Organic and inorganic pigments

for plastics

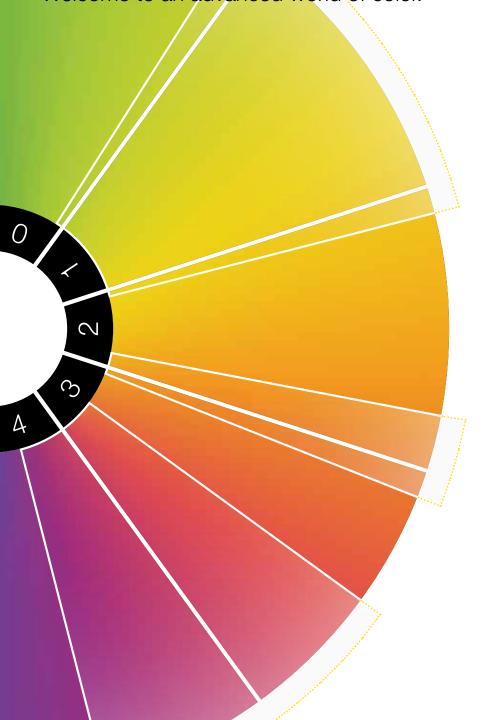




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Welcome to an advanced world of color.



Same high quality, just easier.

Shaping the future of organic and inorganic pigments.

At BASF, we create products that help you create yours. In this folder we will familiarize you with our range of organic and inorganic pigments for plastics that are particularly suitable for plastic masterbatches and for straight compounding/mass-coloration. These are part of our range for the plastics industry, comprising organic and inorganic pigments, mono-pigment concentrates, polymer soluble dyes and effect pigments. We are consistently striving to provide pigments of the highest quality and are working on further solutions for the plastics industry.

Our new portfolio makes your life easier.

With the latest changes, our vast portfolio has received hundreds of exciting additions, creating the need to simplify this immense diversity of products and product variant to make finding and ordering easy and convenient for you. All colors now follow the proven and tested BASF nomenclature. We are certain you will find this new consistency most helpful in your daily work.

Only the names have changed.

Finding the pigments you need to achieve the perfect results is now easier than ever. It all starts with the BASF brand name the product belongs to. Your favorite pigment might have had a name change. If you familiarize yourself with the new name, the rest is pure logic. All pigments have now been integrated in the tried and tested BASF nomenclature and are clearly shown on the BASF color wheel. Therefore, every product in our portfolio has six elements to its name that make up the BASF nomenclature: product brand e.g. Heliogen®, followed by basic color shade, area of use, position in the color wheel, serial number and application indicator. For further information please contact your local BASF representative.

We make it work for you.

The world is a colorful place and our world of color for the plastics industry offers you the biggest selection of organic and inorganic pigments worldwide, suited for a great variety of applications. Have a look!

BASF offers the following organic and inorganic pigments:

Organic pigments

Cinquasia®, Cromophtal®, Irgazin®, Paliogen® and Paliotol®

These products provide the broadest range of high-performance pigments, combining outstanding coloristic properties with excellent fastness to heat, light, chemicals and solvents. In addition, certain products offer excellent weather resistance.

Heliogen®

These Cu-phthalocyanine based blue and green organic pigments are known for their very good to excellent overall properties.

Irgalite®

Classical organic yellow, orange and red pigments with good end-use performance.

Inorganic pigments

Sicotan®

These inorganic mixed-phase yellow and brown pigments have outstanding fastness to heat, light, weather, chemicals and solvents, even in very low concentrations. Their exceptionally high heat and chemical resistance makes them suitable for almost all polymer types. The products do not migrate and do not influence the warping behavior of HDPE. They are all suitable for use in blends with organic pigments, achieving brilliant shades with high opacity.

Sicopal®

These inorganic pigments with their spinel structure are based on various metal oxides. All have outstanding fastness to light and weather and most of them achieve the highest heat resistance. None of the products migrate, nor do they influence the warping behavior of HDPE.

Sicotrans®

These extremely finely dispersed transparent iron oxide red pigments have excellent fastness to heat, light and weather. The products do not migrate, nor do they influence the warping behaviour of HDPE.

Further product ranges

For applications in which ease of dispersion is an important criteria (e.g. films and fibers), it is advisable to use fully dispersed mono-pigment concentrates rather than powder pigments. BASF offers a range of mono-pigment concentrates suitable for a selection of polymers. Please see the product table for information on our products that are available as mono-pigment concentrates. For further details on these mono-pigment concentrates, please see the respective brochure.

BASF is the leading manufacturer of a comprehensive range of additives for the plastics industry. For further information on our stabilizer offer for plastics, please refer to the respective brochures.

Explanation of data:

··· Introduction

The illustrations and data presented in this shade card are intended only as a general guide and for assistance in pigment selection. Users are recommended to conduct their own trials, under their own specific conditions to ensure the correct color appearance and application suitability.

