■	■	■	■	■	■
BLUE BG	Pigment Blue 15 : 3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
GREEN GNX	Pigment Green 7	■	■	■	■	■	■	■	●	●	■	■	■	■	■	■	■
BROWN HFR	Pigment Brown 25	■	■	■	—	—	—	■	—	—	—	●	■	●	■	■	■
BROWN RL	Pigment Brown 41	■	■	■	■	—	—	■	—	—	—	●	■	●	■	■	■

* = Diarylide

1.2

GRAPHTOL PIGMENTS

Classic and newly developed organic pigments with good application properties and an attractive price performance ratio.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX												
		PP	PE	PVC	PS / SAN	ABS	PC	POM	PA	PMMA	Rubber / TPV	SBC	TPO	TPU
GRAPHTOL														
YELLOW GG*	Pigment Yellow 17	—	●	■	—	—	—	—	—	—	■	■	●	●
YELLOW 3GP	Pigment Yellow 155	■	■	■	■	—	—	●	—	●	■	●	●	●
YELLOW GR*	Pigment Yellow 13	—	●	■	—	—	—	—	—	—	■	■	●	●
YELLOW H2R	Pigment Yellow 139	■	■	■	—	—	—	—	—	—	●	●	●	●
ORANGE RL*	Pigment Orange 34	—	●	■	—	—	—	—	—	—	■	■	—	—
RED HFG	Pigment Orange 38	■	■	■	—	—	—	—	—	—	■	■	●	■
RED LG	Pigment Red 53 : 1	■	■	■	■	■	■	—	—	●	■	■	●	●
RED LC	Pigment Red 53 : 1	■	■	■	■	■	■	—	—	●	■	■	●	●
RED BB*	Pigment Red 38	—	●	■	—	—	—	—	—	—	■	■	●	●
RED F3RK 70	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	●	—
FIRE RED 3RLP	Pigment Red 48 : 3	■	■	■	■	■	—	—	—	—	■	■	●	■
RED HF2B	Pigment Red 208	■	■	■	—	—	—	—	—	—	■	■	●	●
RED F5RK	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	●	—
RED P2B	Pigment Red 48 : 2	■	■	■	■	—	—	—	—	—	■	■	●	■
CARMINE HF4C	Pigment Red 185	■	■	■	■	—	—	—	—	—	■	■	●	■
CARMINE HF3C	Pigment Red 176	■	■	■	■	—	■	—	—	■	■	■	●	■
RUBINE L4B	Pigment Red 57 : 1	■	■	■	●	—	—	—	—	—	■	■	●	■
BORDEAUX HF3R	Pigment Violet 32	●	●	■	—	—	—	—	—	—	●	●	●	●
BLUE AN 01	Pigment Blue 15	—	—	■	—	—	—	—	—	—	■	●	●	●
BLACK CLN	—	■	■	■	●	●	—	■	—	—	■	■	■	■

* = Diarylide

1.3

SUDAPERM™ PIGMENTS

The Sudaperm range of high performance pigments deliver excellent thermal stability, weather resistance and light fastness making them suitable for high end applications including automotive, industrial, outdoor-use applications.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX														
		PP	PE	PVC	PS / SAN	ABS	PC	POM	PA	PET	PBT	PMMA	Rubber / TPV	SBC	TPO	TPU
SUDAPERM																
YELLOW 3033K	Pigment Yellow 138	■	■	■	■	■	●	●	—	—	—	■	■	■	■	■
YELLOW 3031K	Pigment Yellow 138	■	■	■	■	■	●	●	—	—	—	■	■	■	■	■
YELLOW 2908	Pigment Yellow 180	■	■	■	■	■	■	■	—	—	●	■	■	■	■	■
YELLOW 2909	Pigment Yellow 180	■	■	■	■	■	■	■	—	—	●	■	■	■	■	■
YELLOW 2939K	Pigment Yellow 139	■	■	■	—	—	—	—	—	—	—	—	●	●	●	●
YELLOW 2925K	Pigment Yellow 110	■	■	■	■	■	■	■	—	—	—	■	■	■	■	■
YELLOW 2927	Pigment Yellow 110	■	■	■	■	■	■	■	—	—	—	■	■	■	■	■
ORANGE 2917	Pigment Orange 64	■	■	■	■	■	●	●	—	—	—	●	■	■	■	●
RED 2963K	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	—	—	●	—
RED 2963KF	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	—	—	●	—
RED 2964K	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	—	—	●	—
RED 2967K	Pigment Red 170	■	■	●	—	—	—	—	—	—	—	—	—	—	●	—
RED 2985	Pigment Violet 19	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■
PINK 2991K	Pigment Red 122	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■
PINK 2991	Pigment Red 122	■	■	■	■	■	■	●	●	●	●	●	■	■	■	■
VIOLET 2946K	Pigment Violet 23	■	■	■	■	●	—	—	●	—	—	—	■	■	■	●
VIOLET 2945K	Pigment Violet 23	■	■	■	■	●	—	—	●	—	—	—	■	■	■	●

