

Sales Range

**FOR THE PRINTING INK,
PAINTS, PLASTICS
INDUSTRIES AND
SPECIAL APPLICATIONS**

Pigments,
pigment preparations
and dyes
FROM CLARIANT

Clariant supplies pigments and dyes. These ranges, supplemented by pigment preparations and special grades, offer a wide variety of products for the printing ink, paint, plastics, rubber, office supplies, wood and detergents industries as well as for other special fields.

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
- Additional 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.

Technical details about the aqueous pigment preparations, such as pigment and solids content and type and amount of solvent, are given in the brochure so as to reduce the need for inquiries.

Details of coloristics and fastness properties can be taken from the literature quoted and the following pattern cards:

- DP 5022 »Pigments for printing inks«
- DP 5018 »Automotive, decorative and industrial paints«
- DP 5009 »Pigments for automotive paints«
- DP 8524 »Colorants for powder coatings«
- DP 7081 »Organic pigments for plastics coloration«

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 Clariant are diaryl pigments:

| | |
|-------------------|--------------------|
| Pigment Yellow 12 | Pigment Yellow 126 |
| Pigment Yellow 13 | Pigment Yellow 127 |
| Pigment Yellow 14 | Pigment Yellow 174 |
| Pigment Yellow 16 | Pigment Yellow 176 |
| Pigment Yellow 17 | Pigment Orange 13 |
| Pigment Yellow 81 | Pigment Orange 34 |
| Pigment Yellow 83 | Pigment Red 38 |

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.

Registered **TRADEMARKS**

ALUPRINT®
ANODAL®
CARTASOL®
CARTAX®
CERIDUST®
COLANYL®
COSMENYL®
DRIMAREN®
DUASYN®
FLEXONYL®
FLEXOPRINT®
GRAPHTOL®
HANSA®
HDK®¹⁾
HOSTACOPY®
HOSTACRYL®
HOSTAFINE®
HOSTAJET®
HOSTALUX®

HOSTAPERM®
HOSTAPRINT®
HOSTASIN®
HOSTASOL®
HOSTATINT®
LIOCENE®
LICOWAX®
NIPACIDE®
NOVOPERM®
POLYSYNTHREN®
PV FAST®
RENOL®
SANODAL®
SANODURE®
SANODYE®
SANOLIN®
SAVINYL®
SOLVAPERM®
VISCOFIL®

Sales Range

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1 STANDARD RANGES OF PIGMENTS

- 1.1 Hostaperm
- 1.2 Novoperm
- 1.3 Permanent
- 1.4 Hansa
- 1.5 Flexoprint
- 1.6 Cartax
- 1.7 PV Fast
- 1.8 Graphtol
- 1.9 Novotex

1.1 HOSTAPERM PIGMENTS

The Hostaperm range comprises the pigments, which are noted for very high fastness properties. Suitable grades are listed on the basis of excellent light and weathering fastness and satisfactory migration fastness.

LITERATURE

Pattern card DP 7068 ED
»Hostaperm - Pigments for the paint industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | | PAINTS | | | | |
|------------------------------------|--------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| HOSTAPERM OXIDE YELLOW BV 01 | Pigment Yellow 184 | 771740 | — | — | — | — | ■ | ■ | ■ | ■ | ● | — |
| HOSTAPERM YELLOW H6G | Pigment Yellow 175 | 11784 | ● | — | ○ | ■ | ● | ● | ■ | ● | ● | ● |
| HOSTAPERM YELLOW H5G | Pigment Yellow 213 | — | — | — | — | — | ■ | ■ | ● | ● | ● | — |
| HOSTAPERM YELLOW HN4G [Ⓞ] | Pigment Yellow 150 | 12764 | — | — | — | — | — | — | — | — | — | — |
| HOSTAPERM YELLOW H4G | Pigment Yellow 151 | 13980 | ● | — | ○ | ■ | ● | ■ | ■ | ■ | ● | ● |
| HOSTAPERM YELLOW H4G 70 | Pigment Yellow 151 | 13980 | — | — | — | — | ● | ■ | ■ | ■ | ● | ● |
| HOSTAPERM YELLOW H3G | Pigment Yellow 154 | 11781 | ● | — | ○ | ○ | ■ | ● | ● | ● | ● | ● |
| HOSTAPERM ORANGE GR | Pigment Orange 43 | 71105 | ● | — | ● | ○ | ● | ● | ● | ● | ■ | ● |
| HOSTAPERM SCARLET GO | Pigment Red 168 | 59300 | ● | — | ● | ● | ■ | ■ | ● | ● | ■ | ● |
| HOSTAPERM SCARLET GO TRANSP. | Pigment Red 168 | 59300 | — | — | — | — | ■ | ■ | ● | — | — | ● |
| HOSTAPERM RED D3G 70 | Pigment Red 254 | 56110 | ■ | — | ● | ● | ● | ● | ■ | ● | ● | ● |
| HOSTAPERM RED D2G 70 | Pigment Red 254 | 56110 | — | — | — | — | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM RED P2GL-WD | Pigment Red 179 | 71130 | — | — | — | — | ■ | ● | ● | — | — | — |
| HOSTAPERM RED E2B 70 | Pigment Violet 19 | 73900 | ● | — | ● | ● | ■ | ● | ● | — | — | ● |
| HOSTAPERM RED E3B | Pigment Violet 19 | 73900 | ● | — | ● | ● | ● | ● | ■ | ● | ● | ● |
| HOSTAPERM RED E5B 02 | Pigment Violet 19 | 73900 | ● | — | ● | ● | ● | ● | ■ | ● | ● | ● |
| HOSTAPERM PINK E | Pigment Red 122 | 73915 | ● | — | ● | ■ | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM PINK E-WD | Pigment Red 122 | 73915 | — | — | — | — | — | — | ● | — | ■ | ● |
| HOSTAPERM PINK E 02 | Pigment Red 122 | 73915 | ■ | — | ● | ■ | — | — | — | — | — | ● |
| HOSTAPERM PINK E TRANSP. 01 | Pigment Red 122 | 73915 | — | — | — | — | ■ | ■ | ● | — | — | ● |
| HOSTAPERM PINK EB TRANSP. | Pigment Red 122 | 73915 | — | — | — | — | ■ | ■ | ● | — | — | ● |

Ⓞ Regarding printing application it is only recommended for decorative laminates

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | | PAINTS | | | | |
|----------------------------|-------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| HOSTAPERM RED VIOLET ER 02 | Pigment Violet 19 | 73900 | ● | — | ● | ● | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM VIOLET BL 01 | Pigment Violet 23 | 51319 | — | — | — | — | ■ | ■ | ■ | ● | ● | — |
| HOSTAPERM VIOLET RL SPEC. | Pigment Violet 23 | 51319 | ● | — | ● | ■ | ■ | ■ | ● | ● | ● | |
| HOSTAPERM VIOLET RL-NF | Pigment Violet 23 | 51319 | — | — | — | — | ■ | ■ | ■ | — | — | — |
| HOSTAPERM VIOLET RL 02 | Pigment Violet 23 | 51319 | ■ | — | ● | ■ | — | — | — | — | — | — |
| HOSTAPERM VIOLET P-RL | Pigment Violet 23 | 51319 | ○ | — | ■ | ○ | — | — | — | — | — | — |
| HOSTAPERM BLUE A4R | Pigment Blue 15:1 | 74160 | — | — | — | — | ● | ● | ■ | ■ | ● | — |
| HOSTAPERM BLUE A2R | Pigment Blue 15:1 | 74160 | ○ | — | ● | ■ | ● | ● | ■ | — | ● | ● |
| HOSTAPERM BLUE BT-728-D | Pigment Blue 15:1 | 74160 | — | — | — | — | ■ | ■ | — | — | — | — |
| HOSTAPERM BLUE BT-729-D | Pigment Blue 15:1 | 74160 | — | — | — | — | ■ | ■ | — | — | — | — |
| HOSTAPERM BLUE AFL | Pigment Blue 15:2 | 74160 | ○ | — | ● | ■ | ■ | ● | ● | — | ● | ● |
| HOSTAPERM BLUE BT-627-D | Pigment Blue 15:2 | 74160 | — | — | — | — | ■ | ■ | ● | — | — | — |
| HOSTAPERM BLUE B2G | Pigment Blue 15:3 | 74160 | — | — | — | — | ● | ● | ■ | ● | ● | — |
| HOSTAPERM BLUE B2G-L | Pigment Blue 15:3 | 74160 | — | — | — | — | ● | ● | ■ | ■ | ● | ● |
| HOSTAPERM BLUE B4G | Pigment Blue 15:3 | 74160 | ■ | ● | ● | ■ | ● | ● | ■ | ● | ● | — |
| HOSTAPERM BLUE BT-617-D | Pigment Blue 15:4 | 74160 | — | — | — | — | ■ | ■ | ● | — | — | — |
| HOSTAPERM BLUE BFL | Pigment Blue 15:4 | 74160 | — | — | — | — | ■ | ■ | ● | — | ● | ● |
| HOSTAPERM GREEN GG 01 | Pigment Green 7 | 74260 | — | — | — | — | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM GREEN GNX | Pigment Green 7 | 74260 | ■ | — | ● | ■ | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM GREEN 8G | Pigment Green 36 | 74265 | ● | — | ● | ■ | ■ | ■ | ■ | ● | ● | ● |
| HOSTAPERM BROWN HFR 01 | Pigment Brown 25 | 12510 | ■ | — | ○ | ○ | ■ | ■ | ● | ● | — | ● |

1.2 NOVOPERM PIGMENTS

Novoperm is the tradename for pigments with above-average fastness properties. These products are suitable - depending on the grade - for use in the paint and printing ink industries.

LITERATURE

Pattern card DP 7068 ED

»Novoperm - Pigments for the paint industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | | PAINTS | | | | |
|--------------------------|--------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| NOVOPERM YELLOW H10G 01 | Pigment Yellow 81 | 21127 | ● | — | ● | ● | — | — | ● | — | — | ● |
| NOVOPERM YELLOW P-HG | Pigment Yellow 180 | 21290 | ● | — | ■ | ○ | — | — | — | — | — | ● |
| NOVOPERM YELLOW FGL | Pigment Yellow 97 | 11767 | ● | — | ● | ● | — | — | ● | ○ | ■ | ● |
| NOVOPERM YELLOW F2G | Pigment Yellow 194 | 11785 | ● | — | — | ■ | — | — | ■ | ■ | ● | ● |
| NOVOPERM YELLOW 5GD 71 | Pigment Yellow 155 | 200310 | ● | — | ● | ● | ○ | ● | ■ | ■ | ● | — |
| NOVOPERM YELLOW 4G | Pigment Yellow 155 | 200310 | ● | — | ● | ● | — | — | ■ | ● | — | — |
| NOVOPERM YELLOW 4G 01 | Pigment Yellow 155 | 200310 | ● | — | ● | ● | — | — | ● | ● | — | — |
| NOVOPERM YELLOW H2G | Pigment Yellow 120 | 11783 | ● | — | — | ● | — | ● | ■ | ■ | — | ● |
| NOVOPERM YELLOW H3R | Pigment Yellow 181 | 11777 | ● | — | ● | ■ | — | — | — | — | — | — |
| NOVOPERM YELLOW HR | Pigment Yellow 83 | 21108 | ● | — | ● | ● | — | — | ● | ● | ● | ● |
| NOVOPERM YELLOW HR 02 | Pigment Yellow 83 | 21108 | ■ | — | — | ■ | — | — | ● | ● | — | ● |
| NOVOPERM YELLOW HR 04 | Pigment Yellow 83 | 21108 | ● | — | ■ | ● | — | — | — | — | — | ● |
| NOVOPERM YELLOW P-HRE | Pigment Yellow 83 | 21108 | — | — | ■ | — | — | — | — | — | — | — |
| NOVOPERM YELLOW HR 70 | Pigment Yellow 83 | 21108 | ● | — | — | ● | ○ | ● | ■ | ■ | ● | ● |
| NOVOPERM YELLOW M2R 70 | Pigment Yellow 139 | 56298 | — | — | — | — | ● | ● | ■ | ■ | — | — |
| NOVOPERM YELLOW P-M3R | Pigment Yellow 139 | 56298 | ● | — | ■ | — | — | — | ● | — | — | — |
| NOVOPERM ORANGE H5G 70 | Pigment Orange 62 | 11775 | ● | — | ● | ● | ○ | ● | ■ | ● | ● | ● |
| NOVOPERM ORANGE HL | Pigment Orange 36 | 11780 | ● | — | ● | ● | — | — | ● | ● | ● | ● |
| NOVOPERM ORANGE HL 70 | Pigment Orange 36 | 11780 | ● | — | ● | ● | ■ | ■ | ■ | ■ | ● | ● |
| NOVOPERM ORANGE HL 70-NF | Pigment Orange 36 | 11780 | — | — | — | — | ■ | ■ | ● | — | — | — |

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | | PAINTS | | | | |
|-------------------------|-------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| NOVOPERM RED HFG | Pigment Orange 38 | 12367 | ● | — | ● | ● | — | — | — | ● | — | ● |
| NOVOPERM RED HF3S | Pigment Red 188 | 12467 | ● | — | ● | ● | — | — | ● | ● | ■ | ● |
| NOVOPERM RED HF3S 70 | Pigment Red 188 | 12467 | — | — | — | — | ● | ● | ■ | ● | ● | ● |
| NOVOPERM SCARLET 4RF 01 | Pigment Red 242 | 20067 | ● | — | ● | ● | — | — | ● | ● | ● | — |
| NOVOPERM RED F2RK 70 | Pigment Red 170 | 12475 | ● | — | ● | ● | ● | ● | ● | ● | — | ● |
| NOVOPERM RED F3RK 70 | Pigment Red 170 | 12475 | ● | — | ● | ● | ○ | ● | ■ | ■ | — | ● |
| NOVOPERM RED F5RK | Pigment Red 170 | 12475 | ● | — | ● | ■ | — | — | ■ | ■ | — | ● |
| NOVOPERM RED BN | Pigment Red 214 | 200660 | — | — | — | — | — | — | ● | ● | — | — |
| NOVOPERM RED HF2B 01 | Pigment Red 208 | 12514 | ● | — | ● | ● | — | — | — | — | — | ● |
| NOVOPERM RED HF4B | Pigment Red 187 | 12486 | ● | — | ● | ● | — | ● | ● | ● | — | ● |
| NOVOPERM RED BLS 02 | Pigment Red 48:4 | 15865:4 | ● | — | ● | ○ | — | — | ■ | — | — | — |
| NOVOPERM CARMINE HF3C | Pigment Red 176 | 12515 | ● | — | ● | ● | — | — | — | — | — | ● |
| NOVOPERM CARMINE HF4C | Pigment Red 185 | 12516 | ● | — | ● | ● | — | — | — | ● | — | ● |
| NOVOPERM BORDEAUX 5BLS | Pigment Red 48:4 | 15865:4 | — | — | — | — | — | — | ■ | — | — | — |
| NOVOPERM BORDEAUX HF3R | Pigment Violet 32 | 12517 | ● | — | ■ | ● | — | — | ● | ● | — | ● |

1.3 PERMANENT PIGMENTS

This group comprises pigments that vary in fastness properties. Because of their high tinctorial strength, good gloss and excellent chemical resistance coupled with largely good light fastness the Permanent Yellow

and Orange pigments are of particular interest to the printing ink industry. Special grades with specific improvements for the individual printing processes were developed for this sector. The red pigments

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | PAINTS | | | | | |
|----------------------------|--------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| PERMANENT YELLOW NCG | Pigment Yellow 16 | 20040 | ● | — | — | ■ | — | — | ● | — | — | ● |
| PERMANENT YELLOW GG 02 | Pigment Yellow 17 | 21105 | ● | — | ■ | ■ | — | — | ○ | ○ | — | ● |
| PERMANENT YELLOW DHG | Pigment Yellow 12 | 21090 | ■ | — | ● | ● | — | — | ○ | — | — | ● |
| PERMANENT YELLOW DHG 2050G | Pigment Yellow 12 | 21090 | — | — | — | — | — | — | — | — | — | — |
| PERMANENT YELLOW DHG N26 | Pigment Yellow 12 | 21090 | — | ■ | — | — | — | — | — | — | — | — |
| PERMANENT YELLOW DHG N22 | Pigment Yellow 12 | 21090 | — | ■ | — | — | — | — | — | — | — | — |
| PERMANENT YELLOW DGR | Pigment Yellow 126 | 21101 | ■ | — | ● | ■ | — | — | — | — | — | ● |
| PERMANENT YELLOW GR | Pigment Yellow 13 | 21100 | ■ | — | ● | ■ | — | — | ○ | ○ | — | ● |
| PERMANENT YELLOW GR 01 | Pigment Yellow 13 | 21100 | ■ | — | ● | ■ | — | — | — | — | — | ● |
| PERMANENT YELLOW GR 04 | Pigment Yellow 13 | 21100 | ■ | — | ● | ○ | — | — | — | — | — | ● |
| PERMANENT YELLOW P-GRL 06 | Pigment Yellow 13 | 21100 | — | — | ■ | ○ | — | — | — | — | — | — |
| PERMANENT YELLOW P-GRL 07 | Pigment Yellow 13 | 21100 | — | — | ■ | — | — | — | — | — | — | — |
| PERMANENT YELLOW GRS 80 | Pigment Yellow 174 | 21098 | ■ | — | — | — | — | — | — | — | — | — |
| PERMANENT YELLOW GRY 82 | Pigment Yellow 174 | 21098 | ■ | — | — | — | — | — | — | — | — | — |
| PERMANENT YELLOW GRL 03 | Pigment Yellow 127 | 21102 | ■ | — | ● | ■ | — | — | — | — | — | ● |
| PERMANENT YELLOW GRX 83 | Pigment Yellow 176 | 21103 | ■ | — | — | ○ | — | — | — | — | — | — |
| PERMANENT YELLOW GRX 86 | Pigment Yellow 176 | 21103 | ■ | — | — | ○ | — | — | — | — | — | — |
| PERMANENT YELLOW P-G | Pigment Yellow 14 | 21095 | ■ | — | ■ | — | — | — | — | — | — | — |
| PERMANENT YELLOW GA GRAN. | Pigment Yellow 14 | 21095 | — | ■ | — | — | — | — | — | — | — | — |
| PERMANENT ORANGE G | Pigment Orange 13 | 21110 | ■ | — | ● | ■ | — | — | ○ | ○ | — | ● |
| PERMANENT ORANGE 2RLD 71 | Pigment Orange 74 | — | ● | — | ● | ■ | — | — | ■ | ● | ● | ● |
| PERMANENT ORANGE RL 01 | Pigment Orange 34 | 21115 | ■ | ○ | ● | ■ | — | — | ○ | ● | — | ● |
| PERMANENT ORANGE RL 70 | Pigment Orange 34 | 21115 | ● | — | ● | ■ | — | — | ■ | ■ | — | ● |

which are listed here commonly are used in the graphic industry because of their tinctorial strength and gloss as well as important pigments for industrial and decorative paints.

LITERATURE

Pattern card DP 7068 ED

»Permanent - Pigments for the paint industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | | PAINTS | | | | |
|---------------------------|------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| PERMANENT RED FRLL 01 | Pigment Red 9 | 12460 | ● | — | ● | ● | — | — | — | — | — | ● |
| PERMANENT LAKE RED LCY | Pigment Red 53:1 | 15585:1 | ■ | ● | ● | ■ | — | — | — | — | — | — |
| PERMANENT LAKE RED LCLL | Pigment Red 53:1 | 15585:1 | ■ | ● | ● | ■ | — | — | ○ | — | — | ● |
| PERMANENT RED FRR | Pigment Red 2 | 12310 | ● | — | ● | ■ | — | — | — | — | — | ● |
| PERMANENT RED FGR | Pigment Red 112 | 12370 | ● | — | ● | ● | — | — | ■ | ○ | ■ | ● |
| PERMANENT RED FGR 02 | Pigment Red 112 | 12370 | ● | — | ● | ● | — | — | ■ | — | ■ | ● |
| PERMANENT RED FGR 03 | Pigment Red 112 | 12370 | ■ | — | ● | ■ | — | — | — | — | — | ● |
| PERMANENT RED FGR 70 | Pigment Red 112 | 12370 | ● | — | ● | ● | — | — | ■ | ○ | ■ | ● |
| PERMANENT RED LB 01 | Pigment Red 48:2 | 15865:2 | ● | — | ■ | ○ | — | — | — | — | — | — |
| PERMANENT RED P-FK | Pigment Red 210 | 12477 | ○ | — | ■ | ○ | — | — | — | — | — | ● |
| PERMANENT BORDEAUX FGR | Pigment Red 14 | 12380 | ● | — | ● | ● | — | — | ● | — | ■ | ● |
| PERMANENT RED P-F7RK | Pigment Red 266 | 12474 | ○ | — | ■ | ○ | — | — | — | — | — | — |
| PERMANENT CARMINE FB 01 | Pigment Red 5 | 12490 | — | — | — | — | — | — | — | — | — | ● |
| PERMANENT CARMINE FBB 02 | Pigment Red 146 | 12485 | ● | — | ■ | ■ | — | — | ● | — | — | ● |
| PERMANENT RUBINE F6B | Pigment Red 184 | 12487 | ● | — | ■ | ■ | — | — | — | — | — | ● |
| PERMANENT RUBINE F6B 01 | Pigment Red 184 | 12487 | ● | — | ■ | ■ | — | — | — | — | — | ● |
| PERMANENT RUBINE L4B 01 | Pigment Red 57:1 | 15850:1 | ■ | ● | — | ○ | — | — | — | — | — | — |
| PERMANENT RUBINE L4BT | Pigment Red 57:1 | 15850:1 | — | ■ | — | — | — | — | — | — | — | — |
| PERMANENT RUBINE L5B 01 | Pigment Red 57:1 | 15850:1 | ■ | ● | — | ○ | — | — | — | — | — | — |
| PERMANENT RUBINE L5BT | Pigment Red 57:1 | 15850:1 | — | ■ | — | — | — | — | — | — | — | — |
| PERMANENT RUBINE P-F7B | Pigment Red 184 | 12487 | ○ | — | ■ | ○ | — | — | — | — | — | ● |
| PERMANENT RUBINE P-L7B 01 | Pigment Red 57:1 | 15850:1 | ● | ● | ■ | ○ | — | — | — | — | — | — |
| PERMANENT RUBINE LPM | Pigment Red 57:1 | 15850:1 | ■ | — | — | — | — | — | — | — | — | — |
| PERMANENT PINK F3B 01 | Pigment Red 147 | 12433 | ● | — | ■ | ■ | — | — | — | — | — | ● |
| PERMANENT BORDEAUX FRR | Pigment Red 12 | 12385 | ● | — | ● | ● | — | — | ○ | — | ■ | ● |

1.4 HANSA PIGMENTS

The Hansa Yellow pigments are noted for very good light fastness. Use of the Hansa Red grades should be restricted to full-shade colorations. The Hansa pigments do not have adequate fastness to overpainting. They are standard pigments for air-drying paints. The Hansa pigments also have excellent light fastness in printing inks. But they are not fast to overpainting

or resistant to stoving and sterilization. The pigments are noted for very good rheological properties.