If further information is required on any of the products listed in this shade card, please contact your local BASF representative.

··· Color shades

For ease of use the shade card is provided as a downloadable PDF. Please note, that due to differences in computer screen color calibration the PDF shade card can only help you to roughly estimate the shade, but the colors cannot be binding. All organic pigment shades shown here are based on a full shade concentration of 0.2 % pigment except violets, where 0.1 % pigment was used. In the white reductions the illustrations are based on the respective pigment concentration to achieve 1/3 ISD based on 5 % TiO_2 .

Inorganic pigment shades are based on a full shade concentration of 2 % pigment and a ratio of 1:4 for white reductions.

··· Polymer suitability

Possible fields of application are shown in the table, opposite each pigment. Please note that these are intended only as a general guide.

Key to the tables:

- Recommended
- □ Limited suitability

--- Application performance

A selection of performance data of the most important properties in polyolefins (HDPE) and PVC (Ba/Zn stabilized flexible PVC) are presented here. All data are based on the following test methods at a concentration for organic pigments of 0.1% for full shades (FS) and at a ratio of 1:10 for white reductions (WR). For inorganic pigments concentrations of 1% for full shades (FS) and a ratio of 1:4 for white reductions (WR) were used.

Migration (HDPE and PVC-p)

Migration resistance was determined in accordance with DIN 53775 by direct contact between the colored test sheet and a white flexible PVC contact sheet.

Staining of the contact sheet was assessed using the ISO 105 A03 Grey Scale for staining, GS 5 denoting no migration and steps 4 – 5 being subdivided.

··· Heat resistance (HDPE)

Heat resistance was determined by injection molding in accordance with ISO 12877-2.

The results show the highest temperature at which the color difference versus a standard is no greater than GS 4 on the ISO 105 A02 Grey Scale for assessing color change.

For most of the Sicotan® and Sicopal® products and some high performance organic pigments, a GS rating of 5 is achieved at the highest testing temperature of 300 °C. Therefore, heat resistance above 300 °C can be achieved under certain circumstances

··· Light fastness (HDPE and PVC-p)

Light fastness was determined using Xenon lamp exposure tests in accordance with the equivalent test methods ISO 4892-2 or ISO 105 B02.

The samples were assessed against the 1 – 8 Blue Wool Scale as described in ISO 105 B02, Blue Wool 8 denoting the highest light fastness.

Explanation of data:

Hot light fastness (PVC-p)

Exposure was carried out to 600 kJ/m² in accordance with ASTM SAE J 2412 (formally ASTM SAE J 1885).

Color changes were assessed using the ISO 105 A02 Grey Scale for assessing color change, GS 5 denoting no change and GS 1 denoting the lowest hot light fastness.

Weather resistance (HDPE and PVC-p)

Weather resistance was determined using Xenon light exposure tests in accordance with the equivalent test methods ASTM G 155, ISO 4892-2 or the former Ciba internal test method WOM 119/50.

The HDPE samples were exposed for up to 3000 hours and the PVC-p samples for up to 5000 hours.

Color changes were assessed using the ISO 105 A02 Grey Scale for assessing color change, GS 5 denoting no change and GS 1 denoting the lowest weather resistance.

···► Note

Hot light fastness and weather resistance ratings below GS 3 are not included in this pattern card. Products with a low performance are not recommended for these applications.

Warping (HDPE)

Influence on the warping tendency of injection-molded HDPE articles was determined in accordance with ISO 294-4/ASTM 955.

Warping tendency was assessed as follows:

- ► None (N): No significant influence under laboratory test conditions and widely confirmed in practice.
- ► Low (L): Slight influence determined in laboratory testing, but successful in practice.
- ► High (H): Significant influence in the laboratory and in practice. Use for large / complex HDPE injection moldings is not recommended.

··· 1/3 ISD (HDPE and PVC-p)

Color strength is indicated by the number of parts of colored pigment which, in combination with defined percentage of ${\rm TiO_2}$ in a particular polymer or compound, gives 1/3 International Standard Depth (ISD) as described in DIN 53.235.

··· Density

Density was determined in a pycnometer, as described in ISO R787-10, and is expressed as g/cm³.

Bulk density

Bulk density was determined from the weight of a product sample that can be contained in a vessel of specified volume and is expressed as kg/l. Assessment was in accordance with ISO R787-11.

Certain inorganic pigments are also available in a fine granule form (FG). This product form is low dusting and free flowing.