1.4

SUDAFAST™ PIGMENTS

The Sudafast range is a high-quality medium performance organic pigments, suitable for a variety of colouration requirements. Known for their excellent color strength, light and weather fastness and high chemical resistance.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX													COLOUR INDEX			
		PP	PE	PVC	PS / SAN	ABS	PC	POM	PA	PET	PBT	PMMA	Rubber / TPV	SBC	TPO	TPU		
SUDAFAST																		
YELLOW 129K	Pigment Yellow 191	■	■	■	■	■	■	●	—	—	●	■	■	■	■	■		
YELLOW 129KF	Pigment Yellow 191	■	■	■	■	■	■	●	—	—	●	■	■	■	■	■		
YELLOW 137KF	Pigment Yellow 83	●	■	■	—	—	—	—	—	—	—	—	■	■	■	■		
BLUE 2749	Pigment Blue 15:1	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■		
BLUE 2764	Pigment Blue 15:1	■	■	■	■	■	●	●	●	●	●	■	■	■	■	■		
BLUE 2778K	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■	■	■	●	■		
BLUE 2778KF	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
BLUE 2789	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
GREEN 2730K	Pigment Green 7	■	■	■	■	■	■	■	●	■	■	■	■	■	■	■		
GREEN 2730KF	Pigment Green 7	■	■	●	■	■	■	■	●	■	■	■	■	■	■	■		

1.5

SUDACOLOR™ PIGMENTS

The Sudacolor grades, classical Azo pigments offer good strength, dispersibility and price performance ratio.

PRODUCT NAME	COLOUR INDEX													
		PP	PE	PVC	PS / SAN	ABS	PC	POM	PA	PMMA	Rubber / TPV	SBC	TPO	TPU
SUDACOLOR														
YELLOW 162K	Pigment Yellow 17	●	●	■	—	—	—	—	—	—	■	—	—	—
YELLOW 162KF	Pigment Yellow 17	●	●	■	—	—	—	—	—	—	■	—	—	—
YELLOW 114	Pigment Yellow 62	■	■	■	—	—	—	—	—	—	■	■	●	●
YELLOW 165	Pigment Yellow 13	●	●	■	—	—	—	—	—	—	■	—	—	—
YELLOW 165KF	Pigment Yellow 13	●	●	■	—	—	—	—	—	—	■	—	—	—
ORANGE 212	Pigment Orange 34	●	●	■	—	—	—	—	—	—	■	—	—	—
RED 5016	Pigment Red 53:1	■	■	■	■	■	—	—	—	●	■	■	●	●
RED 507K	Pigment Red 53:1	■	■	■	■	■	—	—	—	●	■	■	●	●
RED 507KF	Pigment Red 53:1	■	■	■	■	■	—	—	—	●	■	■	●	●
RED 570	Pigment Red 48:3	■	■	■	■	■	—	—	—	—	■	■	●	■
RED 570KF	Pigment Red 48:3	■	■	■	■	■	—	—	—	—	■	■	●	■
RED 554	Pigment Red 48:2	■	■	■	■	—	—	—	—	—	■	■	●	■
RED 564	Pigment Red 48:2	■	■	■	■	—	—	—	—	—	■	■	●	■
RED 564KF	Pigment Red 48:2	■	■	■	■	—	—	—	—	—	■	■	●	■
RED 635	Pigment Red 57:1	■	■	■	●	—	—	—	—	—	■	■	●	■
RED 635KF	Pigment Red 57:1	■	■	■	●	—	—	—	—	—	■	■	●	■