LITERATURE

Pattern card DP 7068 ED

»Hansa - Pigments for the paint industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PRINTING INKS | | | | PAINTS | | | | | |
|---------------------------------|-------------------|------------------|-----------------|------------------------------|------------------------------------|------------------------------|-----------------------|-------------------------------|-----------------------------|-----------------|-------------------|-----------------------------------|
| | | | Offset printing | Publication gravure printing | Packaging printing (solvent-based) | Packaging printing (aqueous) | Automotive OEM paints | Automotive refinishing paints | Industrial paints (general) | Powder coatings | Decorative paints | Office supplies - artists' colors |
| HANSA YELLOW 10G | Pigment Yellow 3 | 11710 | ● | — | ● | ■ | — | — | ○ | — | ■ | ■ |
| HANSA YELLOW 10G 41 GRAN. | Pigment Yellow 3 | 11710 | ● | — | — | ■ | — | — | ○ | — | ■ | ● |
| HANSA BRILLIANT YELLOW 9GX | — | — | ● | — | — | ■ | — | — | — | — | — | ● |
| HANSA YELLOW 5GX 01 * | Pigment Yellow 74 | 11741 | — | — | — | — | — | — | — | — | — | — |
| HANSA BRILLIANT YELLOW 5GX | Pigment Yellow 74 | 11741 | — | — | — | — | — | — | ○ | — | ■ | ● |
| HANSA BRILLIANT YELLOW 5GX 03 | Pigment Yellow 74 | 11741 | ● | — | ● | ■ | — | — | — | — | — | ● |
| HANSA BRILLIANT YELLOW 4GX | Pigment Yellow 73 | 11738 | ● | — | ● | ■ | — | — | ○ | — | ■ | ● |
| HANSA YELLOW G 02 | Pigment Yellow 1 | 11680 | — | — | ● | ■ | — | — | ○ | — | ■ | ● |
| HANSA BRILLIANT YELLOW 2GX 70 | Pigment Yellow 74 | 11741 | ● | — | ● | ■ | — | — | ○ | — | ■ | ● |
| HANSA BRILLIANT YELLOW 2GX 70-S | Pigment Yellow 74 | 11741 | — | — | — | — | — | — | ○ | — | ■ | — |
| HANSA RED GG | Pigment Orange 5 | 12075 | ● | — | ● | ■ | — | — | ○ | — | ■ | ● |
| HANSA RED R | Pigment Red 4 | 12085 | ● | — | ● | ■ | — | — | ○ | — | — | ● |
| HANSA SCARLET RNC | Pigment Red 3 | 12120 | ● | — | ● | ■ | — | — | ● | — | ● | ● |
| HANSA RED B | Pigment Red 3 | 12120 | ● | — | ● | ■ | — | — | ● | — | ● | ● |
| HANSA RED 3B | Pigment Red 3 | 12120 | ○ | — | ● | ■ | — | — | ● | — | ● | ● |

* Only for ○ Ink Jet and ■ Toner

1.5 FLEXOPRINT

Flexoprint pigments are surface-treated special pigments for aqueous gravure and flexographic printing inks. In these systems they offer the

advantages of aqueous and dry preparations without having their disadvantages.

| NAME | COLOUR INDEX | PASTE INKS | | | | | | LIQUID INKS | | | | | | | |
|-------------------------------|-------------------|------------|---------|---------|-------------|------------|-----------|-------------|------------|-------------|-----|----|-------------|----------------------|-----------|
| | | Sheetfed | Heatset | Coldset | Silk screen | Metal deco | UV curing | NC alcohol | NC acetate | Water based | PVB | PA | Pub gravure | Decorative laminates | UV curing |
| FLEXOPRINT YELLOW HR | Pigment Yellow 83 | - | - | - | - | - | - | - | - | ■ | - | - | - | - | - |
| FLEXOPRINT BLACK CB 01 | Pigment Black 7 | - | - | - | - | - | - | - | - | ■ | - | - | - | - | - |

1.6 CARTAX

UV-fluorescent pigment for marking and coding purposes (e. g. security papers etc.).

| NAME | COLOUR INDEX | PASTE INKS | | | | | | LIQUID INKS | | | | | | | |
|---------------------------|--------------|------------|---------|---------|-------------|------------|-----------|-------------|------------|-------------|-----|----|-------------|----------------------|-----------|
| | | Sheetfed | Heatset | Coldset | Silk screen | Metal deco | UV curing | NC alcohol | NC acetate | Water based | PVB | PA | Pub gravure | Decorative laminates | UV curing |
| CARTAX CXDP POWDER | - | ● | ● | - | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| CARTAX DP LIQUID | - | - | - | - | - | - | - | - | ● | - | - | - | - | - | - |

1.7 PV FAST

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

LITERATURE

Pattern card DP 7081 ED
»Organic pigments for plastics coloration«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PLASTICS | | | | | | PRIN- TING INKS | PAINT | |
|------------------------|--------------------|------------------|----------|-------------|-------------|-----------------------------|---------------|-------------|-----------------------|----------------------|-----------------|
| | | | PVC | Polyolefins | Polystyrene | Polybutylene terephthalate* | Polycarbonate | Polyamide 6 | | Decorative laminates | Powder coatings |
| PV FAST YELLOW H9G | Pigment Yellow 214 | — | ■ | ■ | ● | — | — | — | — | — | ● |
| PV FAST YELLOW H4G | Pigment Yellow 151 | 13980 | ■ | ■ | ● | — | — | — | — | — | — |
| PV FAST YELLOW H2G | Pigment Yellow 120 | 11783 | ■ | ■ | ● | — | — | ● | — | — | — |
| PV FAST YELLOW HG 01 | Pigment Yellow 180 | 21290 | ● | ■ | ● | ● | ● | — | ■ | — | — |
| PV FAST YELLOW HG | Pigment Yellow 180 | 21290 | ● | ■ | ● | ● | ● | — | ■ | ● | ● |
| PV FAST YELLOW H2GR | Pigment Yellow 191 | 18795 | ● | ■ | ● | ● | ● | — | — | — | — |
| PV FAST YELLOW HGR | Pigment Yellow 191 | 18795 | ● | ■ | ● | ● | ● | — | ● | ● | ● |
| PV FAST YELLOW HR 02 | Pigment Yellow 83 | 21108 | ■ | ○ | — | — | — | — | — | — | ● |
| PV FAST YELLOW HR | Pigment Yellow 83 | 21108 | ■ | ○ | — | — | — | — | — | — | — |
| PV FAST YELLOW H3R | Pigment Yellow 181 | 11777 | ● | ■ | ● | ● | — | — | ■ | ● | ● |
| PV FAST ORANGE H4GL 01 | Pigment Orange 72 | 211095 | ● | ■ | ● | — | — | — | ● | ● | ● |
| PV FAST ORANGE H2GL | Pigment Orange 64 | 12760 | ● | ■ | ● | ○ | ○ | — | — | — | — |
| PV FAST ORANGE GRL | Pigment Orange 43 | 71105 | ● | ■ | ● | ● | ● | ○ | — | — | ● |
| PV FAST ORANGE 6RL | Pigment Orange 68 | 486150 | ● | ■ | ● | ● | ● | ● | — | — | — |
| PV FAST SCARLET 4RF | Pigment Red 242 | 20067 | ■ | ■ | ● | ● | ● | — | — | — | ● |
| PV FAST RED HGR | Pigment Red 285 | — | ● | ■ | ○ | — | ○ | — | — | — | ● |
| PV FAST RED B | Pigment Red 149 | 71137 | ● | ■ | ● | ● | ● | ○ | ● | ● | ● |
| PV FAST RED D3G | Pigment Red 254 | 56110 | ■ | ■ | ○ | ○ | — | — | ■ | — | ● |
| PV FAST RED HB | Pigment Red 247 | 15915 | ● | ■ | ■ | ● | ● | — | — | ● | — |
| PV FAST RED 3B | Pigment Red 144 | 20735 | ■ | ■ | ● | ● | ● | — | — | ● | ● |
| PV FAST RED BNP | Pigment Red 214 | 200660 | ■ | ■ | ● | ● | ● | — | ● | — | ● |
| PV FAST RED HF4B | Pigment Red 187 | 12486 | ■ | ● | ● | ● | ● | — | — | — | ● |
| PV FAST RED E4G | Pigment Violet 19 | 73900 | ● | ■ | ● | ● | ● | ○ | — | — | — |
| PV FAST RED E3B | Pigment Violet 19 | 73900 | ● | ■ | ● | ● | ● | ○ | — | — | ● |
| PV FAST RED E5B | Pigment Violet 19 | 73900 | ● | ■ | ● | ● | ● | ○ | — | — | ● |

*Organic pigments can have a nucleating effect in PET, and therefore preliminary trials are necessary.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PLASTICS | | | | | | PRIN- TING INKS | PAINT | |
|--------------------|-------------------|------------------|----------|-------------|-------------|-----------------------------|---------------|-------------|-----------------------|----------------------|-----------------|
| | | | PVC | Polyolefins | Polystyrene | Polybutylene terephthalate* | Polycarbonate | Polyamide 6 | | Decorative laminates | Powder coatings |
| PV FAST PINK E | Pigment Red 122 | 73915 | ● | ■ | ● | ● | ● | ○ | - | - | ● |
| PV FAST PINK E O1 | Pigment Red 122 | 73915 | ● | ■ | ● | ● | ● | ○ | - | - | ● |
| PV FAST VIOLET ER | Pigment Violet 19 | 73900 | ● | ■ | ● | ● | ● | ○ | - | - | ● |
| PV FAST VIOLET BLP | Pigment Violet 23 | 51319 | ● | ■ | ● | - | - | ○ | - | - | ● |
| PV FAST VIOLET RL | Pigment Violet 23 | 51319 | ● | ■ | ● | - | - | ○ | - | - | ● |
| PV FAST BLUE A4R | Pigment Blue 15:1 | 74160 | ■ | ■ | ● | ○ | ○ | - | - | - | ● |
| PV FAST BLUE A2R | Pigment Blue 15:1 | 74160 | ■ | ■ | ● | ○ | ○ | ○ | - | ● | ● |
| PV FAST BLUE BG | Pigment Blue 15:3 | 74160 | ■ | ■ | ● | ● | ● | ● | - | ■ | ● |
| PV FAST GREEN GNX | Pigment Green 7 | 74260 | ■ | ■ | ● | ● | ● | ○ | - | - | ● |
| PV FAST BROWN HFR | Pigment Brown 25 | 12510 | ■ | ● | - | - | - | - | - | - | ● |
| PV FAST BROWN RL | Pigment Brown 41 | - | ■ | ● | ● | - | - | - | - | - | ● |

* Organic pigments can have a nucleating effect in PET, and therefore preliminary trials are necessary.

1.8 GRAPHTOL

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

LITERATURE

Pattern card DP 7081 ED
»Organic pigments for plastics coloration«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PLASTICS | | | | | | PAINT | |
|------------------------|--------------------|------------------|----------|-------------|-------------|-----------------------------|---------------|-------------|-----------------|-----------------------------------|
| | | | PVC | Polyolefins | Polystyrene | Polybutylene terephthalate* | Polycarbonate | Polyamide 6 | Powder coatings | Office supplies - artists' colors |
| GRAPHTOL YELLOW H10G | Pigment Yellow 81 | 21127 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL YELLOW GG | Pigment Yellow 17 | 21105 | ■ | ○ | — | — | — | — | — | — |
| GRAPHTOL YELLOW 3GP | Pigment Yellow 155 | 200310 | ● | ■ | ● | — | — | — | ○ | ● |
| GRAPHTOL YELLOW GR | Pigment Yellow 13 | 21100 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL YELLOW H2R | Pigment Yellow 139 | 56298 | ● | ■ | — | — | — | — | ○ | ● |
| GRAPHTOL ORANGE GPS | Pigment Orange 13 | 21110 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL ORANGE RL | Pigment Orange 34 | 21115 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL RED HFG | Pigment Orange 38 | 12367 | ■ | ● | — | — | — | — | — | ● |
| GRAPHTOL RED LG | Pigment Red 53:1 | 15585:1 | ■ | ■ | ● | — | ● | — | — | ● |
| GRAPHTOL RED LC | Pigment Red 53:1 | 15585:1 | ■ | ■ | ● | — | ● | — | ○ | — |
| GRAPHTOL RED BB | Pigment Red 38 | 21120 | ● | ○ | — | — | — | — | — | — |
| GRAPHTOL RED F3RK 70 | Pigment Red 170 | 12475 | — | ■ | — | — | — | — | — | ● |
| GRAPHTOL FIRE RED 3RLP | Pigment Red 48:3 | 15865:3 | ■ | ■ | ● | — | — | — | ○ | ● |
| GRAPHTOL RED HF2B | Pigment Red 208 | 12514 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL RED F5RK | Pigment Red 170 | 12475 | — | ■ | — | — | — | — | — | ● |
| GRAPHTOL RED 2BN | Pigment Red 262 | — | ○ | ■ | ● | ● | ● | — | — | ● |
| GRAPHTOL RED P2B | Pigment Red 48:2 | 15865:2 | ■ | ■ | ● | — | — | — | — | ● |
| GRAPHTOL CARMINE HF4C | Pigment Red 185 | 12516 | ■ | ● | ● | — | — | — | — | ● |
| GRAPHTOL CARMINE HF3C | Pigment Red 176 | 12515 | ■ | ● | ● | — | ● | — | — | ● |
| GRAPHTOL RUBINE L4B | Pigment Red 57:1 | 15850:1 | ■ | ■ | ○ | — | — | — | ○ | ● |
| GRAPHTOL BORDEAUX HF3R | Pigment Violet 32 | 12517 | ■ | ○ | — | — | — | — | — | ● |
| GRAPHTOL BLUE AN | Pigment Blue 15 | 74160 | ■ | — | — | — | — | — | — | ● |

* Organic pigments can have a nucleating effect in PET, and therefore preliminary trials are necessary.

1.9 NOVOTEX

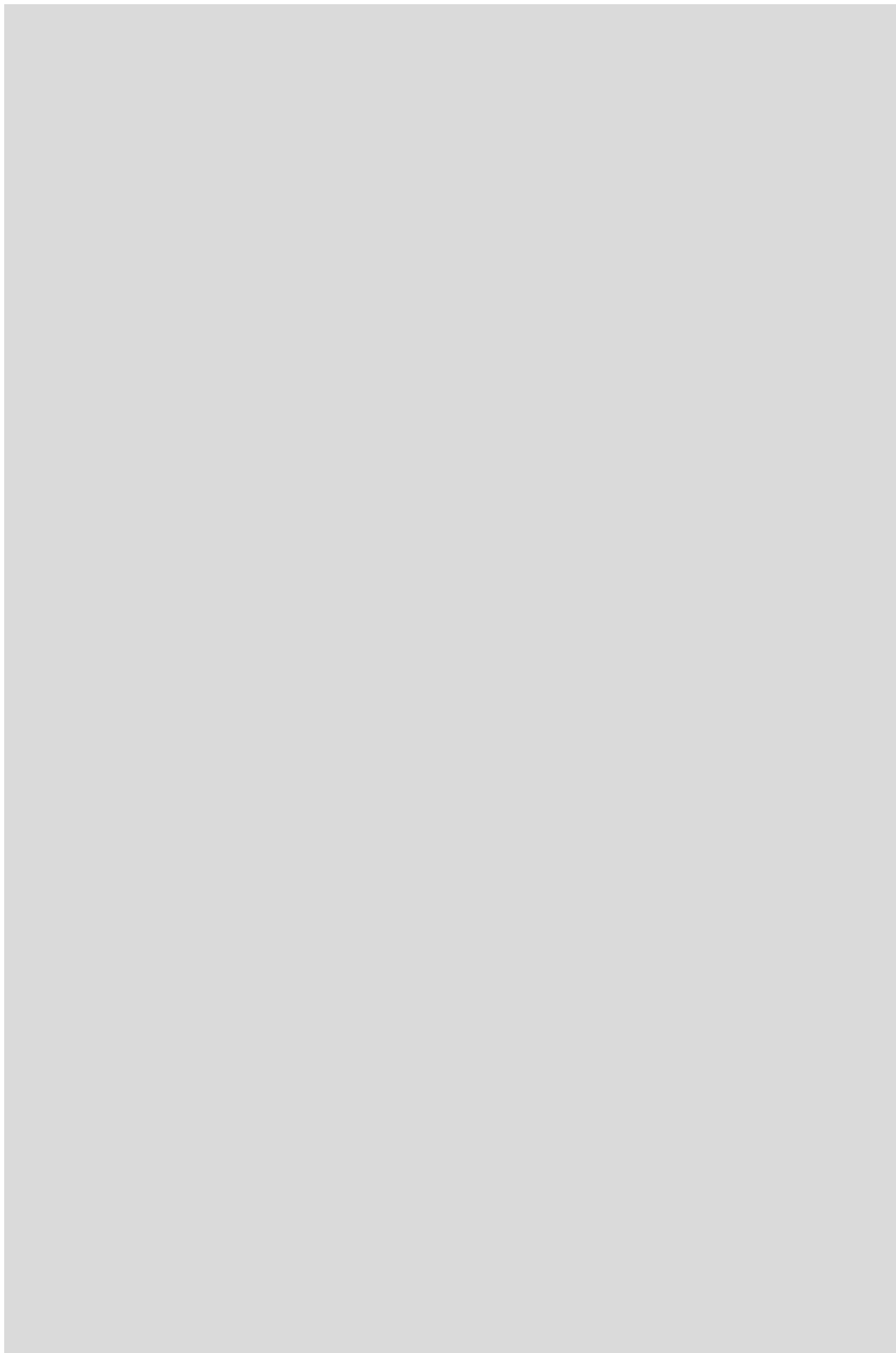
The pigments included in the Novotex range were developed specially for use in the textile printing and agricultural sectors. The products are supplied

in powder form. The standardization is carried out in an aqueous system with wider specification limits.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | FIELD OF APPLICATION | | |
|-----------------------------|-------------------|------------------|-------------------------|---------------------|-----------------|
| | | | Textile printing sector | Agricultural sector | Office supplies |
| NOVOTEX YELLOW HR 02 | Pigment Yellow 83 | 21108 | ■ | — | — |
| NOVOTEX RED ARCY | Pigment Red 48:2 | 15865:2 | — | ■ | ● |
| NOVOTEX RED F4RK | Pigment Red 170 | 12475 | ■ | — | ● |
| NOVOTEX CARMINE FBB | Pigment Red 146 | 12485 | ■ | — | ● |

OEKO-TEX 100

For Oeko-Tex 100 information please contact Clariant Corporate Product Stewardship.



2

SPECIAL GRADES

- 2.1 Numerical code for alteration of standards and special grades
- 2.2 Transparent grades for effect paints
- 2.3 Opaque pigments for lead-free pigmentation
- 2.4 Easily dispersible pigments
- 2.5 P grades
- 2.6 Cosmetic pigments
- 2.7 NIP products
 - 2.7.1 Ink Jet pigments
 - 2.7.2 Ink Jet pigment preparations
 - 2.7.3 Ink Jet dyes
 - 2.7.4 Toner pigments
 - 2.7.5 Toner pigment preparations
 - 2.7.6 Charge Control Agents
 - 2.7.7 Waxes
 - 2.7.8 HDK - pyrogenic silica

2.1

NUMERICAL CODE FOR ALTERATION OF STANDARDS AND SPECIAL GRADES

In the course of improving or further developing existing pigments/pigment preparations for special fields of application or special processing methods there is a need for modified grades or special grades, which are identified by adding a two-digit number to the pigment name. Each further modification to one and the same pigment is identified by the next consecutive number.