Organic pigments							Αŗ	plic	catic	ns											Арр	licati	ons p	erfori	manc	е								sical			Availa	
						G	ene	ral					Fibe	ers					HD	PE							PVC	С-р					prop	erties	•	pr	epara	ations
	Full shade	White reduction	PVC	9	PS	ABS	PA6	<u> </u>	PMMA	Bubber	PUR	a	. HE	PA .	Migration FS 0.1%)	неат FS 0.1%	Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light ES 0.1%	Light WR 1:10	Hot linkt 600 k I ES 0 1%	00 1.00 Mg/m 20.1 /0	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1 % TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC	Micranyl® Q Microlith® KP
Paliotol® Yellow K 0961 old: Paliotol® Yellow K 0961 HD C.I. Pigment Yellow 138* Quinophthalone			•	-			⊠ [- I		1 -	-	-			4-5	i 28	80	270	8	7	-	-	L	4.5	5 7-8	3 7	5	j 4	-5	-	-	0.21	0.18	1.80	0.40	•		
Cromophtal® Yellow K 0990 FP old: Cromophtal® Yellow 8GNP C.I. Pigment Yellow 128 Disazo condensation			•			_		⊠ [2	3 ⊠	1 =		-	I 🗵	×	5	26	60	260	8	7-8	4-5	3	N	5	8	7-8	3 5	i 4	-5	4-5	4	0.21	0.20	1.47	0.13			
Paliotol® Yellow K 1070 old: Irgalite® Yellow WGP C.I. Pigment Yellow 168 Monoazo salt				-				X	3 ⊠]	• 0		⊠	×	5	26	60	240	7	7	3	-	N	5	7-8	3 7	-		-	-	-	0.37	0.37	1.66	0.25		•	•
Cromophtal® Yellow K 1210 FP old: Cromophtal® Yellow 3GNP C.I. Pigment Yellow 93 Disazo condensation			•	-	-	_		⊠ [2	₫ [1 ■	•	-	I 🛛	⊠	5	28	30	280	8	6-7	4	-	N	5	8	7-8	3 5	i	5	4	3-4	0.15	0.15	1.45	0.14		•	• •
Cromophtal® Yellow 2GF C.I. Pigment Yellow 155 Disazo condensation			•	•		×		⊠ [2	3 ⊠	1 =	•	-	I 🗵	⊠	4.2	26	60	260	7	6-7	3-4	-	L	4.8	8	7-8	3 5	,	4	4-5	3	0.15	0.15	1.40	0.20		•	
Cromophtal® Yellow K 1310 old: Cromophtal® Yellow 4GV C.I. Pigment Yellow 215 Pteridine				•	-	•	= 0	⊠ [2	3 ⊠	1 C			⊠	⊠	5	30	00	300	7	7	4-5	4	L	5	7-8	3 7	4	ı	4	-	-	0.18	0.15	1.62	0.30	•		
Irgalite® Yellow K 1320 old: Irgalite® Yellow BRMO C.I. Pigment Yellow 14** Diarylide			•	0	⊠			⊠ [2	3 ⊠	1 =	•		I 🗵	⊠	2-3	3 20	00	200	6-7	6		-	-	4.7	6	6	-		-	-	-	0.13	0.11	1.63	0.21			
Cromophtal® Yellow K 1410 old: Cromophtal® Yellow 2GO C.I. Pigment Yellow 180 Benzimidazolone			•	•	•	0	⊠ [- I	•			-	I 🗵	⊠	5	30	00	300	7-8	7	4-5	-	L	5	8	7-8	3 5	,	4	4	-	0.15	0.11	1.40	0.21		•	
Irgalite® Yellow K 1415 C.I. Pigment Yellow 13** Diarylide			•		⊠	×		⊠ [2	3 ⊠	1 .	-	×	I 🗵	×	4.6	20	00	200	7-8	6-7	-	-	-	5	7	6	-		-	-	-	0.10	0.08	1.34	0.21		•	
Paliotol® Yellow K 1420 old: Irgalite® Yellow WSR C.I. Pigment Yellow 62 Monoazo salt			•	•		0		⊠ [2	3 ⊠	1 .	• -	×	I ⊠	⊠	5	25	50	260	7	7		-	L	5	7	7	-		-	-	-	0.35	0.33	1.59	0.20		•	

^{*}Products with this C.I. number may vary in color and resistance properties in different polymer systems.

**At temperatures above 200 °C diarylide pigments may decompose. Users are advised to follow the recommendations of ETAD information No. 2.