1.6

VYNAMON™ PIGMENTS

The VYNAMON™ range is specifically designed for the coloration of plastics for masterbatch, sheets, fibre as well as engineering plastics and powder coatings. All of the products provide optimized coloristic, dispersion and fastness properties and can be used in a wide variety of applications.

PRODUCT NAME	COLOUR INDEX											
		PP	PE	PVC	PS / SAN	ABS	PC	PA	Rubber / TPV	SBC	TPO	TPU
VYNAMON												
YELLOW 115002	Pigment Yellow 150	■	■	■	■	■	■	●	■	■	■	■
YELLOW 118002	Pigment Yellow 180	■	■	■	■	■	■	—	■	■	■	■
YELLOW 119101	Pigment Yellow 191	■	■	■	■	■	■	—	■	■	■	■
YELLOW 118303	Pigment Yellow 183	■	■	■	■	■	■	—	■	■	■	■
RED 325401	Pigment Red 254	■	■	■	●	●	—	—	■	■	■	■
RED 317601	Pigment Red 176	■	■	■	■	—	■	—	■	■	●	■
RED 312201	Pigment Red 122	■	■	■	■	■	●	●	■	■	■	■
BLUE 515100	Pigment Blue 15:1	■	■	■	■	■	●	●	■	■	■	■
BLUE 515100 P	Pigment Blue 15:1	■	■	■	■	■	●	●	■	■	■	■
BLUE 515303	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■
BLUE 515303 P	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■
BLUE 515309	Pigment Blue 15:3	■	■	■	■	■	■	■	■	■	■	■
BLUE 3R FW-H	Pigment Blue 60	■	■	■	■	■	■	●	■	■	■	■
GREEN 600734	Pigment Green 7	■	■	■	■	■	●	●	■	■	■	■
GREEN 600734 P	Pigment Green 7	■	■	■	■	■	●	●	■	■	■	■
GREEN 6Y FW-C	Pigment Green 36	■	■	■	■	■	●	●	■	■	■	■


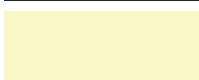



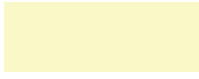

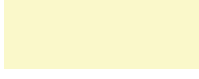


1.7

HEUCODUR® /SUDATHERM™/ VANADUR® PIGMENTS













Complex Inorganic Colored Pigments (CICP), also known as Mixed Metal Oxides, are synthetic crystalline metal oxides composed of two or more different metals, and thus belong to the most stable class of pigments developed.













They satisfy the highest demands for heat stability and chemical inertness as well as weather and light fastness. Our product range includes Nickel and Chrome Rutiles, Cobalt Blue and Green Spinel, Black Spinel as well as Hematite Brown. Designed to deliver excellent performance in all kind of plastics applications.

HEUCODUR® Nickel Rutile Pigments













PRODUCT NAME	FULL SHADE	REDUCTION 1:1	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
HEUCODUR							
YELLOW 152 (P)			(Ni,Sb,Ti)O ₂	Pigment Yellow 53	typ. 1.1	typ. 16	600
YELLOW 156 (P)			(Ni,Sb,Ti)O ₂	Pigment Yellow 53	typ. 1.2	typ. 15	600
YELLOW 8G (P)			(Ni,Sb,Ti)O ₂	Pigment Yellow 53	typ. 1.0	typ. 15	600
YELLOW 9082 (P)			(Ni,Sb,Ti)O ₂	Pigment Yellow 53	typ. 1.3	typ. 14	600
YELLOW G 9116 (P)			(Ni,Cr,Sb,Ti)O ₂	Pigment Yellow 53	typ. 0.6	typ. 20	600