We use the following system:

- 01 - 19 Alteration of standards and improvements to individual pigments (e.g. higher tinctorial strength, change in shade etc.).
- 20 - 29 Easily dispersible pigments for publication gravure printing inks. High tinctorial strength, very good rheological properties. N grades do not strike through.

PERMANENT YELLOW DHG N26

PERMANENT YELLOW DHG N22

- 30 - 39 Alteration of standards or improvements to pigment preparations and flushed pastes with their own range name.

- 40 - 49 Pigments with improved dispersibility primarily for air-drying paints.

HANSA YELLOW 10G 41 GRAN.

LITERATURE

Pattern card DP 5018 »Decorative paints, industrial paints, automotive paints«

- 70 - 79 Highly opaque pigments with very good flow properties.

HANSA BRILLIANT YELLOW 2GX 70

HANSA BRILLIANT YELLOW 2GX 70-S

NOVOPERM YELLOW 5GD 71

HOSTAPERM YELLOW H4G

NOVOPERM YELLOW HR 70

NOVOPERM YELLOW M2R 70

NOVOPERM ORANGE H5G 70

NOVOPERM ORANGE HL 70

NOVOPERM ORANGE HL 70-NF

PERMANENT ORANGE RL 70

PERMANENT ORANGE 2RLD 71

HOSTAPERM RED E2B 70

PERMANENT RED FGR 70

NOVOPERM RED HF3S 70

HOSTAPERM RED D3G 70

HOSTAPERM RED D2G 70

NOVOPERM RED F2RK 70

NOVOPERM RED F3RK 70

GRAPHTOL RED F3RK 70

LITERATURE

Pattern card DP 5018 »Decorative paints, industrial paints, automotive paints«

- 80 - 89 Special pigments for the efficient manufacture of sheet-fed and web offset printing inks. High gloss, low viscosity, very easily dispersible.

PERMANENT YELLOW GRY 82

PERMANENT YELLOW GRX 83

PERMANENT YELLOW GRX 86

PERMANENT YELLOW GRS 80

2.2

TRANSPARENT GRADES FOR EFFECT PAINTS

Special grades with very high transparency.

HOSTAPERM YELLOW HN4G
HOSTAPERM ORANGE GR
HOSTAPERM SCARLET GO
HOSTAPERM SCARLET GO TRANSP.
HOSTAPERM RED P2GL-WD
HOSTAPERM RED E5B 02
HOSTAPERM PINK E
HOSTAPERM PINK E TRANSP. 01
HOSTAPERM PINK EB TRANSP.
HOSTAPERM RED VIOLET ER 02
HOSTAPERM VIOLET BL 01
HOSTAPERM VIOLET RL SPEC.
HOSTAPERM VIOLET RL-NF

HOSTAPERM BLUE BT-728-D
HOSTAPERM BLUE BT-729-D
HOSTAPERM BLUE BT-627-D
HOSTAPERM BLUE A4R
HOSTAPERM BLUE AFL
HOSTAPERM BLUE BT-617-D
HOSTAPERM BLUE B2G-L
HOSTAPERM BLUE BFL
HOSTAPERM GREEN GG 01
HOSTAPERM GREEN GNX
HOSTAPERM GREEN 8G
HOSTAPERM BROWN HFR 01

LITERATURE

Pattern card DP 5018 »Decorative paints,
industrial paints, automotive paints«

2.3

OPAQUE PIGMENTS FOR LEAD-FREE PIGMENTATIONS

HANSA BRILLIANT YELLOW 2GX 70
HANSA BRILLIANT YELLOW 2GX 70-S
NOVOPERM YELLOW 5GD 71
HOSTAPERM YELLOW H4G
HOSTAPERM YELLOW H4G 70
NOVOPERM YELLOW HR 70
NOVOPERM YELLOW M2R 70
NOVOPERM ORANGE H5G 70
NOVOPERM ORANGE HL 70
NOVOPERM ORANGE HL 70-NF

PERMANENT ORANGE 2RLD 71
PERMANENT ORANGE RL 70
PERMANENT RED FGR 70
NOVOPERM RED HF3S 70
HOSTAPERM RED D3G 70
HOSTAPERM RED D2G 70
NOVOPERM RED F2RK 70
NOVOPERM RED F3RK 70
HOSTAPERM RED E2B 70

2.4

EASILY DISPERSIBLE PIGMENTS

In the paint manufacturing process, one of the most important steps is the dispersion of pigments. Clariant has developed a new range of organic pigments: The »Easily Dispersible pigments«, called »ED pigments«, to simplify this process. As the name suggests, ED pigments can be easily incorporated into paint systems with a dissolver, and without an additional milling step. This is an innovative approach for paint manufacturing which offers efficiency as well as savings in raw materials and energy. To achieve »Easily Dispersible pigments« characteristics of organic pigments, Clariant has developed an economic production process which includes surface treatment of the pigments with highly efficient and widely compatible dispersing additives.

EDS Pigments (EDS = Easily Dispersible Solvent)
Dissolver dispersible pigments for solvent-based industrial coating systems.

EDW Pigments (EDW = Easily Dispersible Water)
Easily dispersible pigments for water-based pigment dispersions in decorative paint.

For further information, please refer to our ED brochure DP 6194 E.

LITERATURE

Brochure DP 6194 E
»Easily dispersible pigments -
The easy way to perfect colors«

2.5

P GRADES

Special grades for the manufacture of solvent-containing packaging gravure and flexographic printing inks.

NOVOPERM YELLOW P-HG
PERMANENT YELLOW P-G
PERMANENT YELLOW P-GRL 06
PERMANENT YELLOW P-GRL 07
NOVOPERM YELLOW P-M3R
NOVOPERM YELLOW P-HRE
PERMANENT RED P-FK
PERMANENT RED P-F7RK
PERMANENT RUBINE P-F7B
PERMANENT RUBINE P-L7B 01
HOSTAPERM VIOLET P-RL

2.6

COSMETIC PIGMENTS

Colorants to be used in cosmetic products and toiletries (e.g. tooth paste, soap, shampoo, or lipstick) are subject to several regulations. Main regulations are issued in the USA, the EU, and Japan. They are used as guidelines by most countries in the respective regions.

The different cosmetic regulations also define permitted use categories or application fields for colorants. In the US, colorants for food, drugs, and cosmetics are regulated by the Food and Drug Administration (FDA).

Synthetic organic colorants for food, drugs, and cosmetics intended for sale in the United States must have prior certification of the FDA. In Japan, colorants for cosmetics and drugs are regulated by the Pharmaceutical Affairs Law. The European Union defines the requirements for cosmetic colorants in the »Regulation on cosmetic products No 1223/2009«.

LITERATURE

Brochure DP 5023 E
»Living Colors - Solutions for Home & Personal Care Products«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | COSMETIC LABEL NAME |
|--------------------------------|-----------------------------|------------------|---|
| COSMETIC PINK RC 01 | Pigment Red 181 / Vat Red 1 | 73360 | USA: D&C Red No. 30 EU: CI 73360 Japan: Aka 226 |
| COSMETIC RED 3B | Pigment Red 57:1 | 15850:1 | EU: CI 15850 |
| HOSTAPERM BLUE A4R | Pigment Blue 15:1 | 74160 | EU: CI 74160 |
| HOSTAPERM GREEN GNX-C | Pigment Green 7 | 74260 | EU: CI 74260 |
| PERMANENT CARMINE FB 01 | Pigment Red 5 | 12490 | EU: CI 12490 |
| PV FAST BLUE BG | Pigment Blue 15:3 | 74160 | EU: CI 74160 |

2.7

NIP PRODUCTS

LITERATURE

Brochure DP 8530 E
»Products for Non Impact Printing«

2.7.1 INK JET PIGMENTS

Specially developed range of ink jet pigments. Additional pigments recommended for ink jet applications (Graphtol, Novoperm, PV Fast, Hostaperm).

INK JET GRADE PIGMENTS

| PRODUCT | COLOUR INDEX | CHEMICAL CLASS | MAIN APPLICATION | | |
|-----------------------------|--------------|-------------------|------------------|---------|-----------|
| | | | Water | Solvent | UV curing |
| INK JET YELLOW 4GC VP 3854 | P.Y. 155 | Bisacetoacetylide | ■ | ■ | ■ |
| INK JET YELLOW 4G | P.Y. 155 | Bisacetoacetylide | ■ | ■ | ■ |
| INK JET YELLOW H4G VP 3853 | P.Y. 151 | Benzimidazolone | | ■ | ■ |
| INK JET YELLOW H2G | P.Y. 120 | Benzimidazolone | | ■ | ■ |
| INK JET MAGENTA E5B O2 | P.V. 19 | Quinacridone | ■ | ■ | ■ |
| INK JET MAGENTA E7B VP 3958 | - | Quinacridone | ■ | ■ | ■ |
| INK JET MAGENTA E O2 | P.R. 122 | Quinacridone | ■ | ■ | |
| INK JET CYAN BG 10 | P.B. 15:3 | Phthalocyanine | ■ | ■ | ■ |

ADDITIONAL RECOMMENDED HIGH PERFORMANCE PIGMENTS FOR INK JET APPLICATION

| | | | | | |
|-------------------------|-----------|-----------------|---|---|---|
| PV FAST YELLOW HR O2 | P.Y. 83 | Diarylide | | ■ | |
| NOVOPERM YELLOW P-M3R | P.Y. 139 | Isoindoline | | ■ | ■ |
| GRAPHTOL CARMINE HF4C | P.R. 185 | Benzimidazolone | | ■ | |
| NOVOPERM CARMINE HF3C | P.R. 176 | Benzimidazolone | | ■ | ■ |
| PV FAST PINK E O1 | P.R. 122 | Quinacridone | | ■ | ■ |
| PV FAST BLUE BG | P.B. 15:3 | Phthalocyanine | ■ | ■ | |
| HOSTAPERM BLUE BT 617 D | P.B. 15:4 | Phthalocyanine | ■ | ■ | ■ |

ADDITIONAL RECOMMENDED MID PERFORMANCE PIGMENTS FOR INK JET APPLICATION

| | | | | | |
|---------------------------|-----------|-----------------|--|---|---|
| TONER YELLOW HG | P.Y. 180 | Benzimidazolone | | ■ | |
| PV FAST YELLOW HG O1 | P.Y. 180 | Benzimidazolone | | ■ | ■ |
| PERMANENT CARMINE FBB O2 | P.R. 146 | Monoazo | | ■ | |
| PERMANENT RUBINE P-L7B O1 | P.R. 57:1 | BONA, Ca lake | | ■ | |
| PERMANENT RUBINE F6B O1 | P.R. 184 | Monoazo | | ■ | |
| PERMANENT PINK F3B O1 | P.R. 147 | Monoazo | | ■ | |

2.7.2 INK JET PIGMENT PREPARATIONS

Aqueous pigment preparations available as Hostajet PT.

| PRODUCT | COLOUR INDEX | CHEMICAL CLASS | PIGMENT CONTENT | PARTICLE SIZE (typical d ₅₀) | LIGHT FASTNESS ¹ | CHARACTERISTICS |
|--|--------------|---------------------|-----------------|--|-----------------------------|--|
| Product number | | | approx. % | nm | | |
| HOSTAJET YELLOW 4G-PT VP 2669 188982 | P.Y. 155 | Bisacetoacetarylide | 20 | 100 | 6-7 | High performance green shade yellow |
| HOSTAJET MAGENTA E5B-PT VP 3565 229947 | P.V. 19 | Quinacridone | 20 | 80 | 7-8 | High performance red shade magenta |
| HOSTAJET MAGENTA E-PT 188989 | P.R. 122 | Quinacridone | 20 | 70 | 7-8 | High performance standard magenta |
| HOSTAJET CYAN BG-PT 188993 | P.B. 15:3 | Phthalocyanine | 20 | 80 | 8 | High performance standard cyan |
| HOSTAJET BLACK O-PT 187505 | P.Bl. 7 | Carbon Black | 15 | 70 | 8 | High performance standard black |

1 The fastness properties were tested according to DIN ISO 12040 with an aqueous based ink jet ink containing 5% pigment applied onto plain paper.

2.7 NIP PRODUCTS

2.7.3 INK JET DYES - SOLVENT BASED

Powder grade dyes with very good solubility in alcohols, ketones and glycol esters (Savinyl, Duasyn).

SAVINYL DYES FOR INK JET INKS

| PRODUCT | COLOUR INDEX | CHEMICAL CLASS | LIGHT FASTNESS ¹ | CHARACTERISTICS |
|-------------------------------------|--------------|-----------------------|-----------------------------|--|
| Product number | | | | |
| SAVINYL YELLOW RLS 103319 | S.Y. 83:1 | Azo 1:2 Cr-complex | 7-8 | Standard yellow with good solubility in ketones |
| SAVINYL RED 3BLS 103337 | S.R. 91 | Azo 1:2 Co-complex | 6 | Magenta with good solubility in ketones |
| SAVINYL PINK 6BLS 103526 | S.R. 127 | Azo 1:2 Cr-complex | 4 | Standard magenta with good solubility in appropriate ketones |
| SAVINYL BLUE GLS 103330 | S.B. 44 | Phthalocyanine | 6 | Standard cyan with good solubility in alcohols and ketones |
| SAVINYL BLACK RLSN 104213 | S.Bl. 45 | Azo 1:2 Cr-complex | 7 | Standard black with good solubility in ketones |

¹ The fastness properties were tested according to DIN ISO 12040 on a print containing 2.5 % Savinyl dye in vinyl copolymer, applied at 2-3 g/m² on aluminum foil.

DUASYN DYE FOR INK JET INKS

| PRODUCT | COLOUR INDEX | CHEMICAL CLASS | LIGHT FASTNESS ¹ | CHARACTERISTICS |
|------------------------------------|--------------|-----------------------|-----------------------------|--|
| Product number | | | | |
| DUASYN BLACK A-RG 108191 | S. Bl. 27 | Azo 1:2 Cr-complex | 7 | Standard black with good solubility in MEK |

¹ The fastness properties were tested according to DIN ISO 12040 on a print containing 2.5 % Duasyn dye in vinyl copolymer, applied at 2-3 g/m² on aluminum foil.

2.7.3 INK JET DYES - WATER BASED

Duasyn/Duasynjet-SF grades are mainly for desktop (office) use and are specially designed for water based ink jet inks.

The following properties are typical for all highly salt minimized Duasyn/Duasynjet-SF grades used mainly for high performance ink jet ink systems.

SPECIAL INK JET GRADE SF DYES

| PRODUCT | COLOUR INDEX | CHEMICAL CLASS | DYE CONTENT | LIGHT FASTNESS ¹ | CHARACTERISTICS |
|---|--------------|-------------------|-------------|-----------------------------|--|
| Product number | | | approx. % | | |
| DUASYN YELLOW 3GF-SF LIQ. 136353 | DY. 132 | Azo | 8 | 4-5 | High performing red shade yellow |
| DUASYN ACID YELLOW XX-SF² 213363 | A.Y. 23 | Azo | 100 | 4-5 | Standard red shade yellow |
| DUASYN RED 3B-SF LIQ. 136352 | R.R. 23 | Azo Cu-complex | 15 | 6 | High performing yellow shade magenta, reactive dye |
| DUASYN BRILLIANT RED F3B-SF LIQ. 107181 | R.R. 180 | Azo | 15 | 4 | Standard magenta, reactive dye |
| DUASYNJET CYAN FRL-SF LIQ. 197434 | D.B. 199 | Phthalocyanine | 10 | 7 | Standard green shade cyan |
| DUASYN ACID BLUE AE-SF 30 LIQ. 176214 | A.B. 9 | Triarylmethane | 30 | 2-3 | Standard cyan for shading |
| DUASYN BLACK HEF-SF LIQ. 201312 | D.Bl. 168 | Azo | 19 | 5 | Standard black |

1 The fastness properties were tested according to DIN ISO 12040 with an aqueous based ink jet ink containing 4 % Duasyn/Duasynjet black dye or 2.5 % Duasyn/Duasynjet color dye applied onto plain paper.

2 Powder form

2.7 NIP PRODUCTS

2.7.4 TONER PIGMENTS

Specially developed range of toner pigments with specified triboelectric properties (Toner).

Additional recommended pigments for toner applications (Permanent, Graphtol, Hansa, Novoperm, PV Fast, Hostaperm).

TONER PIGMENTS FOR PROCESS COLORS

| PRODUCT | COLOR | COLOUR INDEX | CHEMICAL CLASS | LIGHT FASTNESS |
|---------------------------|---------|--------------|---------------------|-------------------|
| | | | | $\frac{1}{1}$ SD* |
| TONER YELLOW 5GXT VP 3754 | Yellow | P.Y. 74 | Monoazo | 5 |
| TONER YELLOW 4G | Yellow | P.Y. 155 | Bisacetoacetarylide | 7-8 |
| TONER YELLOW 3GP | Yellow | P.Y. 155 | Bisacetoacetarylide | 7-8 |
| TONER YELLOW HG | Yellow | P.Y. 180 | Benzimidazolone | 6-7d |
| TONER MAGENTA E 02 | Magenta | P.R. 122 | Quinacridone | 7 |
| TONER MAGENTA E | Magenta | P.R. 122 | Quinacridone | 7-8 |

* The light fastness was determined in a drawdown in a typical polyester toner resin.

ADDITIONAL RECOMMENDED PIGMENTS** FOR TONER APPLICATIONS

| | | | | |
|---------------------------|----------------|-----------|------------------|----|
| HANSA YELLOW 5GX 01 | Yellow | P.Y. 74 | Monoazo | 6 |
| GRAPHTOL YELLOW GG | Yellow | P.Y. 17 | Diarylide | 4 |
| PV FAST YELLOW HG 01 | Yellow | P.Y. 180 | Benzimidazolone | 7 |
| NOVOPERM YELLOW FGL | Yellow | P.Y. 97 | Monoazo | 7d |
| GRAPHTOL YELLOW H2R | Yellow | P.Y. 139 | Isoindoline | 8 |
| PERMANENT ORANGE RL 01 | Orange | P.O. 34 | Disazopyrazolone | 4 |
| PERMANENT CARMINE FBB 02 | Blue-shade red | P.R. 146 | Monoazo | 6 |
| INK JET MAGENTA E5B 02 | Magenta | P.V. 19 | Quinacridones | 7d |
| PERMANENT RUBINE F6B | Blue-shade red | P.R. 184 | Monoazo | 5 |
| HOSTAPERM BLUE B2G | Cyan | P.B. 15:3 | Phthalocyanine | 8 |
| PV FAST BLUE BG | Cyan | P.B. 15:3 | Phthalocyanine | 8 |
| HOSTAPERM VIOLET RL SPEC. | Violet | P.V. 23 | Dioxazine | 8 |
| PV FAST VIOLET ER | Magenta | P.V. 19 | Quinacridones | 8d |
| PV FAST GREEN GNX | Green | P.G. 7 | Phthalocyanine | 8 |

* The light fastness was determined in a drawdown in a typical polyester toner resin.

** Please note that these products were standardized in different applications like paints, etc.

2.7.5 TONER PIGMENT PREPARATIONS

Non-dusting, easy-to-disperse concentrates available as standard or tailor-made products (Hostacopy®).

Liquid dispersions are available on request.

PIGMENT PREPARATIONS FOR TONERS

| PRODUCT | COLOR | COLOUR INDEX | PIGMENT | PIGMENT CONTENT |
|--------------------------------|---------|--------------|--------------------------|-----------------|
| | | | | % |
| HOSTACOPY HG-Y 101 | Yellow | P.Y. 180 | Toner Yellow HG | 40 |
| HOSTACOPY FBB 02-M 101 VP 3100 | Magenta | P.R. 146 | Permanent Carmine FBB 02 | 40 |
| HOSTACOPY E 02-M 101 | Magenta | P.R. 122 | Toner Magenta E 02 | 40 |
| HOSTACOPY BG-C 101 | Cyan | P.B. 15:3 | PV Fast Blue BG | 40 |

2.7.6 CHARGE CONTROL AGENTS FOR TONERS

The colorless Charge Control Agents (CCAs) are designed for multi-purpose applications, i. e., for color toners as well as for black toners. All CCAs are compatible with common toner resins like styrene-acrylic, polyester, epoxy, etc..

CHARGE CONTROL AGENTS FOR TONERS

| PRODUCT | POLARITY | COLOR | CHEMICAL CLASS |
|----------------------------|----------|-----------|---------------------------------------|
| COPY CHARGE N4P | Negative | Colorless | Modified inorganic polymeric compound |
| COPY CHARGE N5P-01 VP 2931 | Negative | Colorless | Modified inorganic polymeric compound |

2.7 NIP PRODUCTS

2.7.7 WAXES

Clariant's waxes for toner are not only additives which perform as release agents in modern toners, but they are also designed as special products for easier dispersion of CCAs and pigments in the toner resin. Clariant offers a wide range of waxes. Detailed information can be found in our separate brochure named »Licowax[®], Ceridust[®], Licolub[®], Licomont[®]« (DA 8048 E).

WAXES FOR TONERS

| PRODUCT | COLOR | MELTING TEMPERATURE | MELT VISCOSITY |
|------------------|-----------|---------------------|----------------|
| | | °C | mPa·s / °C |
| LICOWAX E | Yellowish | ~ 81 | ~ 30 / 100 |
| CERIDUST 2051 | White | ~ 107 | < 20 / 140 |
| LICOWAX PE 130 | White | ~ 130 | ~ 300 / 140 |
| LICOWAX C | White | ~ 142 | < 50 / 160 |
| LICOCENE PP 6102 | White | ~ 145 | ~ 60 / 170 |

2.7.8 HDK - PYROGENIC SILICA

Clariant offers Wacker's pyrogenic silicas for modern toners in Japan, Korea, US and Canada. For detailed information please contact our local sales representatives.

3

PIGMENT PREPARATIONS

- 3.1 Colanyl 100
- 3.2 Colanyl 500
- 3.3 Hostatint 500
- 3.4 Hostatint A 100
- 3.5 Hostatint E
- 3.6 Hostafine
- 3.7 Renol HW 30
- 3.8 Flexonyl / Flexonyl SP
- 3.9 Flexonyl A
- 3.10 Flexonyl WF
- 3.11 Cosmenyl
- 3.12 Cosmenyl gran.
- 3.13 Viscofil
- 3.14 Hostaprint
- 3.15 Hostasin
- 3.16 Hostacryl

3.1

COLANYL 100

Colanyl 100 is a range of aqueous, binder-free pigment preparations that is manufactured without using alkyl phenol ethoxylated (APEO) additives. The main application fields of Colanyl 100 range are dispersion paints and renderings/plaster based on aqueous polymer dispersions. They are also compatible with other binder systems, e.g. water-based industrial paints, but the maximum dosage level and compatibility of the binder-free Colanyl 100 has to be checked in the customer paint system itself. By using Colanyl 100 pigment preparations in automatic and/or manual dispensers, excellent accuracy and reliability when poured or pumped have been observed. Furthermore, Colanyl 100 pigment preparations are miscible in all proportions with each other. By adding Colanyl Extender MS 530, the color strength of the Colanyl 100 can be adjusted.

The data presented in this table is meant to provide a general indication and does not represent quality-relevant average values. The quality of our preparations is defined by the specifications of the coloristical and rheological values. The Colour Index data relate to the basic pigments.

LITERATURE

Pattern card DP 7064 ED
»Colanyl 100 - Pigment preparations«

Flyer DP 6123 E
»Colanyl 100 - Tinting pastes
for water-based systems«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | WATER | GLYCOL | DENSITY |
|-----------------------------|--|------------------|---------|---------------|-------|--------|-------------------|
| | | | % | % | % | % | g/cm ³ |
| COLANYL YELLOW 10G 131 | Pigment Yellow 3 | 11710 | 48 | 56 | 24 | 20 | 1.21 |
| COLANYL YELLOW 5GX 130 | Pigment Yellow 74 | 11741 | 46 | 54 | 26 | 20 | 1.15 |
| COLANYL YELLOW NCG 131 | Pigment Yellow 16 | 20040 | 44 | 53 | 27 | 20 | 1.16 |
| COLANYL YELLOW FGL 132 | Pigment Yellow 97 | 11767 | 38 | 52 | 30 | 18 | 1.13 |
| COLANYL YELLOW H3G 130 | Pigment Yellow 154 | 11781 | 30 | 40 | 43 | 17 | 1.16 |
| COLANYL YELLOW 2GXD 130 | Pigment Yellow 74 | 11741 | 48 | 57 | 18 | 25 | 1.19 |
| COLANYL YELLOW G 132 | Pigment Yellow 1 | 11680 | 50 | 56 | 24 | 20 | 1.18 |
| COLANYL YELLOW HR 130 | Pigment Yellow 83 | 21108 | 35 | 55 | 30 | 15 | 1.15 |
| COLANYL YELLOW HRD 131 | Pigment Yellow 83 | 21108 | 50 | 58 | 27 | 15 | 1.20 |
| COLANYL RED GG 131 | Pigment Orange 5 | 12075 | 45 | 56 | 24 | 20 | 1.20 |
| COLANYL RED FRLL 131 | Pigment Red 9 | 12460 | 48 | 54 | 26 | 20 | 1.18 |
| COLANYL SCARLET GO 130 | Pigment Red 168 | 59300 | 35 | 51 | 29 | 20 | 1.22 |
| COLANYL RED FGRG 130 | Pigment Red 112 | 12370 | 47 | 53 | 21 | 26 | 1.19 |
| COLANYL RED FGR 131 | Pigment Red 112 | 12370 | 45 | 53 | 28 | 19 | 1.18 |
| COLANYL CARMINE FB 130 | Pigment Red 5 | 12490 | 40 | 51 | 29 | 20 | 1.15 |
| COLANYL RED E3B 130 | Pigment Violet 19 | 73900 | 32 | 47 | 28 | 25 | 1.13 |
| COLANYL PINK E 100 | Pigment Red 122 | 73915 | 20 | 40 | 40 | 20 | 1.10 |
| COLANYL VIOLET RL 131 | Pigment Violet 23 | 51319 | 30 | 45 | 37 | 18 | 1.13 |
| COLANYL BLUE A2R 131 | Pigment Blue 15:1 | 74160 | 40 | 51 | 31 | 18 | 1.20 |
| COLANYL BLUE B2G 131 | Pigment Blue 15:3 | 74160 | 47 | 54 | 26 | 20 | 1.26 |
| COLANYL GREEN GG 131 | Pigment Green 7 | 74260 | 50 | 59 | 26 | 15 | 1.36 |
| COLANYL BLACK PR 130 | Pigment Black 7 | 77266 | 30 | 38 | 37 | 25 | 1.18 |
| COLANYL BLACK N 131 | Pigment Black 7 | 77266 | 42 | 49 | 31 | 20 | 1.27 |
| COLANYL OXIDE YELLOW BV 100 | Pigment Yellow 184 | 771740 | 65 | 72 | 18 | 10 | 2.21 |
| COLANYL OXIDE YELLOW CR 130 | Pigment Brown 24 | 77310 | 66 | 80 | 5 | 15 | 2.17 |
| COLANYL OXIDE YELLOW R 132 | Pigment Yellow 42 | 77492 | 66 | 73 | 9 | 18 | 1.98 |
| COLANYL OXIDE RED G 100 | Pigment Red 101 | 77491 | 65 | 71 | 11 | 18 | 2.19 |
| COLANYL OXIDE RED B 130 | Pigment Red 101 | 77491 | 72 | 77 | 9 | 14 | 2.41 |
| COLANYL OXIDE BLUE COR 100 | Pigment Blue 28 | 77346 | 60 | 67 | 15 | 18 | 2.01 |
| COLANYL OXIDE GREEN CO 100 | Pigment Green 50 | 77377 | 70 | 83 | 3 | 14 | 2.34 |
| COLANYL OXIDE GREEN G 131 | Pigment Green 17 | 77288 | 75 | 80 | 10 | 10 | 2.58 |
| COLANYL OXIDE OLIVE GS 100 | Pigment Yellow 42/ Pigment Black 11 | 77492 77499 | 64 | 72 | 11 | 17 | 1.76 |
| COLANYL OXIDE BLACK B 100 | Pigment Black 11 | 77499 | 50 | 62 | 18 | 20 | 1.86 |
| COLANYL WHITE R 100 | Pigment White 6 | 77891 | 70 | 77 | 4 | 19 | 2.08 |

3.2

COLANYL 500

Colanyl 500 is a range of aqueous, binder-free pigment preparations that is manufactured without using alkyl phenol ethoxylated (APEO) additives. These aqueous pigment preparations are compatible with water-based low VOC decorative paints [1].

The main application fields of Colanyl 500 range are modern dispersion paints and renderings/plaster based on aqueous polymer dispersions. They are also compatible with other binder systems, e.g. water-based industrial paints, but the maximum dosage level and compatibility of the binder-free Colanyl 500 has to be checked in the customer paint system itself. By using Colanyl 500 pigment preparations in automatic and/or manual dispensers, excellent accuracy and reliability when poured or pumped have been observed. Furthermore, Colanyl 500 pigment preparations are miscible in all proportions with each other. By adding Colanyl Extender MS 530, the color strength of Colanyl 500 can be adjusted.

The data presented in this table is meant to have a general indication and does not represent quality-relevant average values. The quality of our preparations is defined by the specifications of the coloristical and rheological values. The Colour Index data relate to the basic pigments.

LITERATURE

Pattern card DP 7074 ED
»Colanyl 500 - Pigment preparations«

Flyer DP 6124 E
»Colanyl 500 - Pigment preparations«

[1] As defined in EU directive 2004/42/EC, annex II, phase II. Colanyl Blue B2G 500 and Colanyl Violet RL 500 include up to approx. 2200 ppm VOC (Volatile Organic Compounds). All other Colanyl 500 preparations include up to approx. 800 ppm VOC (VOC-test method DIN EN ISO 17895). VOC standards and regulations vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | WATER | DENSITY |
|-----------------------------|--------------------|------------------|---------|---------------|-------|-------------------|
| | | | % | % | % | g/cm ³ |
| COLANYL YELLOW 5GX 500 | Pigment Yellow 74 | 11741 | 40 | 58 | 42 | 1.14 |
| COLANYL YELLOW FGL 500 | Pigment Yellow 97 | 11767 | 38 | 65 | 35 | 1.10 |
| COLANYL YELLOW H3G 500 | Pigment Yellow 154 | 11781 | 30 | 47 | 53 | 1.13 |
| COLANYL YELLOW 2GXD 500 | Pigment Yellow 74 | 11741 | 41 | 61 | 39 | 1.18 |
| COLANYL YELLOW G 500 | Pigment Yellow 1 | 11680 | 50 | 64 | 36 | 1.18 |
| COLANYL YELLOW HRD 500 | Pigment Yellow 83 | 21108 | 50 | 69 | 31 | 1.20 |
| COLANYL RED GG 500 | Pigment Orange 5 | 12075 | 45 | 67 | 33 | 1.19 |
| COLANYL SCARLET GO 530 | Pigment Red 168 | 59300 | 36 | 62 | 38 | 1.25 |
| COLANYL RED D3GD 500 | Pigment Red 254 | 56110 | 50 | 66 | 34 | 1.24 |
| COLANYL RED HF3S 500 | Pigment Red 188 | 12467 | 40 | 60 | 40 | 1.18 |
| COLANYL RED FGRD 500 | Pigment Red 112 | 12370 | 45 | 61 | 39 | 1.17 |
| COLANYL RED FGR 530 | Pigment Red 112 | 12370 | 47 | 70 | 30 | 1.19 |
| COLANYL RED E3B 500 | Pigment Violet 19 | 73900 | 30 | 59 | 41 | 1.14 |
| COLANYL PINK E 530 | Pigment Red 122 | 73915 | 20 | 51 | 49 | 1.09 |
| COLANYL PINK E-WD 500 | Pigment Red 122 | 73915 | 32 | 53 | 47 | 1.12 |
| COLANYL VIOLET RL 500 | Pigment Violet 23 | 51319 | 30 | 63 | 37 | 1.13 |
| COLANYL BLUE A2R 500 | Pigment Blue 15:1 | 74160 | 40 | 62 | 38 | 1.22 |
| COLANYL BLUE B2G 500 | Pigment Blue 15:3 | 74160 | 45 | 61 | 39 | 1.24 |
| COLANYL GREEN GG 500 | Pigment Green 7 | 74260 | 50 | 71 | 29 | 1.35 |
| COLANYL BLACK N 500 | Pigment Black 7 | 77266 | 43 | 63 | 37 | 1.27 |
| COLANYL OXIDE YELLOW BV 530 | Pigment Yellow 184 | 771740 | 65 | 80 | 20 | 2.22 |
| COLANYL OXIDE YELLOW CR 530 | Pigment Brown 24 | 77310 | 65 | 78 | 22 | 2.18 |
| COLANYL OXIDE YELLOW R 531 | Pigment Yellow 42 | 77492 | 64 | 78 | 22 | 1.99 |
| COLANYL OXIDE RED G 530 | Pigment Red 101 | 77491 | 65 | 79 | 21 | 2.14 |
| COLANYL OXIDE RED B 530 | Pigment Red 101 | 77491 | 70 | 83 | 17 | 2.34 |
| COLANYL OXIDE BLUE COR 530 | Pigment Blue 28 | 77346 | 62 | 79 | 21 | 2.00 |
| COLANYL OXIDE GREEN G 530 | Pigment Green 17 | 77288 | 75 | 87 | 13 | 2.55 |
| COLANYL OXIDE BLACK B 530 | Pigment Black 11 | 77499 | 53 | 71 | 29 | 1.79 |
| COLANYL WHITE R 500 | Pigment White 6 | 77891 | 65 | 82 | 18 | 2.05 |
| COLANYL EXTENDER MS 530 | — | — | 60 | 78 | 22 | 1.70 |

3.3

HOSTATINT 500

Hostatint 500 is a range of aqueous, binder-free pigment preparations that is manufactured without using alkyl phenol ethoxylated (APEO) additives. These multipurpose pigment preparations are compatible with water-based and solvent-based decorative coatings, especially low VOC decorative coatings [1]. They are also compatible with some other binder systems, e.g. water-based or solvent-based industrial paints, but the maximum dosage level and compatibility of the binder-free Hostatint 500 has to be checked in the customer paint system itself. By using Hostatint 500 pigment preparations in automatic and/or manual dispensers, excellent accuracy and reliability when poured or pumped have been observed.

Furthermore Hostatint 500 pigment preparations are miscible in all proportions with each other. By adding Hostatint Extender MS 500 or Hostatint Extender CC 500, the color strength of Hostatint 500 can be adjusted.

The data presented in this table is meant to provide a general indication and do not represent quality-relevant average values. The quality of our preparations is defined by the specifications of the coloristical and rheological values. The Colour Index data relate to the basic pigments.

LITERATURE

Pattern card DP 7088 ED
»Hostatint 500 - Multipurpose tinting pastes for modern low VOC decorative coatings«

Flyer DP 6129 E
»Hostatint 500 - Multipurpose tinting pastes«

[1] As defined in EU directive 2004/42/EC, annex II, phase II. VOC standards and regulations vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | WATER | DENSITY |
|-----------------------------------|--------------------|------------------|---------|---------------|-------|-------------------|
| | | | % | % | % | g/cm ³ |
| HOSTATINT YELLOW 12G 500 | Pigment Yellow 3 | 11710 | 40 | 63 | 37 | 1.20 |
| HOSTATINT YELLOW 4GX 500 | Pigment Yellow 73 | 11738 | 38 | 63 | 37 | 1.17 |
| HOSTATINT YELLOW FGL 500 | Pigment Yellow 97 | 11767 | 38 | 63 | 37 | 1.14 |
| HOSTATINT YELLOW H3G 500 | Pigment Yellow 154 | 11781 | 30 | 63 | 37 | 1.14 |
| HOSTATINT YELLOW 2GXD 500 | Pigment Yellow 74 | 11741 | 40 | 65 | 35 | 1.18 |
| HOSTATINT YELLOW HR 500 | Pigment Yellow 83 | 21108 | 15 | 51 | 49 | 1.08 |
| HOSTATINT ORANGE GR 500 | Pigment Orange 43 | 71105 | 22 | 54 | 46 | 1.11 |
| HOSTATINT ORANGE 2RLD 500 | Pigment Orange 74 | — | 25 | 57 | 43 | 1.11 |
| HOSTATINT ORANGE HLD 500 | Pigment Orange 36 | 11780 | 20 | 52 | 48 | 1.10 |
| HOSTATINT SCARLET GO 500 | Pigment Red 168 | 59300 | 35 | 61 | 39 | 1.24 |
| HOSTATINT RED FGR 500 | Pigment Red 112 | 12370 | 21 | 48 | 52 | 1.15 |
| HOSTATINT RED D3GD 500 | Pigment Red 254 | 56110 | 30 | 62 | 38 | 1.19 |
| HOSTATINT PINK E 500 | Pigment Red 122 | 73915 | 20 | 53 | 47 | 1.10 |
| HOSTATINT VIOLET RL 500 | Pigment Violet 23 | 51319 | 18 | 52 | 48 | 1.10 |
| HOSTATINT BLUE B2G 500 | Pigment Blue 15:3 | 74160 | 30 | 57 | 43 | 1.16 |
| HOSTATINT GREEN GG 500 | Pigment Green 7 | 74260 | 30 | 55 | 45 | 1.21 |
| HOSTATINT BLACK GR 500 | Pigment Black 7 | 77266 | 35 | 57 | 43 | 1.22 |
| HOSTATINT OXIDE YELLOW BV 500 | Pigment Yellow 184 | 771740 | 65 | 87 | 13 | 2.26 |
| HOSTATINT TRANSOXIDE YELLOW R 500 | Pigment Yellow 42 | 77492 | 35 | 62 | 38 | 1.38 |
| HOSTATINT OXIDE YELLOW R 500 | Pigment Yellow 42 | 77492 | 60 | 81 | 19 | 1.88 |
| HOSTATINT TRANSOXIDE RED B 500 | Pigment Red 101 | 77491 | 35 | 61 | 39 | 1.40 |
| HOSTATINT OXIDE RED B 500 | Pigment Red 101 | 77491 | 68 | 86 | 14 | 2.26 |
| HOSTATINT UMBER KT 500 | Mix | — | 36 | 79 | 21 | 1.74 |
| HOSTATINT OXIDE BLUE COR 500 | Pigment Blue 28 | 77346 | 65 | 85 | 15 | 2.03 |
| HOSTATINT OXIDE GREEN CO 500 | Pigment Green 50 | 77377 | 65 | 86 | 14 | 2.12 |
| HOSTATINT OXIDE GREEN G 500 | Pigment Green 17 | 77288 | 67 | 92 | 8 | 2.17 |
| HOSTATINT OXIDE BLACK B 500 | Pigment Black 33 | 77537 | 70 | 88 | 12 | 2.35 |
| HOSTATINT WHITE R 500 | Pigment White 6 | 77891 | 70 | 89 | 11 | 2.20 |
| HOSTATINT EXTENDER MS 500 | — | — | 55 | 78 | 22 | 1.59 |
| HOSTATINT EXTENDER CC 500 | — | — | 30 | 57 | 43 | 1.21 |

3.4

HOSTATINT A 100

The Hostatint A 100 pastes are solvent-containing pigment preparations based on a carrier resin (aldehyde resin) that was developed specially for industrial paint applications. The pastes are produced within narrow tolerances of shade and color strength allowing highly consistent paint production path with manual and automatic dispensers. The solvent and additives are carefully selected to avoid hazardous labelling or special storage requirements associated with their flammability. Hostatint A 100 shows good compatibility and can be added in the usual amounts to virtually all types of solvent-based industrial paint systems.

The Colour Index data relate to the basic pigment. The data given in the table may vary slightly because these pigment preparations are standardized in respect to tinctorial strength.

LITERATURE

Pattern card DP 7065 ED
»Hostatint A 100 - Pigment preparations«

Flyer DP 6112 E
»Hostatint A 100 - Pigment preparations«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | SOLVENT CONTENT | DENSITY |
|---|--------------------|------------------|---------|---------------|-----------------|-------------------|
| | | | % | % | % | g/cm ³ |
| HOSTATINT YELLOW A-F2G 100 | Pigment Yellow 194 | 11785 | 36 | 59 | 41 | 1.19 |
| HOSTATINT YELLOW A-H3G 100 | Pigment Yellow 154 | 11781 | 42 | 65 | 35 | 1.22 |
| HOSTATINT YELLOW A-HRD 100 | Pigment Yellow 83 | 21108 | 28 | 52 | 48 | 1.16 |
| HOSTATINT ORANGE A-2RLD 100 | Pigment Orange 74 | — | 27 | 54 | 46 | 1.18 |
| HOSTATINT ORANGE A-HLD 100 | Pigment Orange 36 | 11780 | 43 | 60 | 40 | 1.26 |
| HOSTATINT RED A-D3GD 100 | Pigment Red 254 | 56110 | 35 | 63 | 37 | 1.21 |
| HOSTATINT RED A-F3RKD 100 | Pigment Red 170 | 12475 | 39 | 62 | 38 | 1.19 |
| HOSTATINT PINK A-E 100 | Pigment Red 122 | 73915 | 19 | 45 | 55 | 1.12 |
| HOSTATINT RED VIOLET A-ER 100 | Pigment Violet 19 | 73900 | 19 | 49 | 51 | 1.13 |
| HOSTATINT VIOLET A-RL 100 | Pigment Violet 23 | 51319 | 12 | 40 | 60 | 1.12 |
| HOSTATINT BLUE A-BG 100 | Pigment Blue 15:3 | 74160 | 24 | 60 | 40 | 1.17 |
| HOSTATINT GREEN A-GNX 100 | Pigment Green 7 | 74260 | 24 | 51 | 49 | 1.21 |
| HOSTATINT BLACK A-N 100 | Pigment Black 7 | 77266 | 21 | 55 | 45 | 1.17 |
| »R« GRADES † | | | | | | |
| HOSTATINT YELLOW A-2GXD 130 R | Pigment Yellow 74 | 11741 | 34 | 81 | 19 | 1.05 |
| HOSTATINT RED A-FGRD 130 R | Pigment Red 112 | 12370 | 25 | 78 | 22 | 1.03 |
| HOSTATINT OXIDE YELLOW A-BV 100 | Pigment Yellow 184 | 771740 | 64 | 80 | 20 | 2.25 |
| HOSTATINT OXIDE YELLOW A-CR 100 | Pigment Brown 24 | 77310 | 64 | 82 | 18 | 2.08 |
| HOSTATINT OXIDE YELLOW A-R 100 | Pigment Yellow 42 | 77492 | 50 | 68 | 32 | 1.71 |
| HOSTATINT OXIDE RED A-B 100 | Pigment Red 101 | 77491 | 62 | 78 | 22 | 2.06 |
| HOSTATINT TRANSOXIDE YELLOW A-2R 100 | Pigment Yellow 42 | 77492 | 36 | 67 | 33 | 1.18 |
| HOSTATINT TRANSOXIDE RED A-G 100 | Pigment Red 101 | 77491 | 44 | 68 | 32 | 1.60 |
| HOSTATINT WHITE A-R 100 | Pigment White 6 | 77891 | 59 | 79 | 21 | 1.90 |

† The R-grades (RESTRICTED) are only recommended for air-drying alkyd coatings due to the poor solvent fastness of the pigments incorporated. A high solid alkyd resin solution with aliphatic high flash point solvent is used.