HEUCODUR® Chrome Rutile Pigments







PRODUCT NAME	FULL SHADE	REDUCTION 1:1	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
HEUCODUR							
YELLOW 3R (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.5	typ. 20	600
YELLOW 2530 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.7	typ. 18	600
YELLOW 252 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.9	typ. 19	600
YELLOW 9239 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.6	typ. 21	600
YELLOW 255 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.6	typ. 16	600
YELLOW 2550 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.0	typ. 20	600

PRODUCT NAME	FULL SHADE	REDUCTION 1:1	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
HEUCODUR							
YELLOW 6R (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.1	typ. 16	600
YELLOW 256 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.4	typ. 16	600
YELLOW 2570 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 0.9	typ. 20	600
YELLOW 259 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.5	typ. 15	600
YELLOW G 9202 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.7	typ. 17	600
YELLOW G 9180 (P)			(Cr,Sb,Ti)O ₂	Pigment Brown 24	typ. 1.7	typ. 15	600

















HEUCODUR® (Inverse) Spinel Pigments

PRODUCT NAME	FULL SHADE	REDUCTION 1:3	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
HEUCODUR							
BLUE 550			CoAl ₂ O ₄	Pigment Blue 28	typ. 0.9	typ. 28	600
BLUE 552			CoAl ₂ O ₄	Pigment Blue 28	typ. 0.9	typ. 27	600
BLUE 2R			CoAl ₂ O ₄	Pigment Blue 28	typ. 1.1	typ. 39	600
BLUE 5-100			Co(Al,Cr) ₂ O ₄	Pigment Blue 36	typ. 0.9	typ. 16	600
BLUE 4G			Co(Al,Cr) ₂ O ₄	Pigment Blue 36	typ. 0.2	typ. 14	600
GREEN 5G (P) *			(Co,Ni,Zn) ₂ (Ti,Al)O ₄	Pigment Green 50	typ. 1.0	typ. 16	600

HEUCODUR® Brown & HEUCODUR® Black

PRODUCT NAME	FULL SHADE	REDUCTION 1:5	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
HEUCODUR							
BROWN 869			(Fe,Cr)O ₃	Pigment Brown 29	typ. 0.6	typ. 23	600
BLACK 953-1			Cu(Cr,Fe) ₂ O ₄	Pigment Black 28	typ. 1.2	typ. 15	600
BLACK 9-100			Cu(Cr,Fe) ₂ O ₄	Pigment Black 28	typ. 0.9	typ. 16	600

SUDATHERM™ PIGMENTS

PRODUCT NAME	FULL SHADE	REDUCTION	PIGMENT	COLOR INDEX	MEDIAN D50 [μm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE [°C] ³
SUDATHERM							
YELLOW 6406K			((Ti,Ni,Sb)O ₂)	Pigment Yellow 53	typ. 1.1	typ. 15	600
BUFF YELLOW 6431K			(Ti,Cr,Sb)O ₂	Pigment Brown 24	typ. 0.9	typ. 20	600
TAN 6416K			ZnFe ₂ O ₄	Pigment Yellow 119	typ. 1.3	typ. 26	260
BROWN 6411K			(Ti,Mn,Sb)O ₂	Pigment Yellow 164	typ. 0.9	typ. 23	600
COBALT BLUE 6421K			CoAl ₂ O ₄	Pigment Blue 28	typ. 1.1	typ. 28	600
COBALT GREEN 6451K			Co ₂ TiO ₄	Pigment Green 50	typ. 1.0	typ. 32	600
COPPER BLACK 6461K			CuCr ₂ O ₄	Pigment Black 28	typ. 0.9	typ.19	600
JET BLACK 6462K			CuCr ₂ O ₄	Pigment Black 28	typ. 1.3	typ. 11	600

Due to the limitation of printing process, some slight variations between the color as illustrated may be observed.