3.5

HOSTATINT E

The Hostatint E pastes are a range of pigment preparations designed for water-based industrial coatings based on a water-soluble acrylic carrier resin, neutralized with ammonia. The pastes are produced within narrow tolerances of shade and color strength allowing highly consistent paint production path with manual and automatic dispensers. Hostatint E pastes are manufactured without alkyl phenol ethoxylated (APEO) additives. These pigment preparations show good compatibility and can be added in the usual amounts to virtually all types of water-based industrial paint systems, especially low VOC industrial coatings [1].

The Colour Index data relate to the basic pigments. The data given in the table may vary because these pigment preparations are standardized in respect to tinctorial strength.

LITERATURE

Pattern card DP 7079 ED
»Hostatint E - Pigment preparations«

Flyer DP 6128 E
»Hostatint E - Pigment preparations«

[1] As defined in EU directive 2004/42/EC, annex II, phase II. VOC standards and regulations vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | WATER | DENSITY |
|-----------------------------|--------------------|------------------|---------|---------------|-------|-------------------|
| | | | % | % | % | g/cm ³ |
| HOSTATINT YELLOW E-5GD | Pigment Yellow 155 | 200310 | 42 | 46 | 54 | 1.16 |
| HOSTATINT YELLOW E-2GXD | Pigment Yellow 74 | 11741 | 40 | 47 | 53 | 1.14 |
| HOSTATINT YELLOW E-HRD | Pigment Yellow 83 | 21108 | 35 | 45 | 55 | 1.15 |
| HOSTATINT ORANGE E-2RLD | Pigment Orange 74 | — | 40 | 47 | 53 | 1.18 |
| HOSTATINT ORANGE E-HLD | Pigment Orange 36 | 11780 | 49 | 53 | 47 | 1.23 |
| HOSTATINT RED E-D3GD | Pigment Red 254 | 56110 | 47 | 51 | 49 | 1.23 |
| HOSTATINT RED E-F3RKD | Pigment Red 170 | 12475 | 50 | 54 | 46 | 1.16 |
| HOSTATINT PINK E-E | Pigment Red 122 | 73915 | 30 | 35 | 65 | 1.11 |
| HOSTATINT RED VIOLET E-ER | Pigment Violet 19 | 73900 | 33 | 41 | 59 | 1.11 |
| HOSTATINT VIOLET E-BL | Pigment Violet 23 | 51319 | 34 | 39 | 61 | 1.15 |
| HOSTATINT BLUE E-B2G | Pigment Blue 15:3 | 74160 | 42 | 49 | 51 | 1.21 |
| HOSTATINT GREEN E-3GLS | Pigment Green 7 | 74260 | 40 | 46 | 54 | 1.30 |
| HOSTATINT BLACK E-BLN | Pigment Black 7 | 77266 | 45 | 50 | 50 | 1.29 |
| HOSTATINT OXIDE YELLOW E-CT | Pigment Brown 24 | 77310 | 55 | 60 | 40 | 1.78 |
| HOSTATINT OXIDE YELLOW E-GO | Pigment Yellow 42 | 77492 | 50 | 53 | 47 | 1.64 |
| HOSTATINT OXIDE RED E-OR | Pigment Red 101 | 77491 | 56 | 59 | 41 | 1.58 |
| HOSTATINT WHITE E-TD | Pigment White 6 | 77891 | 70 | 73 | 27 | 2.16 |

3.6

HOSTAFINE

Hostafine is a range of aqueous, binder-free pigment preparations based on non-ionic wetting agents and is manufactured without using alkyl phenol ethoxylated (APEO) additives. They are ultra fine pigment preparations with 95% of the pigment particle size below 0.5 µm and with no pigment particle size above 1 µm. These preparations show high tinting strength with high transparency and brilliance. Viscosity is low and stability against settling and skinning is excellent. Hostafine pigment preparations are especially suitable for water-based transparent wood stains. They can also be used for other applications such as aqueous emulsion paints, glass paints, water-colors, latex and water resistant inks, inks for fiber-tip fineliner and roller-tip pens. A final evaluation in the customer system is necessary.

The data presented in the table is meant to provide a general indication and do not represent quality-relevant average values. The quality of our preparations is defined by the specifications of the coloristical and rheological values. The Colour Index relate to the basic pigments.

LITERATURE

Pattern card DP 7075 E

»Hostafine pigment preparations -
Wood stain shade library«

Flyer DP 6187 E

»Hostafine - Pigment preparations «

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | GLYCOL | DENSITY |
|--|-------------------|------------------|---------|--------|-------------------|
| | | | % | % | g/cm ³ |
| HOSTAFINE YELLOW GR | Pigment Yellow 13 | 21100 | 40 | 10 | 1.14 |
| HOSTAFINE YELLOW HR | Pigment Yellow 83 | 21108 | 35 | 15 | 1.15 |
| HOSTAFINE RED HF3S | Pigment Red 188 | 12467 | 40 | 10 | 1.18 |
| HOSTAFINE RED FGR | Pigment Red 112 | 12370 | 45 | 10 | 1.15 |
| HOSTAFINE RED F5RK | Pigment Red 170 | 12475 | 35 | 10 | 1.10 |
| HOSTAFINE RED P2GL | Pigment Red 179 | 71130 | 25 | 10 | 1.10 |
| HOSTAFINE RUBINE F6B | Pigment Red 184 | 12487 | 40 | 10 | 1.10 |
| HOSTAFINE MAGENTA E | Pigment Red 122 | 73915 | 20 | 10 | 1.09 |
| HOSTAFINE VIOLET RL | Pigment Violet 23 | 51319 | 30 | 10 | 1.15 |
| HOSTAFINE BLUE B2G | Pigment Blue 15:3 | 74160 | 40 | 10 | 1.37 |
| HOSTAFINE GREEN GN | Pigment Green 7 | 74260 | 40 | 10 | 1.32 |
| HOSTAFINE BLACK T 30 | Pigment Black 7 | 77266 | 30 | 10 | 1.21 |
| HOSTAFINE BLACK TS 30 | Pigment Black 7 | 77266 | 33 | — | 1.21 |
| HOSTAFINE TRANSOXIDE YELLOW R 30 ^[1] | Pigment Yellow 42 | 77492 | 35 | — | 1.38 |
| HOSTAFINE TRANSOXIDE RED B 30 ^[1] | Pigment Red 101 | 77491 | 35 | — | 1.38 |

[1] Hostafine Transoxide Yellow R 30 and Hostafine Transoxide Red B 30 are multipurpose pigment preparations, similar to Hostatint 500, and compatible with water-based and solvent-based low VOC decorative coatings as defined EU directive 2004/42/EC, annex II, phase II. VOC standards vary by location. Product specific VOC information is available to customers upon request. It is the responsibility of the coatings manufacturer to determine standard compliance and appropriate claim for their products.

3.7

RENOL® HW 30

Renol HW 30 is a range of solid pigment preparations based on polyvinyl butyral as carrier material. It is suitable for use in alcohol containing systems, esters and glycols can be used as additional solvents. Main fields of application are highly transparent solvent-based wood stains and marker inks. Furthermore, they can be used in gravure and flexographic printing inks based on nitrocellulose and for coating aluminum foils.

LITERATURE

Pattern card DP 7077 E
 »Renol HW 30 – Pigment preparations«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | LIGHT FASTNESS | PARTICLE SIZE DISTRIBUTION |
|-------------------------|--------------|------------------|---------|----------------|----------------------------|
| | | | % | | |
| RENOL YELLOW GG-HW 30 | Yellow 17 | 21105 | 50 | 5–6 | ≤ 75 |
| RENOL YELLOW HR-HW 30 | Yellow 83 | 21108 | 50 | 6–7 | ≤ 75 |
| RENOL ORANGE RL-HW 30 | Orange 34 | 21115 | 50 | 5–6 | ≤ 75 |
| RENOL RED FGR-HW 30 | Red 112 | 12370 | 50 | 6 | < 150 |
| RENOL RED HF2B-HW 30 | Red 208 | 12514 | 50 | 6–7 | ≤ 75 |
| RENOL RED F5RK-HW 30 | Red 170 | 12475 | 50 | 6 | < 250 |
| RENOL CARMINE FBB-HW 30 | Red 146 | 12485 | 50 | 5–6 | < 150 |
| RENOL VIOLET RL-HW 30 | Violet 23 | 51319 | 50 | 8 | ≤ 75 |
| RENOL BLUE B2G-HW 30 | Blue 15:3 | 74160 | 50 | 8 | < 100 |
| RENOL GREEN GG-HW 30 | Green 7 | 74260 | 50 | 8 | ≤ 75 |
| RENOL BROWN HFR-HW 30 | Brown 25 | 12510 | 50 | 8 | ≤ 75 |
| RENOL BLACK R-HW 30 | Black 7 | 77266 | 40 | 8 | ≤ 75 |
| RENOL WHITE T-HW 30 | White 6 | 77891 | 70 | 8 | < 250 |

3.8

FLEXONYL / FLEXONYL SP

Flexonyl are flowable und pumpable pigment preparations specially developed for tinting aqueous systems. The high concentrated pigment preparations are based on nonionic dispersing and wetting agents. The products are suitable for office requisits, school supplies, wood finishes, shoe polishes and detergent formulations.

Flexonyl SP is a newly developed range of pigment preparations which covers most of the current regulation relevant for the following application fields:

- Selected toys
- Writing instruments; children paint's and creative material
- Detergents; especially powder detergent speckles
- Latex ballons
- Wood stains

They could be delivered with microbiological specification on request.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | WATER | GLYCERIN | POLYPYLENE GLYCOL |
|--------------------------------------|--------------------|------------------|---------|-------|----------|-------------------|
| | | | % | % | % | % |
| FLEXONYL YELLOW SP-DGR * | Pigment Yellow 126 | 21101 | 50 | 24 | 20 | — |
| FLEXONYL ORANGE SP-G | Pigment Orange 13 | 21110 | 45 | 30 | 20 | — |
| FLEXONYL RED SP-FGR | Pigment Red 112 | 12370 | 48 | 28 | 20 | — |
| FLEXONYL CARMINE SP-FBB | Pigment Red 146 | 12485 | 40 | 30 | 20 | — |
| FLEXONYL BLACK PR 100 | Pigment Black 7 | 77266 | 30 | 37 | — | 25 |
| FLEXONYL WHITE R 130 | Pigment White 6 | 77891 | 55 | 23 | — | 15 |
| FLEXONYL WHITE RL 130 VP 3070 | Pigment White 6 | 77891 | 65 | 11 | — | 18 |
| FLEXONYL WHITE RS | Pigment White 6 | 77891 | 65 | 30 | — | — |

* = Release in spring 2013

3.9

FLEXONYL A

These pigment preparations can be used too for the straight forward production of aqueous-alcoholic flexographic printing inks, whose varnishes can obtain alcohol without entailing the otherwise possible problems such as flocculation and associated printing problems.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLIDS CONTENT | WATER | ETHYLENE GLYCOL | OTHER GLYCOLS |
|---------------------------------|-----------------|------------------|---------|----------------|-------|-----------------|---------------|
| | | | % | % | % | % | % |
| FLEXONYL RUBINE A-F6B 30 | Pigment Red 184 | 12487 | 45 | 51 | 39 | — | 10 |
| FLEXONYL BLACK A-CB | Pigment Black 7 | 77266 | 41 | 48 | 42 | — | 10 |

3.10

FLEXONYL WF

Flexonyl WF grades are aqueous pigment preparations. They contain a small amount of an acrylic resin as a stabilizer and are neutralized with amine. Particularly recommended for the manufacture of aqueous flexographic printing inks. Flexonyl WF do not contain any organic solvents.

The Colour Index data relate to the basic pigments. The data given in the table may vary because these pigment preparations are standardized in respect to tinctorial strength.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLIDS CONTENT | WATER |
|-------------------------------|-------------------|------------------|---------|----------------|-------|
| | | | % | % | % |
| FLEXONYL YELLOW WF 141 | Pigment Yellow 14 | 21095 | 33 | 45 | 55 |
| FLEXONYL YELLOW WF 074 | Pigment Yellow 74 | 11741 | 45 | 55 | 45 |
| FLEXONYL ORANGE WF 131 | Pigment Orange 13 | 21110 | 38 | 50 | 50 |
| FLEXONYL BLUE WF 153 | Pigment Blue 15:3 | 74160 | 37 | 53 | 47 |
| FLEXONYL BLACK WF 007 | Pigment Black 7 | 77266 | 36 | 48 | 52 |

3.11

COSMENYL

These pigment preparations are readily pumpable and flowable aqueous dispersions for the coloration of cosmetic products (e.g. tooth paste, soap, or mascara), laundry powders, finger paints and other consumer products. The basic pigments of the preparations listed below comply with the requirements for cosmetic colorants defined by the European Union Regulation No. 1223/2009. This directive is valid for all countries of the European Union, and it is used as guideline by many other countries.

This regulation defines in annex IV »List of colorants allowed in cosmetic products« in column »Product type, body parts« the use of the respective colorant.

- 1 = No use restrictions
- 2 = Not to be used in eye products
- 3 = Not to be used in products applied on mucous membranes
- 4 = Rinse-off products

LITERATURE

Brochure DP 5023 E
 »Living Colors - Solutions for Home & Personal Care Products«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT % | SOLIDS CONTENT % | WATER % | GLYCERIN % | EU COSMETICS APPLICATION FIELD % |
|--------------------------------|-------------------|------------------|-----------|------------------|---------|------------|----------------------------------|
| COSMENYL YELLOW 10G | Pigment Yellow 3 | 11710 | 45 | 50 | 27 | 23 | 3 |
| COSMENYL YELLOW G 30 | Pigment Yellow 1 | 11680 | 46 | 51 | 24 | 25 | 3 |
| COSMENYL CARMINE FB 01 | Pigment Red 5 | 12490 | 40 | 45 | 30 | 25 | 1 |
| COSMENYL VIOLET RL | Pigment Violet 23 | 51319 | 30 | 37 | 33 | 30 | 4 |
| COSMENYL BLUE A4R | Pigment Blue 15:1 | 74160 | 38 | 45 | 30 | 25 | 1 |
| COSMENYL GREEN GG | Pigment Green 7 | 74260 | 48 | 54 | 21 | 25 | 2 |
| COSMENYL BLACK R | Pigment Black 7 | 77266 | 25 | 32 | 38 | 30 | 1 |
| COSMENYL OXIDE YELLOW R | Pigment Yellow 42 | 77492 | 58 | 64 | 20 | 16 | 1 |

3.12

COSMENYL GRAN.

These pigment preparations are supplied in granular form. They are dust-free, show high flow capability, and are suitable for aqueous systems.

Cosmenyl gran. preparations are used for the coloration of cosmetic products (e.g. soap, or mascara), laundry powders, finger paints and other consumer products. The basic pigments of the preparations listed below comply with the requirements for cosmetic colorants defined by the European Union Regulation No. 1223/2009. This regulation is valid for all countries of the European Union, and it is used as guideline by many other countries.

This regulation defines in annex IV »List of colorants allowed in cosmetic products« in column »Product type, body parts« the use of the respective colorant.

- 1 = No use restrictions
- 2 = Not to be used in eye products
- 3 = Not to be used in products applied on mucous membranes
- 4 = Rinse-off products

LITERATURE

Brochure DP 5023 E
»Living Colors - Solutions for Home & Personal Care Products«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | EU COSMETICS APPLICATION FIELD |
|----------------------------------|------------------|------------------|---------|--------------------------------|
| | | | % | % |
| COSMENYL YELLOW GLS GRAN. | Pigment Yellow 1 | 11680 | 38 | 3 |
| COSMENYL RED BLS GRAN. | Pigment Red 5 | 12490 | 36 | 1 |
| COSMENYL BLUE BLS GRAN. | Pigment Blue 15 | 74160 | 38 | 1 |
| COSMENYL GREEN 2GLS GRAN. | Pigment Green 7 | 74260 | 40 | 2 |

3.13

VISCOFIL

Aqueous preparations, specially developed for spin dyeing of viscose, containing pigments that are resistant to the stresses occurring in this process.

The Viscofil grades are noted for high dispersion stability in viscose. Excellent color yield leads to economic processing of Viscofils for the viscose spin dyeing industry.

The Colour Index data relate to the basic pigments. The data given in the table may vary because these pigment preparations are standardized in respect to tinctorial strength.

LITERATURE

Pattern card DP 5027 E
»Viscose Spin Dyeing Industry –
Economic processing by use of Viscofil«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | PIGMENT | SOLID CONTENT | WATER | PROPYLENE GLYCOL |
|---------------------------------|--------------------|------------------|---------|---------------|-------|------------------|
| | | | % | % | % | % |
| VISCOFIL YELLOW A2GN | Pigment Yellow 14 | 21095 | 23 | 30 | 60 | 10 |
| VISCOFIL YELLOW AGX | Pigment Yellow 74 | 11741 | 24 | 29 | 61 | 10 |
| VISCOFIL YELLOW 2GLL | Pigment Yellow 155 | 200310 | 20 | 28 | 72 | — |
| VISCOFIL YELLOW GGVD | Pigment Yellow 17 | 21105 | 25 | 38 | 52 | 10 |
| VISCOFIL GOLDEN RVD | Pigment Yellow 13 | 21100 | 32 | 45 | 45 | 10 |
| VISCOFIL YELLOW RR 31 VP 3503 | Pigment Yellow 83 | 21108 | 40 | 47 | 53 | — |
| VISCOFIL GOLDEN YELLOW RRVND | Mix | — | 35 | 43 | 47 | 10 |
| VISCOFIL ORANGE GG 30 VP 3525 | Pigment Orange 13 | 21110 | 20 | 27 | 73 | — |
| VISCOFIL ORANGE GRVD | Pigment Orange 4 | 12459 | 32 | 45 | 45 | 10 |
| VISCOFIL ORANGE RL 30 VP 3930 | Pigment Orange 34 | 21115 | 45 | 59 | 41 | — |
| VISCOFIL SCARLET A-4RF | Pigment Red 242 | 20067 | 35 | 49 | 41 | 10 |
| VISCOFIL RED AGN | Pigment Red 2 | 12310 | 33 | 38 | 52 | 10 |
| VISCOFIL RED GVD | Pigment Red 2 | 12310 | 32 | 48 | 42 | 10 |
| VISCOFIL RED R 31 VP 3606 | Pigment Red 112 | 12370 | 40 | 48 | 52 | — |
| VISCOFIL RED BL | Pigment Red 5 | 12490 | 18 | 25 | 75 | — |
| VISCOFIL RED F5RK 30 VP 3501 | Pigment Red 170 | 12475 | 30 | 35 | 65 | — |
| VISCOFIL RUBINE BFVD | Pigment Red 32 | 12320 | 30 | 44 | 46 | 10 |
| VISCOFIL BORDEAUX BB 30 VP 3504 | Pigment Violet 32 | 12517 | 20 | 29 | 71 | — |
| VISCOFIL VIOLET BLNL | Pigment Violet 23 | 51319 | 30 | 41 | 59 | — |
| VISCOFIL BLUE ARN | Pigment Blue 15 | 74160 | 33 | 41 | 49 | 10 |
| VISCOFIL BLUE BL 500 | Pigment Blue 15 | 74160 | 27 | 38 | 62 | — |
| VISCOFIL BLUE FRVD | Pigment Blue 15 | 74160 | 33 | 45 | 45 | 10 |
| VISCOFIL BLUE B2G 30 VP 3494 | Pigment Blue 15:3 | 74160 | 33 | 45 | 45 | 10 |
| VISCOFIL GREEN A-GNS | Pigment Green 7 | 74260 | 40 | 52 | 38 | 10 |
| VISCOFIL GREEN GVDN 20 | Mix | — | 25 | 33 | 57 | 10 |
| VISCOFIL BROWN HFR 30 VP 3203 | Pigment Brown 25 | 12510 | 20 | 25 | 75 | — |
| VISCOFIL BLACK AV | Pigment Black 7 | 77266 | 28 | 31 | 59 | 10 |
| VISCOFIL BLACK 2BLN | Pigment Black 7 | 77266 | 26 | 30 | 70 | — |
| VISCOFIL BLACK VBC | Pigment Black 7 | 77266 | 27 | 30 | 60 | 10 |
| VISCOFIL WHITE A-RCL 30 | Pigment White 6 | 77891 | 63 | 75 | 15 | 10 |

3.14 HOSTAPRINT

The Hostaprint grades are finely dispersed 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.