Reduction:for PY53 & PBr 24 products: refer ratio 1:1TiO₂

Reduction:for PY119,PY164 products: refer ratio 1:4TiO₂

Reduction:for PBl 28,PBl 36,PG 36,PG 50 products: refer ratio 1:3TiO₂

Reduction:for PBk 27,PBk 28,PBr 29 products:refer ratio 1:5TiO₂

Particle size (D50): As per ISO 13320

Oil absorption: As per ISO 787-5



Heat resistance : Tested in heat resistant coating up to 600 °C for 30 min

Alkali resistance: Tested in 10% soda solution & rated based on 1to 5 grey scale)

VANADUR® PIGMENTS

The Vanadur products are green shade Bismuth Vanadate pigments with outstanding application properties like improved opacity, high gloss, excellent weather and light fastness and good tinting strength.

For improved application properties like extreme heat resistance and improved acid, alkali and SO₂ resistance and light / UV resistance, Sudarshan also offers an encapsulated Bismuth Vanadate.

PRODUCT NAME	FULL SHADE	REDUCTION 1:1	COLOR INDEX	MEDIAN D50 [µm] ¹	OIL ABSORPTION [g/100 g] ²	HEAT RESISTANCE IN HDPE [°C] ⁵	ALKALI RESISTANCE [°C] ⁶
VANADUR							
PLUS 9010 (P)			Pigment Yellow 184	typ. 0.7	typ. 29	300	5

Due to the limitation of printing process, some slight variations between the color as illustrated may be observed.

Reduction: 1:1TiO₂

Particle size (D50): As per ISO 13320

Oil absorption: As per ISO 787-5

Heat resistance : Tested in alkyd/melamine system

Alkali resistance: Tested in 10% soda solution & rated based on 1to 5 grey scale)

Sudarshan's range of high performance inorganic pigments offers solutions for the most demanding applications such as:

- > Plastics (PE, PP, PVC etc.) for masterbatch, building products, etc.
- > Engineering plastics (ABS, PC etc.) for e.g. automotive applications
- > Fiber and thin film plastic applications

1.8

SUMICA PEARLESCENT PIGMENTS

Our Sumica range of effect pigments is the best suited for general purpose plastics applications. Our proprietary technology enables us to produce effect pigments with low heavy metal content & maintain batch to batch color consistency.

Our access to the best raw material enables us to produce products with superior lustre, color purity & smooth texture.

PRODUCT NAME	COLOUR	PARTICLE SIZE, μm	HEAT RESISTANCE, $^{\circ}\text{C}$
SUMICA			
SILVER SUPER FINE 4101	Silver	1-15	300
SUPER FINE SILVER 41111	Silver	1-15	300
SILVER FINE 4191	Silver	1-25	300
SILVER SILKY FINE 41124	Silver	1-25	300
BRIGHT FINE SILVER 41126	Silver	5-25	300
SILVER 41134	Silver	10-60	300
SILVER 41135	Silver	10-60	300
SILVER 4179	Silver	10-60	300
BRIGHT SILVER 41137	Silver	10-60	300
SILVER SPARKLE 4194	Silver	10-100	300
SILVER FLASH 4152	Silver	15-150	300
SUMICA SILVER SUPER FLASH 4153	Silver	20-200	300
BRIGHT GOLD 4199	Gold	10-60	300
BRIGHT GOLD 41633	Gold	10-60	300
LUMINOUS GOLD 41634	Gold	10-60	300
MEDALLION GOLD PI235	Gold	10-60	300
IMPERIAL GOLD 41639	Gold	10-60	300
SPARKLE GOLD 4144	Gold	10-100	300
SUPER FLASH GOLD 41665	Gold	15-150	300
SUPREME GOLD SI 634	Gold	10-60	300
IRIDESCENT GOLD 4195	Iridescent	10-60	300
IRIDESCENT PINK 4196	Iridescent	10-60	300
IRIDESCENT BLUE 4197	Iridescent	10-60	300
BRONZE 4964	Earth Tones	10-60	300
COPPER 4967	Earth Tones	10-60	300
MAROON 4969	Earth Tones	10-60	300
RED 4970	Earth Tones	10-60	300
SUPER BRONZE 4974	Earth Tones	20-200	300
SUPER COPPER 4977	Earth Tones	20-200	300
SUPER MAROON 4979	Earth Tones	20-200	300
MAROON 41937NXR	Earth Tones	10-40	300

2 PIGMENT PREPARATIONS

2.1 HOSTAPRINT

The Hostaprint grades are finely disperse non-dusting pigment preparations with a vinyl chloride/vinyl acetate copolymer as carrier material. They contain about 50 % pigment. The special manufacturing method ensures very good dispersion of the pigment preparations.