LITERATURE

Pattern card DP 7070 ED

»Hostaprint pigment preparations for the PVC industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. |
|------------------------------------|--------------------|------------------|
| HOSTAPRINT YELLOW GG 32 | Pigment Yellow 17 | 21105 |
| HOSTAPRINT YELLOW H4G 32 | Pigment Yellow 151 | 13980 |
| HOSTAPRINT YELLOW 3GP 32* | Pigment Yellow 155 | 200310 |
| HOSTAPRINT YELLOW HG 32 | Pigment Yellow 180 | 21290 |
| HOSTAPRINT YELLOW HR 32 | Pigment Yellow 83 | 21108 |
| HOSTAPRINT YELLOW HGR 32 | Pigment Yellow 191 | 18795 |
| HOSTAPRINT YELLOW H2R 32 | Pigment Yellow 139 | 56298 |
| HOSTAPRINT ORANGE H4GL 32 | Pigment Orange 72 | 211095 |
| HOSTAPRINT RED HFG 32 | Pigment Orange 38 | 12367 |
| HOSTAPRINT RED B 32 | Pigment Red 149 | 71137 |
| HOSTAPRINT RED D3G 32 | Pigment Red 254 | 56110 |
| HOSTAPRINT RED BNP 32 | Pigment Red 214 | 200660 |
| HOSTAPRINT RED HF2B 32 | Pigment Red 208 | 12514 |
| HOSTAPRINT CARMINE HF4C | Pigment Red 185 | 12516 |
| HOSTAPRINT RED E5B 32 | Pigment Violet 19 | 73900 |
| HOSTAPRINT PINK E 32 | Pigment Red 122 | 73915 |
| HOSTAPRINT BORDEAUX HF3R 32 | Pigment Violet 32 | 12517 |
| HOSTAPRINT VIOLET ER 32* | Pigment Violet 19 | 73900 |
| HOSTAPRINT VIOLET RL 32 | Pigment Violet 23 | 51319 |
| HOSTAPRINT BLUE A2R 32 | Pigment Blue 15:1 | 74160 |
| HOSTAPRINT BLUE B2G 32 | Pigment Blue 15:3 | 74160 |
| HOSTAPRINT GREEN GG 32 | Pigment Green 7 | 74260 |
| HOSTAPRINT BROWN RL 32 | Pigment Braun 41 | — |
| HOSTAPRINT BROWN HFR 32 | Pigment Brown 25 | 12510 |
| HOSTAPRINT BLACK L 32 | Pigment Black 7 | 77266 |

* = Firm order only 2 tons minimum

3.15

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 loss-free 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.

LITERATURE

Pattern card DP 7069 ED
»Hostasin pigment preparations for the rubber industry«

| NAME | COLOUR INDEX | COLOUR INDEX NO. |
|------------------------------|-------------------|------------------|
| HOSTASIN YELLOW GR 30 | Pigment Yellow 13 | 21100 |
| HOSTASIN YELLOW HR 30 | Pigment Yellow 83 | 21108 |
| HOSTASIN ORANGE G 30 | Pigment Orange 13 | 21110 |
| HOSTASIN RED LC 30 | Pigment Red 53:1 | 15585:1 |
| HOSTASIN RED B 30 | Pigment Red 38 | 21120 |
| HOSTASIN RED HF2B 30 | Pigment Red 208 | 12514 |
| HOSTASIN BLUE A2R 30 | Pigment Blue 15:1 | 74160 |
| HOSTASIN GREEN GG 30 | Pigment Green 7 | 74260 |

3.16

HOSTACRYL

The Hostacryl grades are finely dispersed non-dusting pigment preparations with an acrylic carrier material. They contain about 50 % pigment. The special manufacturing method ensures excellent dispersion of the pigment preparations.

The Colour Index data relate to the basic pigments.

| NAME | COLOUR INDEX | COLOUR INDEX NO. |
|----------------------------|---------------------|-------------------------|
| HOSTACRYL GREEN GNX | Pigment Green 7 | 74260 |
| HOSTACRYL BROWN HFR | Pigment Brown 25 | 12510 |

4 DYES

- 4.1 Hostasol
- 4.2 Solvaperm
- 4.3 Polysynthren
- 4.4 Duasyn Acid
- 4.5 Other
- 4.6 Duasyn SF / Duasyn SF liquid / Duasynjet SF
- 4.7 Savinyl
- 4.8 Fat
- 4.9 Sanolin / Sanolin liquid
- 4.10 Aluminium dyes and chemicals

4.1 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.

LITERATURE

Pattern card DP 7084 ED
»Solvaperm, Hostasol, Polysynthren, Special Colors«

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

4.2 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.

LITERATURE

Pattern card DP 7084 ED
»Solvaperm, Hostasol, Polysynthren, Special Colors«

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

4.3 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.

LITERATURE

Pattern card DP 7084 ED
»Solvaperm, Hostasol, Polysynthren, Special Colors«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | POLYMER | | | | | | |
|-------------------------------|--------------------|------------------|---------|-----|-----|----|------------|------|----|
| | | | PS | SAN | ABS | PC | PET PBT | PMMA | PA |
| POLYSYNTHREN YELLOW GG | Solvent Yellow 133 | 48580 | — | — | — | ● | ● | ○ | — |
| POLYSYNTHREN YELLOW NG | Pigment Yellow 147 | 60645 | ○ | ○ | ○ | ● | ● | ○ | — |
| POLYSYNTHREN YELLOW RL | Pigment Yellow 192 | — | — | — | — | — | ○ | — | ● |
| POLYSYNTHREN RED GG | Solvent Red 212 | — | — | — | — | ● | ● | — | — |
| POLYSYNTHREN RED GFP | Solvent Red 135 | 564120 | ● | ● | ● | ● | ● | ● | ○ |
| POLYSYNTHREN VIOLET G | Solvent Violet 49 | 48520 | ○ | ○ | ○ | ● | ● | ● | — |
| POLYSYNTHREN BLUE R | Solvent Blue 122 | 60744 | ● | ● | ● | ● | ● | ● | — |
| POLYSYNTHREN BLUE RLS | Solvent Blue 45 | — | ● | ● | ● | ● | ● | ● | — |
| POLYSYNTHREN BROWN 3RL | Pigment Orange 70 | — | ○ | ○ | ○ | ● | ● | ○ | — |
| POLYSYNTHREN BROWN R | Solvent Brown 53 | 48525 | ● | ● | ● | ● | ● | ● | — |

4.4

DUASYN ACID

The Duasyn Acid dyes are used primarily for coloring writing inks, drawing inks, stamping inks, detergents, fertilizers and crop protection products.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | OFFICE SUPPLIES | | | DETERGENTS (e.g. cleaners) |
|-----------------------------------|--------------|------------------|-----------------|--------------------|---------------|-------------------------------|
| | | | Writing inks | Fiber-tip pen inks | Stamping inks | |
| DUASYN INK BLUE SLK | Acid Blue 93 | 42780 | ■ | ■ | ■ | ● |
| DUASYN ACID BLUE AE 03 | Acid Blue 9 | 42090 | ● | ● | ● | ■ |
| DUASYN ACID BLUE AE LIQUID | Acid Blue 9 | 42090 | ■ | ■ | – | ■ |
| DUASYN TURQUOISE E-VS | Acid Blue 1 | 42045 | ■ | ■ | ■ | ● |

4.5 OTHERS

These dyes are standardized anionic dyes with good light fastness, high surface tension and brilliancy and low salt content. Liquid types have the advantage over powder grades of being non-dusting and they do not need to be dissolved.

LITERATURE

Brochure DP 8530 E
»Products for Non Impact Printing«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | OFFICE SUPPLIES | | | | | | | |
|---|-------------------|------------------|-----------------|--------------|--------------------|---------------|----------------|---------------------|-------------|---------------------|
| | | | Ink Jet Inks | Writing Inks | Fiber-tip pen inks | Stamping inks | Soap/Cosmetics | Detergents/Polishes | Wood stains | Woods preservatives |
| DUASYN | | | | | | | | | | |
| DUASYN YELLOW RWI LIQUID VP 3861 | Direct Yellow 51 | — | ■ | ■ | ■ | — | — | — | — | — |
| DUASYN MAGENTA CR LIQUID | — | — | ■ | ■ | ■ | ● | — | — | — | — |
| DUASYN BLACK A-RG | Solvent Black 27 | — | ■ | ■ | — | ■ | — | — | — | — |
| CARTASOL | | | | | | | | | | |
| CARTASOL YELLOW 3GF LIQUID | Direct Yellow 132 | — | — | ■ | ■ | ● | — | ● | — | — |
| SANOLIN | | | | | | | | | | |
| SANOLIN RHODAMINE B O2° | Acid Red 52 | 45100 | ■ | ■ | ■ | ● | ● | ■ | — | — |

★ = Powder form

4.6

DUASYN SF DUASYN SF LIQUID DUASYNJET SF

These practically salt-free, water-soluble dyes are noted for high purity (no insoluble components) and high surface tension.

LITERATURE

DP 8530 E
»Products for Non Impact Printing«

The products are ideally suitable for ink jet and special inks and other special uses where high-purity dyes are required.

| NAME | COLOUR INDEX | COLOUR IN-DEX NO. | | |
|---|-------------------|-------------------|--------------|--------------|
| DUASYN | | | Ink Jet Inks | Writing Inks |
| DUASYN ACID YELLOW XX-SF | Acid Yellow 23 | 19140 | ■ | ● |
| DUASYN YELLOW 3GF-SF LIQUID | Direct Yellow 132 | — | ■ | ● |
| DUASYN RED 3B-SF LIQUID | Reactive Red 23 | 16202 | ■ | ● |
| DUASYN BRILLIANT RED F3B-SF LIQUID | Reactive Red 180 | 181055 | ■ | ● |
| DUASYN ACID BLUE AE-SF 30 LIQUID | Acid Blue 9 | 42090 | ■ | ● |
| DUASYN BLACK HEF-SF LIQUID VP 2895 | — | — | ■ | ● |
| DUASYNJET | | | | |
| DUASYNJET CYAN FRL-SF LIQUID | Direct Blue 199 | 74190 | ■ | ● |

4.7 SAVINYL

Savinyl powder dyes are solvent soluble metal complex dyes, with excellent solubilities in polar organic solvents like alcohols, ketones and glycol ethers, as well as good overall fastness properties.

They are suitable for coloration of writing inks, wood stains, leather finish, flexographic and gravure inks and paints based on polar solvents.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | | | | | | | | |
|------------------------|---------------------|------------------|-----------------|-------------|------------------|-------------------|-----------------|---|--------------|--|
| | | | Office supplies | Wood stains | Leather finishes | Industrial paints | Powder coatings | Solvent containing packaging gravure and flexographic printing inks | Ink Jet inks | |
| SAVINYL YELLOW 2GLS 01 | Solvent Yellow 79 | — | ● | ■ | ■ | ● | ○ | ● | — | |
| SAVINYL YELLOW RLS | Solvent Yellow 83:1 | — | ● | ■ | ■ | ● | ○ | ● | ● | |
| SAVINYL YELLOW RLSN | Solvent Yellow 83 | — | ● | ■ | ■ | ○* | ○ | ● | — | |
| SAVINYL YELLOW 2RLS | Solvent Yellow 62 | — | ● | ■ | ■ | ● | ○ | ● | — | |
| SAVINYL ORANGE RLS | Solvent Orange 41 | — | ● | ■ | ■ | ● | ○ | ● | — | |
| SAVINYL ORANGE RLSE | Solvent Orange 62 | — | ● | ■ | ■ | ○* | ○ | ● | — | |
| SAVINYL FIRE RED 3GLS | Solvent Red 124 | — | ● | ● | ○ | ○* | ○ | ● | — | |
| SAVINYL RED 3BLS | Solvent Red 91 | — | ● | ■ | ■ | ● | ○ | ● | ● | |
| SAVINYL PINK 6BLS | Solvent Red 127 | — | — | ● | ○ | ○* | ○ | ● | ● | |
| SAVINYL DARK VIOLET R | Acid Violet 66 | — | ● | ■ | ■ | ● | ○ | ● | — | |
| SAVINYL BLUE RS | Solvent Blue 45 | — | ● | ■ | ● | ○* | ○ | ● | — | |
| SAVINYL BLUE GLS | Solvent Blue 44 | — | ● | ■ | ■ | ● | ○ | ● | ● | |
| SAVINYL GREEN 2GLS 01 | Mixture | — | ● | ■ | ■ | ○* | ○ | ● | — | |
| SAVINYL BROWN GLS | Mixture | — | ● | ■ | ■ | ● | ○ | ● | — | |
| SAVINYL BLACK RLSN | Mixture | — | — | ■ | ■ | ● | ○ | ● | ● | |

* = Limited fastness to overpainting

4.8 FAT

The Fat dyes are in principle soluble in almost all organic solvents. Their solubility in aliphatic and aromatic hydrocarbons, oils and waxes makes them suitable for coloring shoe creams, floor polishing compounds, 2-phase-cleaners, candles, lubricating greases, gasoline etc. In general, the Fat dyes have a wide variety of applications.

Some grades are used in phenolics. They can also be used in unsaturated polyester casting resins, methacrylate and in the manufacture of colored smoke signals.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | | | | | |
|-----------------|-------------------|------------------|-------------|----------------|----------------------------|---------|--------------------------|
| | | | Mineral oil | Consumer goods | Detergents/ shoe polish | Candles | Food packaging materials |
| FAT YELLOW 3G | Solvent Yellow 16 | 12700 | ■ | ● | ● | ● | ● |
| FAT ORANGE R 01 | Solvent Yellow 14 | 12055 | ■ | — | — | — | — |
| FAT BLUE B 01 | Solvent Blue 35 | 61554 | ■ | — | — | — | — |

4.9

SANOLIN

SANOLIN LIQUID

The Sanolin dyes are especially used for the coloration of home and fabric care products in liquid, paste or powder form (e. g. hard surface cleaners, dish wash tabs). They are easily dissolvable in water. Selected grades are also suitable for the coloration of cosmetics

(e. g. shower gel). The Sanolin powder grades are exposed to low dose ionizing radiation and therefore meet high microbiological purity requirements of customers active in the home & personal care industry.

| NAME | COLOUR INDEX | COLOUR INDEX NO. | | | | | | | | | | |
|------------------------------------|------------------------|------------------|--------------------|----------------------------------|------------------------------|---|--------------------|------------------------------------|-----------------------|-------------|-----------------|--|
| | | | Sopa/ Cosmetics | Granule coloration (speckles) | Laundry powder detergents | Laundry liquid and heavy-duty detergents | Fabric softener | Dishwashing detergents/ Tabs | Household cleaners | Wood stains | Office supplies | |
| SANOLIN QUINOLINE YELLOW 70 | Acid Y. 3 / Food Y. 13 | 47005 | ■ | ● | — | ● | — | ○ | ■ | ● | ● | |
| SANOLIN YELLOW E-2GL | Acid Yellow 17 | 18965 | — | ■ | ● | ■ | ■ | ● | ■ | — | — | |
| SANOLIN TARTRAZINE X 90 | Acid Y. 23 / Food Y. 4 | 19140 | ■ | — | ● | ● | ● | ● | ■ | ● | ● | |
| SANOLIN YELLOW BG 30 | Direct Yellow 28 | 19555 | — | ■ | ● | — | — | ● | ■ | — | — | |
| SANOLIN ORANGE RGL 90 | Food Yellow 3 | 15985 | ● | — | — | ● | ● | ○ | ■ | ● | ● | |
| SANOLIN PONCEAU 4RC 82 | Acid R. 18 / Food R. 7 | 16255 | ● | — | — | ● | ● | ● | ■ | ● | ● | |
| SANOLIN RED NBG | Acid Red 249 | — | — | ■ | — | — | — | ■ | ■ | — | ● | |
| SANOLIN RHODAMINE B 02 | Acid Red 52 | 45100 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | — | ● | |
| SANOLIN RED N-6B | Acid Violet 54 | — | — | ● | — | ■ | ■ | ● | ■ | — | — | |
| SANOLIN VIOLET E2R | Acid Violet 126 | — | — | ■ | ● | ■ | ■ | ■ | ■ | — | — | |
| SANOLIN VIOLET FBL | Acid Violet 48 | — | — | ■ | ● | ■ | ■ | ■ | ■ | — | — | |
| SANOLIN BLUE EHRL | Acid Blue 182 | — | — | ■ | ■ | ■ | ■ | ■ | ■ | — | — | |
| SANOLIN BLUE NBL | Acid Blue 80 | 61585 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | — | — | |
| SANOLIN PATENT BLUE V 85 01 | Food Blue 5:2 | 42051:2 | ● | — | — | ● | ● | ○ | ■ | ● | — | |
| SANOLIN BLUE AE 90 | Acid B. 9 / Food B. 2 | 42090 | ● | — | — | ● | ● | ○ | ■ | ● | — | |
| SANOLIN FAST TURQUOISE GLL | Direct Blue 86 | 74180 | — | ■ | ● | ● | ● | ● | ■ | — | — | |
| SANOLIN TURQUOISE BLUE FBL | Direct Blue 199 | 74190 | — | ■ | ● | ● | ● | ● | ■ | — | — | |
| SANOLIN GREEN 6 GLN | Acid Green 81 | — | — | ■ | ● | ● | ● | ● | ■ | — | — | |
| SANOLIN GREEN R-3GL | Reactive Green 12 | — | — | ● | ● | ● | ● | ● | ■ | — | — | |

The liquid grades offer convenient handling and dosing. They also meet high microbiological purity requirements of customers active in the home & personal care industry.

LITERATURE

Brochure DP 5023 E
 »Living Colors - Solutions for Home & Personal Care Products«

| NAME | COLOUR INDEX | COLOUR INDEX NO. | | | | | | | | | |
|-------------------------------------|--------------------------|------------------|--------------------|----------------------------------|------------------------------|---|--------------------|---------------------------------|-----------------------|-------------|-----------------|
| | | | Sopa/ Cosmetics | Granule coloration (speckles) | Laundry powder detergents | Laundry liquid and heavy-duty detergents | Fabric softener | Dishwashing detergents/ Tabs | Household cleaners | Wood stains | Office supplies |
| SANOLIN PONCEAU SP LIQUID | Acid Red 18 / Food Red 7 | 16255 | — | ● | ● | ■ | ■ | ■ | ■ | — | — |
| SANOLIN VIOLET AS-SP LIQUID | Direct Violet 66 | 29120 | — | ● | ● | ■ | ● | ● | ■ | — | — |
| SANOLIN VIOLET AS-E2R LIQUID | Acid Violet 126 | — | — | ● | ● | ■ | ■ | ■ | ■ | — | — |
| SANOLIN VIOLET AS-FBL LIQUID | Acid Violet 48 | — | — | ● | ● | ■ | ● | ● | ■ | — | — |
| SANOLIN BLUE EHRL LIQUID | Acid Blue 182 | — | — | ■ | ■ | ■ | ■ | ■ | ■ | — | — |
| SANOLIN CYAN FRL 10 LIQUID | Direct Blue 199 | 74190 | — | ■ | ● | ● | ● | ● | ■ | — | — |
| SANOLIN GREEN R-3GL LIQUID | Reactive Green 12 | — | — | ● | ● | ■ | ● | ■ | ■ | — | — |

4.10

ALUMINUM DYES AND CHEMICALS

Clariant offers a comprehensive range of products for anodizing of aluminum. The products comprise dyes, colorants for screen printing, process chemicals and additives.

Dyes of the Sanodal, Sanodure and Sanodye ranges are especially developed water soluble dyes for the adsorptive coloration of anodized aluminum oxide layers. With these three dye ranges Clariant covers almost every customer's need.

SANODAL

The dyes in this range show excellent light- and weather fastness properties and are correspondingly recommended not only for indoor but also for outdoor use. The Sanodal dyes can be used alone or in combination with an electrolytic dyeing process. One of the major application areas is the architectural sector, e. g. colored aluminum façades, window frames, etc.

LITERATURE

Pattern card DP 9501 E
»Sanodal, Sanodure and Sanodye dyes«

| NAME | SUPPLY FORM | OUTDOOR | INDOOR |
|------------------------------------|-------------|---------|--------|
| SANODAL GOLD 4N | Powder | ✓ | ✓ |
| SANODAL ORANGE 3LW LIQ. | Liquid | ✓ | ✓ |
| SANODAL RED B3LW | Granules | ✓ | ✓ |
| SANODAL TURQUOISE PLW LIQ. | Liquid | ✓ | ✓ |
| SANODAL GREEN 3LW | Granules | ✓ | ✓ |
| SANODAL BLACK GL | Paste | ✓ | ✓ |
| SANODAL BLACK 2LW | Granules | ✓ | ✓ |
| SANODAL DEEP BLACK H3LW | Paste | ✓ | ✓ |
| SANODAL DEEP BLACK HBL LIQ. | Paste | ✓ | ✓ |
| SANODAL DEEP BLACK MLW | Powder | ✓ | ✓ |
| | Granules | ✓ | ✓ |

SANODURE

This range covers virtually all coloristic needs. Sanodure dyes have overall good fade resistance properties, but often limited weather fastness. Sanodure dyes are recommended for all kind of indoor applications.

LITERATURE

Pattern card DP 9501 E
»Sanodal, Sanodure and Sanodye dyes«

| NAME | SUPPLY FORM | OUTDOOR | INDOOR |
|--------------------------|-------------|---------|--------|
| SANODURE FAST GOLD L | Granules | | ✓ |
| SANODURE ORANGE G | Granules | | ✓ |
| SANODURE ORANGE RL | Granules | | ✓ |
| SANODURE FIERY RED ML | Granules | | ✓ |
| SANODURE BORDEAUX RL | Granules | | ✓ |
| SANODURE VIOLET CLW | Granules | | ✓ |
| SANODURE GREEN LWN | Granules | | ✓ |
| SANODURE FAST BRONZE L | Granules | | ✓ |
| SANODURE BRONZE 2LW | Granules | | ✓ |
| SANODURE BRONZE G | Granules | | ✓ |
| SANODURE YELLOW BROWN 2G | Granules | | ✓ |
| SANODURE BROWN GSL | Granules | | ✓ |
| SANODURE OLIVE BROWN 2R | Granules | | ✓ |
| SANODURE GREY HLN LIQ. | Liquid | | ✓ |
| SANODURE GREY NL LIQ. | Liquid | | ✓ |
| SANODURE BLACK CRO | Powder | | ✓ |

SANODYE

While most dyes used for aluminum coloring are based on heavy metals, the Sanodye range only consists of dyes with heavy metal free structures. With this range Clariant accommodates the market demand in sensitive application fields with stringent heavy metal limits.

The recommended application fields vary from indoor to outdoor as indicated in our technical data sheets.

LITERATURE

Pattern card DP 9501 E
»Sanodal, Sanodure and Sanodye dyes«

| NAME | SUPPLY FORM | OUTDOOR | INDOOR | HEAVY METAL FREE STRUCTURE |
|---------------------------|-------------|---------|--------|----------------------------|
| SANODYE YELLOW 3GL | Granules | ✓ | ✓ | ✓ |
| SANODYE YELLOW D | Powder | | ✓ | ✓ |
| SANODYE GOLDEN ORANGE RLW | Granules | | ✓ | ✓ |
| SANODYE ORANGE 2B | Powder | | ✓ | ✓ |
| SANODYE RED GLW | Granules | | ✓ | ✓ |
| SANODYE RED RLW | Granules | | ✓ | ✓ |
| SANODYE VIOLET 3D | Powder | | ✓ | ✓ |
| SANODYE VIOLET MRB NEW | Powder | | ✓ | ✓ |
| SANODYE BLUE 2LW | Granules | ✓ | ✓ | ✓ |
| SANODYE BLUE G | Granules | ✓ | ✓ | ✓ |
| SANODYE GREEN AEN | Powder | | ✓ | ✓ |
| SANODYE BROWN R | Granules | | ✓ | ✓ |
| SANODYE BLACK OA | Granules | ✓ | ✓ | ✓ |

4.10

ALUMINUM DYES AND CHEMICALS

ANODAL

Under the trade name Anodal Clariant offers a complete range of process chemicals for all production steps of anodizing aluminum from degreasing, etching, anodizing, electrolytic coloring, sealing to waste water treatment of used up dye baths. The Anodal chemicals help to increase productivity, efficiency and minimize environmental impact.

Anodal chemicals are tailored to the special needs of our Sanodal, Sanodure and Sanodye ranges for optimized results.

LITERATURE

Brochure DP 6199 E »Aluminum Finishing«

| NAME | SUPPLY FORM | PROCESS STEP | DESCRIPTION |
|----------------------------|-------------|-----------------------|--|
| ANODAL DA-5 | Powder | Degreasing | Emulsifying alkaline degreasing additive, no phosphat and silicate added |
| ANODAL EC-2 | Liquid | Etching | Long term etching additive, complexing and levelling additive for high aluminum containing etching tanks (> 150 g/L), specially developed for matt finishing (E6), additionally suitable for zinc containing alloys, no silicate and chlorate added. |
| ANODAL EE | Liquid | Anodizing | Surface levelling, burning prevention, reduced refrigerating temperature, hard coating |
| ANODAL SUAC | Liquid | Anodizing | Additive for the integral coloring process |
| ANODAL COLOR S-2 | Liquid | Electrolytic coloring | Metal free structure stabilizer for tin sulfate coloring, throwing power trigger; levelling agent |
| ANODAL SH-1 | Liquid | Sealing | Anti-smutting, hot water sealing additive (> 96 °C) |
| ANODAL SH-2 | Liquid | Sealing | Anti-smutting, mid-temperature sealing additive (82-90 °C) |
| ANODAL ASL | Liquid | Sealing | Anti-smutting, hot nickel sealing additive (> 96 °C) |
| ANODAL MS-1 | Liquid | Sealing | Anti-smutting, nickel containing sealing additive; mid-temperature nickel sealing (75-85 °C) |
| ANODAL WT-1 | Liquid | Waste water | Flocking additive for waster water treatment; removal of dissolved dyestuff |
| ANODAL DEFOAMER SFN | Liquid | — | Foam suppression and prevention |
| NIPACIDE CI 15 | Liquid | — | Prevention of tank contamination, mild biocide effect |

ALUPRINT

Aluprint stands for our range of screen printing inks for printing on anodized aluminum. Printing and dip-dyeing can be combined for attractive designs.

Aluprint screen inks are solvent based and recommended for indoor use.

LITERATURE

Brochure DP 6199 E »Aluminum Finishing«

NAME

ALUPRINT YELLOW 3R

ALUPRINT RED 3R

ALUPRINT TURQUOISE 3R

ALUPRINT BLUE 3R

ALUPRINT GREEN 3R

ALUPRINT BLACK 3R

ALUPRINT DILUENT LIQUID

ALUPRINT REDUCER 3R

5 INTERMEDIATES / CHEMICALS

5

INTERMEDIATES / CHEMICALS

| NAME | CAS-NUMBER | APPLICATION |
|--|------------|----------------------|
| AMIDES | | |
| ACETOACETAMIDE TECHNICAL 50 % SOLN | 5977-14-0 | Agrochemical, Pharma |
| ARYLIDES | | |
| BIS-ACETOACETIC-P-PHENYLENEDIAMINE | 24731-73-5 | Pigment |
| ACETOACET-2,5-DIMETHOXY-4-CHLOROANILIDE | 4433-79-8 | Pigment |
| 5-ACETOACETYLAMINO BENZIMIDAZOLONE | 26576-46-5 | Pigment |
| ACETACET-2-METHOXYANILINE-5-SULFONIC ACID SOLUTION | 68030-79-5 | Paper dye |
| ACETOACETANILIDE | 102-01-2 | Pigment |
| ACETOACET-O-ANISIDIDE | 92-15-9 | Pigment |
| ACETOACET-O-TOLUIDIDE | 93-68-5 | Pigment |
| ACETOACET-M-XYLIDIDE | 97-36-9 | Pigment |
| ACETOACET-O-CHLORANILIDE | 93-70-9 | Pigment |
| ESTER | | |
| ACETOACETIC ACID METHYLESTER | 105-45-3 | Pharma, Vitamine E |
| OTHERS | | |
| TETRACHLORO-BENZOQUINONE | 118-75-2 | Pigment, Dye, Pharma |
| PHENYL-3-CARBETHOXYPIRAZOL-5-ONE | 89-33-8 | Pigment |
| (3-SULPHOPHENYL)-3-METHYLPYRAZOL-5-ONE | 119-17-5 | Pigment, Dye, Pharma |

6

OVERVIEW BY COLOUR INDEX DATA (GENERIC NAME)

- 6.1 Pigments
 - Pigment preparations
- 6.2 Dyes

6.1 PIGMENT YELLOW

The following overview lists our products already published in the Colour Index, arranged by their generic name. If only the generic name but not the Colour Index No. is given, the product was published without details of its constitution. We would like to point out that identical generic names simply indicate identical chemical composition.

The application properties of colorants are however influenced to a greater or lesser extent not only by their chemical composition but also by numerous other factors such as particle size distribution, crystallinity, surface treatment, impurities etc. For this reason products having identical compositions and identical generic names may differ completely in their application properties.

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------|---|----------------------------------|
| PIGMENTS | | | |
| Pigment Yellow 1 | 11680 | HANSA YELLOW G 02 | COLANYL YELLOW G 132 |
| | | | COLANYL YELLOW G 500 |
| | | | COSMENYL YELLOW G 30 |
| | | | COSMENYL YELLOW GLS GRAN. |
| Pigment Yellow 3 | 11710 | HANSA YELLOW 10G HANSA YELLOW 10G 41 GRAN. | COLANYL YELLOW 10G 131 |
| | | | COSMENYL YELLOW 10G |
| | | | HOSTATINT YELLOW 12G 500 |
| Pigment Yellow 12 | 21090 | PERMANENT YELLOW DHG PERMANENT YELLOW DHG N22 PERMANENT YELLOW DHG N26 PERMANENT YELLOW 2050G | |
| | | | |
| | | | |
| | | | |
| Pigment Yellow 13 | 21100 | GRAPHTOL YELLOW GR PERMANENT YELLOW GR PERMANENT YELLOW GR 01 PERMANENT YELLOW GR 04 PERMANENT YELLOW P-GRL 06 PERMANENT YELLOW P-GRL 07 | HOSTAFINE YELLOW GR |
| | | | HOSTASIN YELLOW GR 30 |
| | | | VISCOFIL GOLDEN RVD |
| | | | |
| | | | |
| | | | |
| Pigment Yellow 14 | 21095 | PERMANENT YELLOW P-G PERMANENT YELLOW GA GRAN. | FLEXONYL YELLOW WF 141 |
| | | | VISCOFIL YELLOW A2GN |

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|--------------------------------------|----------------------------|---|---|
| PIGMENTS | | | |
| Pigment Yellow 16 | 20040 | PERMANENT YELLOW NCG | COLANYL YELLOW NCG 131 |
| Pigment Yellow 17 | 21105 | GRAPHTOL YELLOW GG | HOSTAPRINT YELLOW GG 32 |
| | | PERMANENT YELLOW GG 02 | RENOL YELLOW GG-HW 30 |
| | | | VISCOFIL YELLOW GGVD |
| Pigment Yellow 42 | 77492 | | COLANYL OXIDE OLIVE GS 100 |
| | | | COLANYL OXIDE YELLOW R 132 |
| | | | COLANYL OXIDE YELLOW R 531 |
| | | | COSMENYL OXIDE YELLOW R |
| | | | HOSTAFINE TRANSOXIDE YELLOW R |
| | | | HOSTATINT OXIDE YELLOW E-GO |
| | | | HOSTATINT OXIDE YELLOW R 500 |
| | | | HOSTATINT OXIDE YELLOW A-R 100 |
| | | | HOSTATINT TRANSOXIDE YELLOW A-2R 100 |
| | | | HOSTATINT TRANSOXIDE YELLOW R 500 |
| Pigment Yellow 73 | 11738 | HANSA BRILLIANT YELLOW 4GX | HOSTATINT YELLOW 4GX 500 |
| Pigment Yellow 74 | 11741 | HANSA BRILLIANT YELLOW 5GX | COLANYL YELLOW 5GX 130 |
| | | HANSA BRILLIANT YELLOW 5GX 03 | COLANYL YELLOW 5GX 500 |
| | | HANSA BRILLIANT YELLOW 2GX 70 | COLANYL YELLOW 2GXD 130 |
| | | HANSA BRILLIANT YELLOW 2GX 70-S | COLANYL YELLOW 2GXD 500 |
| | | HANSA YELLOW 5GX 01 | FLEXONYL YELLOW WF 074 |
| | | TONER YELLOW 5GXT VP 3754 | HOSTATINT YELLOW 2GXD 500 |
| | | | HOSTATINT YELLOW A-2GXD 130 R |
| | | | HOSTATINT YELLOW E-2GXD |
| | VISCOFIL YELLOW AGX | | |
| Pigment Yellow 81 | 21127 | GRAPHTOL YELLOW H10G | |
| | | NOVOPERM YELLOW H10G 01 | |

6.1 PIGMENT YELLOW

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------------------------------|-------------------------------------|----------------------------|
| PIGMENTS | | | |
| Pigment Yellow 83 | 21108 | NOVOPERM YELLOW HR | COLANYL YELLOW HR 130 |
| | | NOVOPERM YELLOW HR 02 | COLANYL YELLOW HRD 131 |
| | | NOVOPERM YELLOW HR 04 | COLANYL YELLOW HRD 500 |
| | | NOVOPERM YELLOW HR 70 | FLEXOPRINT YELLOW HR |
| | | NOVOPERM YELLOW P-HRE | HOSTAFINE YELLOW HR |
| | | NOVOTEX YELLOW HR 02 | HOSTAPRINT YELLOW HR 32 |
| | | PV FAST YELLOW HR | HOSTASIN YELLOW HR 30 |
| | | PV FAST YELLOW HR 02 | HOSTATINT YELLOW HR 500 |
| | | | HOSTATINT YELLOW A-HRD 100 |
| | HOSTATINT YELLOW E-HRD | | |
| | RENOL YELLOW HR-HW 30 | | |
| | VISCOFIL YELLOW RR 31 VP 3503 | | |
| Pigment Yellow 97 | 11767 | NOVOPERM YELLOW FGL | COLANYL YELLOW FGL 132 |
| | | | COLANYL YELLOW FGL 500 |
| | | | HOSTATINT YELLOW FGL 500 |
| Pigment Yellow 120 | 11783 | INK JET YELLOW H2G | |
| | | NOVOPERM YELLOW H2G | |
| | | PV FAST YELLOW H2G | |
| Pigment Yellow 126 | 21101 | PERMANENT YELLOW DGR | FLEXONYL YELLOW SP-DGR |
| Pigment Yellow 127 | 21102 | PERMANENT YELLOW GRL 03 | |
| Pigment Yellow 139 | 56298 | GRAPHTOL YELLOW H2R | HOSTAPRINT YELLOW H2R 32 |
| | | NOVOPERM YELLOW M2R 70 | |
| | | NOVOPERM YELLOW P-M3R | |
| Pigment Yellow 147 | 60645 | POLYSYNTHREN YELLOW NG | |
| Pigment Yellow 150 | 12764 | HOSTAPERM YELLOW HN4G | |
| Pigment Yellow 151 | 13980 | HOSTAPERM YELLOW H4G | HOSTAPRINT YELLOW H4G 32 |
| | | HOSTAPERM YELLOW H4G 70 | |
| | | INK JET YELLOW H4G VP 3853 | |
| | | PV FAST YELLOW H4G | |

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|--------------------------------------|------------|---|--|
| PIGMENTS | | | |
| Pigment Yellow 154 | 11781 | HOSTAPERM YELLOW H3G | COLANYL YELLOW H3G 130 COLANYL YELLOW H3G 500 HOSTATINT YELLOW H3G 500 HOSTATINT YELLOW A-H3G 100 |
| Pigment Yellow 155 | 200310 | GRAPHTOL YELLOW 3GP INK JET YELLOW 4G INK JET YELLOW 4GC VP 3854 NOVOPERM YELLOW 4G 01 NOVOPERM YELLOW 5GD 71 TONER YELLOW 4G TONER YELLOW 3GP | HOSTAJET YELLOW 4G-PT VP 2669 HOSTAPRINT YELLOW 3GP 32 HOSTATINT YELLOW E-5GD VISCOFIL YELLOW 2GLL |
| Pigment Yellow 174 | 21098 | PERMANENT YELLOW GRS 80 PERMANENT YELLOW GRY 82 | |
| Pigment Yellow 175 | 11784 | HOSTAPERM YELLOW H6G | |
| Pigment Yellow 176 | 21103 | PERMANENT YELLOW GRX 83 PERMANENT YELLOW GRX 86 | |
| Pigment Yellow 180 | 21290 | NOVOPERM YELLOW P-HG PV FAST YELLOW HG PV FAST YELLOW HG 01 TONER YELLOW HG | HOSTACOPY HG-Y 101 HOSTAPRINT YELLOW HG 32 HOSTASIN YELLOW HG |
| Pigment Yellow 181 | 11777 | NOVOPERM YELLOW H3R PV FAST YELLOW H3R | |
| Pigment Yellow 184 | 771740 | HOSTAPERM OXIDE YELLOW BV 01 | COLANYL OXIDE YELLOW BV 100 COLANYL OXIDE YELLOW BV 530 HOSTATINT OXIDE YELLOW BV 500 HOSTATINT OXIDE YELLOW A-BV 100 |
| Pigment Yellow 191 | 18795 | PV FAST YELLOW HGR PV FAST YELLOW H2GR | HOSTAPRINT YELLOW HGR 32 |
| Pigment Yellow 192 | — | POLYSYNTHREN YELLOW RL | |
| Pigment Yellow 194 | 11785 | NOVOPERM YELLOW F2G | HOSTATINT YELLOW A-F2G 100 |
| Pigment Yellow 213 | — | HOSTAPERM YELLOW H5G | |
| Pigment Yellow 214 | — | PV FAST YELLOW H9G | |

6.1 PIGMENT ORANGE

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|--------------------------------------|------------|--|---|
| PIGMENTS | | | |
| Pigment Orange 4 | 12459 | | VISCOFIL ORANGE GRVD |
| Pigment Orange 5 | 12075 | HANSA RED GG | COLANYL RED GG 131 COLANYL RED GG 500 |
| Pigment Orange 13 | 21110 | GRAPHTOL ORANGE GPS PERMANENT ORANGE G | FLEXONYL ORANGE SP-G FLEXONYL ORANGE WF 131 HOSTASIN ORANGE G 30 VISCOFIL ORANGE GG 30 VP 3525 |
| Pigment Orange 34 | 21115 | GRAPHTOL ORANGE RL PERMANENT ORANGE RL 01 PERMANENT ORANGE RL 70 | RENOL ORANGE RL-HW 30 VISCOFIL ORANGE RL 30 VP 3930 |
| Pigment Orange 36 | 11780 | NOVOPERM ORANGE HL NOVOPERM ORANGE HL 70 NOVOPERM ORANGE HL 70-NF | HOSTATINT ORANGE HLD 500 HOSTATINT ORANGE A-HLD 100 HOSTATINT ORANGE E-HLD |
| Pigment Orange 38 | 12367 | GRAPHTOL RED HFG NOVOPERM RED HFG | HOSTAPRINT RED HFG 32 |
| Pigment Orange 43 | 71105 | HOSTAPERM ORANGE GR PV FAST ORANGE GRL | HOSTATINT ORANGE GR 500 |
| Pigment Orange 62 | 11775 | NOVOPERM ORANGE H5G 70 | |
| Pigment Orange 64 | 12760 | PV FAST ORANGE H2GL | |
| Pigment Orange 68 | 486150 | PV FAST ORANGE 6RL | |
| Pigment Orange 70 | — | POLYSYNTHREN BROWN 3RL | |
| Pigment Orange 72 | 211095 | PV FAST ORANGE H4GL 01 | HOSTAPRINT ORANGE H4GL 32 |
| Pigment Orange 74 | — | PERMANENT ORANGE 2RLD 71 | HOSTATINT ORANGE 2RLD 500 HOSTATINT ORANGE A-2RLD 100 HOSTATINT ORANGE E-2RLD |

6.1

PIGMENT RED

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|---------|---|---|
| PIGMENTS | | | |
| Pigment Red 2 | 12310 | PERMANENT RED FRR | VISCOFIL RED AGN VISCOFIL RED GVD |
| Pigment Red 3 | 12120 | HANSA SCARLET RNC HANSA RED B HANSA RED 3B | |
| Pigment Red 4 | 12085 | HANSA RED R | |
| Pigment Red 5 | 12490 | PERMANENT CARMINE FB 01 | COLANYL CARMINE FB 130 COSMENYL CARMINE FB 01 COSMENYL RED BLS GRAN. VISCOFIL RED BL |
| Pigment Red 9 | 12460 | PERMANENT RED FRLL 01 | COLANYL RED FRLL 131 |
| Pigment Red 12 | 13385 | PERMANENT BORDEAUX FRR | |
| Pigment Red 14 | 12380 | PERMANENT BORDEAUX FGR | |
| Pigment Red 32 | 12320 | | VISCOFIL RUBINE BFVD |
| Pigment Red 38 | 21120 | GRAPHTOL RED BB | HOSTASIN RED B 30 |
| Pigment Red 48:2 | 15865:2 | GRAPHTOL RED P2B NOVOTEX RED ARCY PERMANENT RED LB 01 | |
| Pigment Red 48:3 | 15865:3 | GRAPHTOL FIRE RED 3RLP | |
| Pigment Red 48:4 | 15865:4 | NOVOPERM RED 5BLS NOVOPERM RED BLS 02 | |
| Pigment Red 53:1 | 15585:1 | GRAPHTOL RED LC GRAPHTOL RED LG PERMANENT LAKE RED LCLL PERMANENT LAKE RED LCY | HOSTASIN RED LC 30 |

6.1

PIGMENT RED

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|---------------------------------------|-------------------------------------|---|
| PIGMENTS | | | |
| Pigment Red 57:1 | 15850:1 | COSMETIC RED 3B | |
| | | GRAPHTOL RUBINE L4B | |
| | | PERMANENT RUBINE L4B 01 | |
| | | PERMANENT RUBINE L4BT | |
| | | PERMANENT RUBINE L5B 01 | |
| | | PERMANENT RUBINE L5BT | |
| | | PERMANENT RUBINE P-L7B 01 | |
| | | PERMANENT RUBINE LPM | |
| Pigment Red 101 | 77491 | | COLANYL OXIDE RED B 130 |
| | | | COLANYL OXIDE RED B 530 |
| | | | COLANYL OXIDE RED G 100 |
| | | | COLANYL OXIDE RED G 530 |
| | | | HOSTAFINE TRANSOXIDE RED B 30 |
| | | | HOSTATINT OXIDE RED B 500 |
| | | | HOSTATINT OXIDE RED A-B 100 |
| | | | HOSTATINT OXIDE RED E-OR |
| | | | HOSTATINT TRANSOXIDE RED A-G 100 |
| | HOSTATINT TRANSOXIDE RED B 500 | | |
| Pigment Red 112 | 12370 | PERMANENT RED FGR | COLANYL RED FGR 131 |
| | | PERMANENT RED FGR 02 | COLANYL RED FGR 530 |
| | | PERMANENT RED FGR 03 | COLANYL RED FGRD 500 |
| | | PERMANENT RED FGR 70 | COLANYL RED FGRG 130 |
| | | | FLEXONYL RED SP-FGR |
| | | | HOSTAFINE RED FGR |
| | | | HOSTATINT RED A-FGRD 130 R |
| | | | HOSTATINT RED FGR 500 |
| | | | RENOL RED FGR-HW 30 |
| | | | |
| | | | |