The Hostaprint grades are standardized in PVC mass coloration.

The Colour Index data relate to the basic pigments.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX NO.
HOSTAPRINT		
YELLOW GG	Pigment Yellow 17	21105
YELLOW HG	Pigment Yellow 180	21290
YELLOW HR-N	Pigment Yellow 83	21108
YELLOW HGR	Pigment Yellow 191	18795
YELLOW H2R	Pigment Yellow 139	56298
ORANGE H4GL	Pigment Orange 72	211095
RED HFG	Pigment Orange 38	12367
RED D3G	Pigment Red 254	56110
RED HF2B	Pigment Red 208	12514
CARMINE HF4C	Pigment Red 185	12516
PINK E	Pigment Red 122	73915
VIOLET RL	Pigment Violet 23	51319
BLUE A2R	Pigment Blue 15:1	74160
BLUE B2G	Pigment Blue 15:3	74160
GREEN GG	Pigment Green 7	74260
BROWN RL	Pigment Braun 41	—
BROWN HFR	Pigment Brown 25	12510
BLACK L	Pigment Black 7	77266

2.2

HOSTASIN

Concentrated, about 50-60 % pigment preparations in granular form for the rubber industry. Since the pigments in the Hostasin preparations are already in very finely dispersed form, relatively little mechanical effort or only a brief mixing time is needed to obtain the full tinctorial strength. A further advantage is their ease of handling, because being granules, they are free-flowing and easily metered. They do not smear or dust and thus make for clean lossless processing.

The carrier material is an oxidation-resistant polyolefin copolymer that is compatible with natural rubber and the common synthetic rubbers.

The Colour Index data relate to the basic pigments.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX NO.
HOSTASIN		
YELLOW GR 30	Pigment Yellow 13	21100
YELLOW HR 30	Pigment Yellow 83	21108
ORANGE G 30	Pigment Orange 13	21110
RED B 30	Pigment Red 38	21120
RED HF2B 30	Pigment Red 208	12514
BLUE A2R 30	Pigment Blue 15:1	74160
GREEN GG 30	Pigment Green 7	74260

2.3

HEUCOPLAST™

HEUCOPLAST™ is a ready to use pigment preparation for the coloration of rigid PVC, consisting of organic and/or inorganic pigments as well as PVC powder. The color shades of our HEUCOPLAST™ grades are also available as tailor-made solutions to meet specific requirements of each PVC compound and application.








PRODUCT PROPERTIES

As opposed to most powder colorants, the preparations show good flowability and do not show a tendency to dust therefore enabling easy dosing and handling. Even direct dosing at the extruder is possible since premixing is not necessary in each application.

PRODUCT RANGE

Several HEUCOPLAST™ grades have been specially developed for the shading of white window profiles. They contain a reduced pigment loading, enabling accurate dosing of even very small amounts. Particularly for this purpose black, blue and violet HEUCOPLAST™ colors are available.

The dosage depends, of course, on the final application and required color shades, but it is usually in the range of 0.1 to 1.0 parts per hundred.

FULL SHADE	HEUCO- PLAST™	RAL (appr.)	Color	Light Fastness of Pigment	Organic	Inorganic
	190 53 *	-	Yellow	7 - 8		x
	490 01	-	Violet	7 - 8		x
	590 11	-	Blue	7 - 8		x
	590 12	-	Blue	7 - 8		x
	690 15 *	-	Green	7 - 8	x	x
	990 23	-	Black	7 - 8	x	
	990 02	-	Black	8	x	

* Further customized shades are available on demand. / ¹⁾ Full shade measured in Ca / Zn compound with 5% pigmentation.

GLOBAL EXPERTISE IN MATCHING COLORS

With globally active production facilities and service centers, Sudarshan is able to develop pigment preparations to suit its customers' specific needs. For pipes alone, Sudarshan can provide over 200 colorants.