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|--------------------------------------|------------|---|--------------------------------|
| PIGMENTS | | | |
| Pigment Red 122 | 73915 | HOSTAPERM PINK E | COLANYL PINK E 100 |
| | | HOSTAPERM PINK E TRANSP. 01 | COLANYL PINK E 530 |
| | | HOSTAPERM PINK E 02 | COLANYL PINK E-WD 500 |
| | | HOSTAPERM PINK EB TRANSP. | HOSTACOPY E 02-M 101 |
| | | HOSTAPERM PINK E-WD | HOSTAFINE MAGENTA E |
| | | INK JET MAGENTA E 02 | HOSTAJET MAGENTA E-PT |
| | | PV FAST PINK E | HOSTAPRINT PINK E 32 |
| | | PV FAST PINK E 01 | HOSTATINT PINK E 500 |
| | | TONER MAGENTA E | HOSTATINT PINK A-E 100 |
| | | TONER MAGENTA E 02 | HOSTATINT PINK E-E |
| Pigment Red 144 | 20735 | PV FAST RED 3B | |
| Pigment Red 146 | 12485 | NOVOTEX CARMINE FBB | FLEXONYL CARMINE SP-FBB |
| | | PERMANENT CARMINE FBB 02 | HOSTACOPY FBB 02-M 101 VP 3100 |
| | | | RENOL CARMINE FBB-HW 30 |
| Pigment Red 147 | 12433 | PERMANENT PINK F3B 01 | |
| Pigment Red 149 | 71137 | PV FAST RED B | HOSTAPRINT RED B 32 |
| Pigment Red 168 | 59300 | HOSTAPERM SCARLET GO | COLANYL SCARLET GO 130 |
| | | HOSTAPERM SCARLET GO TRANSP. | COLANYL SCARLET GO 530 |
| | | | HOSTATINT SCARLET GO 500 |
| Pigment Red 170 | 12475 | GRAPHTOL RED F3RK 70 | HOSTAFINE RED F5RK |
| | | GRAPHTOL RED F5RK | HOSTATINT RED A-F3RKD 100 |
| | | NOVOPERM RED F2RK 70 | HOSTATINT RED E-F3RKD |
| | | NOVOPERM RED F3RK 70 | RENOL RED F5RK-HW 30 |
| | | NOVOPERM RED F5RK | VISCOFIL RED F5RK 30 VP 3501 |
| | | NOVOTEX RED F4RK | |
| Pigment Red 176 | 12515 | GRAPHTOL CARMINE HF3C | |
| | | NOVOPERM CARMINE HF3C | |
| Pigment Red 179 | 71130 | HOSTAPERM RED P2GL-WD | HOSTAFINE RED P2GL |

6.1

PIGMENT RED

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|--------|-------------------------------------|-----------------------------------|
| PIGMENTS | | | |
| Pigment Red 181/ Vat Red 1 | 73360 | COSMETIC PINK RC 01 | |
| Pigment Red 184 | 12487 | PERMANENT RUBINE F6B | FLEXONYL RUBINE A-F6B 30 |
| | | PERMANENT RUBINE F6B 01 | HOSTAFINE RUBINE F6B |
| | | PERMANENT RUBINE P-F7B | |
| Pigment Red 185 | 12516 | GRAPHTOL CARMINE HF4C | HOSTAPRINT CARMINE HF4C 32 |
| | | NOVOPERM CARMINE HF4C | |
| Pigment Red 187 | 12486 | NOVOPERM RED HF4B | |
| | | PV FAST RED HF4B | |
| Pigment Red 188 | 12467 | NOVOPERM RED HF3S | COLANYL RED HF3S 500 |
| | | NOVOPERM RED HF3S 70 | HOSTAFINE RED HF3S |
| Pigment Red 208 | 12514 | GRAPHTOL RED HF2B | HOSTAPRINT RED HF2B 32 |
| | | NOVOPERM RED HF2B 01 | HOSTASIN RED HF2B 30 |
| | | | RENOL RED HF2B-HW 30 |
| Pigment Red 210 | 12477 | PERMANENT RED P-FK | |
| Pigment Red 214 | 200660 | NOVOPERM RED BN | HOSTAPRINT RED BNP 32 |
| | | PV FAST RED BNP | |
| Pigment Red 242 | 20067 | NOVOPERM SCARLET 4RF 01 | VISCOFIL SCARLET A-4RF |
| | | PV FAST SCARLET 4RF | |
| Pigment Red 247 | 15915 | PV FAST RED HB | |
| Pigment Red 254 | 56110 | HOSTAPERM RED D2G 70 | COLANYL RED D3GD 500 |
| | | HOSTAPERM RED D3G 70 | HOSTAPRINT RED D3G 32 |
| | | PV FAST RED D3G | HOSTATINT RED D3GD 500 |
| | | | HOSTATINT RED A-D3GD 100 |
| | | | HOSTATINT RED E-D3GD |
| Pigment Red 262 | — | GRAPHTOL RED 2BN | |
| Pigment Red 266 | 12474 | PERMANENT RED P-F7RK | |
| Pigment Red 285 | — | PV FAST RED HGR | |

6.1

PIGMENT VIOLET

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|----------------------|-------------------------------------|---------------------------------|
| PIGMENTS | | | |
| Pigment Violet 19 | 73900 | HOSTAPERM RED E2B 70 | COLANYL RED E3B 130 |
| | | HOSTAPERM RED E3B | COLANYL RED E3B 500 |
| | | HOSTAPERM RED E5B 02 | HOSTAJET MAGENTA E5B-PT VP 3565 |
| | | HOSTAPERM RED VIOLET ER 02 | HOSTAPRINT RED E5B 32 |
| | | INK JETZ MAGENTA E5B 02 | HOSTAPRINT VIOLET ER 32 |
| | | PV FAST RED E3B | HOSTATINT RED VIOLET A-ER 100 |
| | | PV FAST RED E5B | HOSTATINT RED VIOLET E-ER |
| | | PV FAST RED E4G | |
| | | PV FAST VIOLET ER | |
| Pigment Violet 23 | 51319 | HOSTAPERM VIOLET BL 01 | COLANYL VIOLET RL 131 |
| | | HOSTAPERM VIOLET RL SPEC. | COLANYL VIOLET RL 500 |
| | | HOSTAPERM VIOLET RL-NF | COSMENYL VIOLET RL |
| | | HOSTAPERM VIOLET RL 02 | HOSTAFINE VIOLET RL |
| | | HOSTAPERM VIOLET P-RL | HOSTAPRINT VIOLET RL 32 |
| | | PV FAST VIOLET BLP | HOSTATINT RED E-E3B |
| | | PV FAST VIOLET RL | HOSTATINT VIOLET RL 500 |
| | | | HOSTATINT VIOLET A-RL 100 |
| | | | HOSTATINT VIOLET E-BL |
| | | | RENOL VIOLET RL-HW 30 |
| | VISCOFIL VIOLET BLNL | | |
| Pigment Violet 32 | 12517 | GRAPHTOL BORDEAUX HF3R | HOSTAPRINT BORDEAUX HF3R 32 |
| | | NOVOPERM BORDEAUX HF3R | VISCOFIL BORDEAUX BB 30 VP 3504 |

6.1

PIGMENT BLUE

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------|--|--|
| PIGMENTS | | | |
| Pigment Blue 15 | 74160 | GRAPHTOL BLUE AN | COSMENYL BLUE BLS GRAN. VISCOFIL BLUE ARN VISCOFIL BLUE BL 500 VISCOFIL BLUE FRVD |
| Pigment Blue 15:1 | 74160 | HOSTAPERM BLUE A2R HOSTAPERM BLUE A4R HOSTAPERM BLUE BT-728-D HOSTAPERM BLUE BT-729-D PV FAST BLUE A2R PV FAST BLUE A4R | COLANYL BLUE A2R 131 COLANYL BLUE A2R 500 COSMENYL BLUE A4R HOSTAPRINT BLUE A2R 32 HOSTASIN BLUE A2R 30 |
| Pigment Blue 15:2 | 74160 | HOSTAPERM BLUE AFL HOSTAPERM BLUE BT-627-D | |
| Pigment Blue 15:3 | 74160 | HOSTAPERM BLUE B2G HOSTAPERM BLUE B2G-L HOSTAPERM BLUE B4G PV FAST BLUE BG | COLANYL BLUE B2G 131 COLANYL BLUE B2G 500 FLEXONYL BLUE WF 153 HOSTACOPY BG-C 101 HOSTAFINE BLUE B2G HOSTAJET CYAN BG-PT HOSTAPRINT BLUE B2G 32 HOSTATINT BLUE B2G 500 HOSTATINT BLUE A-BG 100 HOSTATINT BLUE E-B2G RENOL BLUE B2G-HW 30 VISCOFIL BLUE B2G 30 VP 3494 |
| Pigment Blue 15:4 | 74160 | HOSTAPERM BLUE BFL HOSTAPERM BLUE BT-617-D | |
| Pigment Blue 28 | 77346 | | COLANYL OXIDE BLUE COR 100 COLANYL OXIDE BLUE COR 530 HOSTATINT OXIDE BLUE COR 500 |

6.1

PIGMENT GREEN

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------|-------------------------------------|------------------------------|
| PIGMENTS | | | |
| Pigment Green 7 | 74260 | HOSTAPERM GREEN GG 01 | COLANYL GREEN GG 131 |
| | | HOSTAPERM GREEN GNX | COLANYL GREEN GG 500 |
| | | HOSTAPERM GREEN GNX-C | COSMENYL GREEN GG |
| | | PV FAST GREEN GNX | COSMENYL GREEN 2GLS GRAN. |
| | | | HOSTACRYL GREEN GNX |
| | | | HOSTAFINE GREEN GN |
| | | | HOSTAPRINT GREEN GG 32 |
| | | | HOSTASIN GREEN GG 30 |
| | | | HOSTATINT GREEN GG 500 |
| | | | HOSTATINT GREEN A-GNX 100 |
| | | | HOSTATINT GREEN E-3GLS |
| | | | RENOL GREEN GG-HW 30 |
| | | | VISCOFIL GREEN A-GNS |
| Pigment Green 17 | 77288 | | COLANYL OXIDE GREEN G 131 |
| | | | COLANYL OXIDE GREEN G 530 |
| | | | HOSTATINT OXIDE GREEN G 500 |
| Pigment Green 36 | 74265 | HOSTAPERM GREEN 8G | |
| Pigment Green 50 | 77377 | | COLANYL OXIDE GREEN CO 100 |
| | | | HOSTATINT OXIDE GREEN CO 500 |

6.1

PIGMENT BROWN

PIGMENT BLACK

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------|---|---|
| PIGMENTS | | | |
| Pigment Brown 24 | 77310 | | COLANYL OXIDE YELLOW CR 130 COLANYL OXIDE YELLOW CR 530 HOSTATINT OXIDE YELLOW A-CR 100 HOSTATINT OXIDE YELLOW E-CT |
| Pigment Brown 25 | 12510 | HOSTAPERM BROWN HFR 01 PV FAST BROWN HFR | HOSTACRYL BROWN HFR HOSTAPRINT BROWN HFR 32 RENOL BROWN HFR-HW 30 VISCOFIL BROWN HFR 30 VP 3203 |
| Pigment Brown 41 | — | PV FAST BROWN RL | HOSTAPRINT BROWN RL 32 |
| Pigment Black 7 | 77266 | | COLANYL BLACK N 131 COLANYL BLACK N 500 COLANYL BLACK PR 130 COSMENYL BLACK R FLEXONYL BLACK A-CB FLEXONYL BLACK PR 100 FLEXONYL BLACK WF 007 FLEXOPRINT BLACK CB 01 HOSTAFINE BLACK T 30 HOSTAFINE BLACK TS 30 HOSTAJET BLACK O-PT HOSTAPRINT BLACK L 32 HOSTATINT BLACK GR 500 HOSTATINT BLACK A-N 100 HOSTATINT BLACK E-BLN RENOL BLACK R-HW 30 VISCOFIL BLACK AV VISCOFIL BLACK 2BLN VISCOFIL BLACK VBC |
| Pigment Black 11 | 77499 | | COLANYL OXIDE BLACK B 100 COLANYL OXIDE BLACK B 530 COLANYL OXIDE OLIVE GS 100 |
| Pigment Black 33 | 77537 | | HOSTATINT OXIDE BLACK B 500 |

6.1

PIGMENT WHITE

| COLOUR INDEX GENERIC NAME | NO. | STANDARD RANGES AND OTHER GRADES | PREPARATIONS |
|------------------------------|-------|-------------------------------------|-------------------------------|
| PIGMENTS | | | |
| Pigment White 6 | 77891 | | COLANYL WHITE R 100 |
| | | | COLANYL WHITE R 500 |
| | | | FLEXONYL WHITE R 130 |
| | | | FLEXONYL WHITE RL 130 VP 3070 |
| | | | FLEXONYL WHITE RS |
| | | | HOSTATINT WHITE R 500 |
| | | | HOSTATINT WHITE A-R 100 |
| | | | HOSTATINT WHITE E-TD |
| | | | RENOL WHITE T-HW 30 |
| | | | VISCOFIL WHITE A-RCL 30 |

6.2 DYES

| COLOUR INDEX GENERIC NAME | NO. | DYE RANGES |
|--------------------------------------|------------|--|
| DYES | | |
| Acid Yellow 3 (Food Yellow 13) | 47005 | SANOLIN QUINOLINE YELLOW 70 |
| Acid Yellow 17 | 18965 | SANOLIN YELLOW E-2GL |
| Acid Yellow 23 (Food Yellow 4) | 19140 | DUASYN ACID YELLOW XX-SF SANOLIN TARTRAZINE X 90 |
| Acid Red 18 (Food Red 7) | 16255 | SANOLIN PONCEAU 4RC 82 SANOLIN PONCEAU SP LIQUID |
| Acid Red 52 | 45100 | SANOLIN RHODAMINE B 02 |
| Acid Red 249 | 18134 | SANOLIN RED NBG |
| Acid Violet 48 | — | SANOLIN VIOLET FBL SANOLIN VIOLET AS-FBL LIQUID |
| Acid Violet 54 | — | SANOLIN RED N-6B |
| Acid Violet 66 | — | SAVINYL DARK VIOLET R |
| Acid Violet 126 | — | SANOLIN VIOLET E2R SANOLIN VIOLET AS-E2R LIQUID |
| Acid Blue 1 | 42045 | DUASYN TURQUOISE E-VS |
| Acid Blue 9 (Food Blue 2) | 42090 | DUASYN ACID BLUE AE LIQUID DUASYN ACID BLUE AE-SF 30 LIQUID DUASYN ACID BLUE AE 03 SANOLIN BLUE AE 90 |
| Acid Blue 80 | 61585 | SANOLIN BLUE NBL |
| Acid Blue 93 | 42780 | DUASYN INK BLUE SLK |
| Acid Blue 182 | — | SANOLIN BLUE EHRL SANOLIN BLUE EHRL LIQUID |
| Acid Green 81 | — | SANOLIN GREEN 6 GLN |

| COLOUR INDEX GENERIC NAME | NO. | DYE RANGES |
|---|------------|---|
| DYES | | |
| Direct Yellow 28 | 19555 | SANOLIN YELLOW BG 30 |
| Direct Yellow 51 | — | DUASYN YELLOW RWI LIQUID |
| Direct Yellow 132 | — | DUASYN YELLOW 3GF-SF LIQUID |
| Direct Violet 66 | 29120 | SANOLIN VIOLET AS-SP LIQUID |
| Direct Blue 86 | 74180 | CARTASOL YELLOW 3GF LIQUID SANOLIN FAST TURQUOISE GLL |
| Direct Blue 199 | 74190 | DUASYNJET CYAN FRL-SF LIQUID SANOLIN CYAN FRL 10 LIQUID SANOLIN TURQUOISE BLUE FBL |
| Disperse Violet 26 (Solvent Violet 59) | 62025 | SOLVAPERM RED VIOLET R |
| Food Yellow 3 | 15985 | SANOLIN ORANGE RGL 90 |
| Food Blue 5:2 | 42051:2 | SANOLIN PATENT BLUE V 85 01 |
| Reactive Red 23 | 16202 | DUASYN RED 3B-SF LIQUID |
| Reactive Red 180 | 181055 | DUASYN BRILLIANT RED F3B-SF LIQUID |
| Reactive Green 12 | — | SANOLIN GREEN R-3GL SANOLIN GREEN R-3GL LIQUID |

6.2 DYES

| COLOUR INDEX GENERIC NAME | NO. | DYE RANGES |
|--------------------------------------|------------|---|
| DYES | | |
| Solvent Yellow 14 | 12055 | FAT ORANGE R 01 |
| Solvent Yellow 16 | 12700 | FAT YELLOW 3G |
| Solvent Yellow 62 | — | SAVINYL YELLOW 2RLS |
| Solvent Yellow 79 | — | SAVINYL YELLOW 2GLS 01 |
| Solvent Yellow 83 | — | SAVINYL YELLOW RLSN |
| Solvent Yellow 83:1 | — | SAVINYL YELLOW RLS |
| Solvent Yellow 93 | 48160 | SOLVAPERM YELLOW 3G |
| Solvent Yellow 98 | 56238 | HOSTASOL YELLOW 3G |
| Solvent Yellow 114 | 47020 | SOLVAPERM YELLOW 2G |
| Solvent Yellow 133 | 48580 | POLYSYNTHREN YELLOW GG |
| Solvent Orange 41 | — | SAVINYL ORANGE RLS |
| Solvent Orange 60 | 564100 | SOLVAPERM ORANGE 3G |
| Solvent Orange 62 | — | SAVINYL ORANGE RLSE |
| Solvent Orange 63 | 68550 | HOSTASOL RED GG |
| Solvent Red 91 | — | SAVINYL RED 3BLS |
| Solvent Red 111 | 60505 | SOLVAPERM RED PFS |
| Solvent Red 124 | — | SAVINYL FIRE RED 3GLS |
| Solvent Red 127 | — | SAVINYL PINK 6BLS |
| Solvent Red 135 | 564120 | SOLVAPERM RED G POLYSYNTHREN RED GFP |
| Solvent Red 179 | 564150 | SOLVAPERM RED 2G |
| Solvent Red 195 | — | SOLVAPERM RED BB |
| Solvent Red 212 | — | POLYSYNTHREN RED GG |

| COLOUR INDEX GENERIC NAME | NO. | DYE RANGES |
|---|------------|--|
| DYES | | |
| Solvent Violet 13 | 60725 | SOLVAPERM VIOLET RSB |
| Solvent Violet 49 | 48520 | POLYSYNTHREN VIOLET G |
| Solvent Violet 59 (Disperse Violet 26) | 62025 | SOLVAPERM RED VIOLET R |
| Solvent Blue 35 | 61554 | FAT BLUE B 01 |
| Solvent Blue 44 | — | SAVINYL BLUE GLS |
| Solvent Blue 45 | — | POLYSYNTHREN BLUE RLS SAVINYL BLUE RS |
| Solvent Blue 104 | 61568 | SOLVAPERM BLUE 2B |
| Solvent Blue 122 | 60744 | POLYSYNTHREN BLUE R |
| Solvent Green 3 | 61565 | SOLVAPERM GREEN GSB |
| Solvent Green 28 | 625580 | SOLVAPERM GREEN G |
| Solvent Brown 53 | 48525 | POLYSYNTHREN BROWN R |
| Solvent Black 27 | — | DUASYN BLACK A-RG |
| Vat Red 1/ Pigment Red 181 | 73360 | COSMETIC PINK RC 01 |
| Vat Red 41 | 73300 | HOSTASOL RED 5B |

7 OPTICAL BRIGHTENERS

7.1 Hostalux

7.1 HOSTALUX

The Hostalux 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), polymethacrylat (PMMA), poly-carbonate (PC), plastized PVC and unplastized 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 Hostalux optical brighteners have excellent resistance to heat and migration in recommended polymers and concentrations as well as good light fastness and weather resistance.

| PRODUCT | PET/ PBT | PE | PP | PS | SAN | ABS | PC | PMMA | PA | PVC-U | PVC-P | EVA | EUROPEAN FOOD CONTACT AP89(I) | FDA APPROVAL US215178.32.97 |
|-----------|-------------|----|----|----|-----|-----|----|------|----|-------|-------|-----|--|-----------------------------------|
| KCB p | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ■ | ■ | Yes | — |
| KS p | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ● | ○ | — | Yes | Yes |
| KSB new p | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ● | ○ | — | Yes | — |
| KSB3 p | ■ | — | — | ■ | ■ | ■ | ■ | ■ | ■ | — | — | — | Yes | — |
| KSN p | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ● | ○ | — | Yes | — |
| KSC p | — | — | — | — | — | — | — | — | — | ■ | ■ | — | — | — |
| KS1B p | ■ | — | — | ■ | ● | ● | — | — | ■ | — | — | — | Yes | — |
| KS1 p | ■ | — | — | ■ | ● | ● | — | — | ■ | — | — | — | Yes | Yes |
| KS2 p | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ● | ○ | — | — | — |
| NSM p* | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

* = only for PAN ■

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