This depth, combined with its ability to match colors on the basis of detailed pigment analyses, enables Sudarshan to supply its customers with precisely matched solutions within short periods of time

2.4

HEUCOPLAST™ EZ

Sudarshan's HEUCOPLAST™ EZ flushed organic pigments are pre-dispersed and dust-free. HEUCOPLAST™ EZ flush First-Pass technology pigments are designed for their ease of dispersion in low shear or single screw extruders. You can take the technical lead in the market with our pre-dispersed "Flushed pigments", reduce your repasses and increase your throughput, provide your customers with higher quality color concentrates.

These products are engineered to bring real value to our customers who need the benefit of pigments where better disperseability would help them overcome technical or equipment challenges. First-Pass technology reduces rework.

BENEFITS:

- First-Pass technology
- Pre-dispersed
- Dustless
- FDA Wax carrier
- Increased throughput
- Dust free
- Reduce Fisheyes / Gels
- Perfect for Single screw / low shear

PRODUCT	PHYSICAL DATA			PROPERTIES				
	APPEARANCE	COLOR INDEX	CHEMICAL CLASS	DENSITY [lg/cm³]	HEAT RESISTANCE	MIGRATION	LIGHT FASTNESS	RECOMMENDED (potential use)
HEUCOPLAST™ EZ								
BLUE 515100 P	Blue powder	Pigment Blue 15:1	Cu Phthalocyanine	1.1	300 °C	4	8	PE, PP
BLUE 515303 P	Blue powder	Pigment Blue 15:3	Cu Phthalocyanine	1.2	300 °C	5	8	PE, PP
GREEN 600734 P	Green powder	Pigment Green 7	Cu Phthalocyanine	1.4	300 °C	5	8	PE, PP
RED 312202 P	Red powder	Pigment Red 122	Quinacridone	1.1	300 °C	5	8	PE, PP
RED 325401 P	Red powder	Pigment Red 254	Diketopyrrolo-Pyrrole	1.2	300 °C	5	8	PE, PP

3 POLYMER SOLUBLE DYES

3.1 HOSTASOL

The Hostasol grades are fluorescent dyes that are used in polystyrene (PS), styrene-acrylonitrile (SAN), acrylonitrile-butadiene-styrene (ABS), polycarbonate (PC), polyester (PET/PBT), polymethyl methacrylate (PMMA) and unplasticized PVC.

In low concentrations, transparent colored material exhibits strong edge fluorescence; brilliant shades are also obtained in reductions.

The Hostasol dyes have excellent resistance to heat and migration in the recommended polymers and good light fastness in transparent colorations.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX NO.	POLYMER							
			PS	SAN	ABS	PC	PET PBT	PMMA	PA	PVC-U
HOSTASOL										
YELLOW 3G	Solvent Yellow 98	56238	■	■	■	■	■	■	●	■
RED GG	Solvent Orange 63	68550	■	■	■	■	■	■	●	■
RED 5B	Vat Red 41	73300	■	●	●	■	●	■	—	■

3.2

SOLVAPERM

The Solvaperm dyes are high-quality polymer-soluble dyes that were developed for coloring polystyrene (PS) and the plastics derived from it, e. g. styrene-acrylonitrile (SAN) and acrylonitrile-butadiene-styrene (ABS). However, they are also suitable for unplasticized PVC (PVC-U), polymethyl methacrylate (PMMA), polyester (PET/PBT), polycarbonate (PC) and to some extent for polyamide (PA). They are standardized in PS. They give brilliant transparent colors in PS and other glass-clear plastics. Opaque formulations can be produced

by adding white pigments such as titanium dioxide or zinc sulfide. In combination with organic and inorganic pigments they give colorations of higher tinctorial strength and greater brilliance. Solvaperm dyes can be used together with fluorescent Hostasol dyes to produce brilliant shades.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX NO.	PS	SAN	ABS	PC	PET PBT	PMMA	PA	PVC-U
SOLVAPERM										
YELLOW 3G	Solvent Yellow 93	48160	■	■	—	■	—	■	—	■
YELLOW 2G	Solvent Yellow 114	47020	■	■	■	■	■	■	—	■
ORANGE 3G	Solvent Orange 60	564100	■	■	■	■	■	■	●	■
RED 2G	Solvent Red 179	564150	■	■	■	■	■	■	■	■
RED G	Solvent Red 135	564120	■	■	■	■	■	■	●	■
RED PFS	Solvent Red 111	60505	■	■	■	■	■	■	●	■
RED BB	Solvent Red 195	—	■	■	■	■	■	■	—	■
RED VIOLET R	Disperse Violet 26 Solvent Violet 59	62025	■	■	■	■	●	■	●	■
VIOLET RSB	Solvent Violet 13	60725	■	■	■	■	■	■	—	■
BLUE 2B	Solvent Blue 104	61568	■	■	■	■	■	■	●	■
GREEN GSB	Solvent Green 3	61565	■	■	■	■	■	■	—	■
GREEN G	Solvent Green 28	625580	■	■	■	■	■	■	—	■
BLACK PCR VP 6280	—	—	■	■	■	■	■	■	—	■

3.3

POLYSYNTHREN

The Polysynthren dyes are polymer-soluble dyes developed specially for coloring polyester. They give brilliant, highly transparent colorings of high tinctorial strength and excellent fastness properties. Because of their good solubility in this polymer these dyes are suitable primarily for the spin dyeing of polyester fibers and filaments. The filter and nozzle service lives of the processing machines are not adversely affected. Polysynthren dyes do not have a nucleating effect on polyester.

Some of the grades have therefore proved ideal for the coloration of PET bottles.

Besides polyester, the Polysynthren dyes can be used in a number of other engineering plastics.

PRODUCT NAME	COLOUR INDEX	COLOUR INDEX NO.	POLYMER						
			PS	SAN	ABS	PC	PET PBT	PMMA	PA
POLYSYNTHREN									
YELLOW NG	Pigment Yellow 147	60645	●	●	●	■	■	●	—
YELLOW RL	Pigment Yellow 192	—	—	—	—	—	●	—	—
RED GFP	Solvent Red 135	564120	■	■	■	■	■	■	●
VIOLET G	Solvent Violet 49	48520	●	●	●	■	■	■	—
BLUE R	Solvent Blue 122	60744	■	■	■	■	■	■	—
BLUE RLS	Solvent Blue 45	—	■	■	■	■	■	■	—
BROWN 3RL	Pigment Orange 70	—	●	●	●	■	■	●	—
BROWN R	Solvent Brown 53	48525	■	■	■	■	■	■	—
BLACK H	Solvent Black 27	—	■	●	●	■	●	■	■

4 OPTICAL BRIGHTENERS

4.1 TELALUX

The Telalux grades are fluorescent whitening agents that were developed for brightening (whitening) of white plastics. They are suitable for all plastics and fibers. Plastics are polystyrene (PS), styrene-acrylonitrile (SAN), acrylonitrile-butadiene-styrene (ABS), as well as polyester (PET/PBT), polyethylene (LDPE/LLDPE/HDPE), polypropylene (PP), polyamide (PA), polymethylmethacrylate (PMMA), polycarbonate (PC), plasticized PVC and un-plasticized PVC and in some extend polyethylene vinyl acetate (EVA).

The optical brighteners give brilliant transparent effects in glass-clear plastics. In pigmented white plastics they give brilliant, high white effects with different shades depending on the nature of their structure.

The Telalux optical brighteners have excellent resistance to heat and migration in recommended polymers and concentrations as well as good light fastness and weather resistance.

PRODUCT NAME												
TELALUX	PET/PBT	PE	PP	PS	SAN	ABS	PC	PMMA	PA	PVC-U	PVC-P	EVA
KCB P	●	●	●	●	●	●	●	●	●	■	■	■
KS P	■	■	■	■	■	■	■	■	■	●	●	—
KSN P	■	■	■	■	■	■	■	■	■	●	●	—
KSC P	—	—	—	—	—	—	—	—	—	■	■	—
KS1 P	■	—	—	■	●	●	—	—	■	—	—	—
NSM P*	—	—	—	—	—	—	—	—	—	—	—	—

* = Only for PAN dry spinning ■



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