Organic pigments							Ap	plica	atior	าร										Α	ppli	catio	ns pe	erform	nance								sical				lable
						Ge	enera	al				Fi	bers	S				Н	DPE								PVC-	р				prop	erties	3	pı	repai	rations
	Full shade	White reduction	PVC	Ю	PS	ABS	PET	2	PMMA	Rubber	PUR	윱	PET	ЬА	Migration FS 0.1%	Heat FS 0.1%	Heat WR 1:10	Light FS 0.1%	Light WR 1:10		Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1 % TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC	Micranyl® Q Microlith® KP
Cromophtal® Yellow K 1500 FP old: Cromophtal® Yellow GRP C.I. Pigment Yellow 95 Disazo condensation			•	-	= [1 🛛	⊠		-		•			5	280	280	7-8	6-7	7	3	-	N	5	8	7-8	4-5	4-5	3-4	-	0.14	0.13	1.36	0.14		•	•
Paliotol® Yellow K 1700 C.I. Pigment Yellow 183 Monoazo salt			•	-	•	• [-	-		•		×	5	300	280	7	6-7	7			L	5	7	6	4	3-4	-	-	0.23	0.18	1.70	0.10			
Irgalite® Yellow K 1740 old: Irgalite® Yellow B3RN C.I. Pigment Yellow 83** Diarylide			•		⊠ [⊠ ⊠	1 🗵	×	×	-					4.4	200	200	7	7		-		-	5	8	7-8	5	3-4	-	-	0.07	0.05	1.51	0.20		•	• •
Paliotol® Yellow K 1760 FP old: Cromophtal® Yellow HRPN C.I. Pigment Yellow 191:1 Monoazo salt				-	- 1)		•	-		•			5	300	300	7	6-7	7 3	3-4	-	N	5	8	7	4-5	3-4	-	-	0.35	0.31	1.43	0.21	•		•
Paliotol® Yellow K 1800 old: Paliotol® Yellow K 2270 C.I. Pigment Yellow 183 Monoazo salt				•		• □				-		•		⊠	5	300	300	7	6-7	7 3	3-4	-	L	5	8	7	4-5	3-4	-	-	0.43	0.34	1.80	0.40	•		
Paliotol® Yellow K 1841 / FP C.I. Pigment Yellow 139* Isoindoline			-			⊠ ⊠	1 🗵	×	⋈	_		-	⊠	⊠	5	240	240	8	7		3		L	4.5	7	6	3-4	3-4	-	-	0.14	0.10	1.60	0.30	•		
Irgazin® Yellow K 2060 FP old: Cromophtal® Yellow 3RLP C.I. Pigment Yellow 110 Isoindolinone			•	-	-		1 🛛	×	×	-					5	300	300	7-8	8	2	1-5	4	Н	5	8	8	4-5	4-5	4-5	4-5	0.30	0.30	1.80	0.23	•	•	• •
Irgazin® Yellow K 2070 old: Cromophtal® Yellow 2RLTS C.I. Pigment Yellow 110 Isoindolinone			•	_	0 (1 🛛	⊠	⋈	-					5	300	300	8	8	4	1-5	3-4	Н	5	8	8	4-5	4-5	4-5	4-5	0.26	0.20	1.67	0.25		•	• •
Irgazin® Yellow K 2080 old: Cromophtal® Yellow 2RLP C.I. Pigment Yellow 110 Isoindolinone				•	•		1 🛛		⋈	•	-	•			5	300	300	8	8	4	1-5	3-4	Н	5	8	8	4-5	4-5	4-5	4-5	0.24	0.22	1.78	0.27			

^{*}Products with this C.I. number may vary in color and resistance properties in different polymer systems.

**At temperatures above 200 °C diarylide pigments may decompose. Users are advised to follow the recommendations of ETAD information No. 2.

Organic pigments						ı	Appl	icati	ons										App	olicatio	ons pe	erform	nance							Phys			Availa	
						Gen	eral					Fibe	ers				Н	DPE							PVC-	р				prop	erties		preparat	tions
	Full shade	White reduction	PVC	PO :	PS	PA6	PET	S .	PMMA	Rubber	dd	PET	PA	Migration FS 0.1%	Heat FS 0.1%	Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1% TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE Microlen® MC Microlen® O	Micranyl® Q Microlith® KP
Irgazin® Orange K 2890 old: Cromophtal® Orange 2G C.I. Pigment Orange 61 Isoindolinone			-	-	• 0			⊠	.			I 🗵		5	300	300	7-8	7-8	4-5	3	Н	4.9	8	8	5	5	4	3-4	0.23	0.20	1.66	0.30		
Irgazin® Orange K 2910 old: Cromophtal® DPP Orange TRP C.I. Pigment Orange 71 Diketo-pyrrolo-pyrrole			•	•	■ □			⊠	⊠	•	•	I 🗵	×	5	300	300	7-8	7-8	4	-	L	5	7-8	7-8	4-5	4	-	-	0.23	0.17	1.40	0.17	•	
Paliotol® Orange K 2920 C.I. Pigment Orange 79* Azo salt			•	-						=	×	1 🗵	×	5	280	280	5	4	-	-	L	5	5	4	-	-	-	-	0.30	0.27	1.70	0.18		
Irgalite® Orange K 2925 old: Irgalite® Orange F2G C.I. Pigment Orange 34** Diarylide			•	0	×			⊠	⊠	• •	×	1 🗵		3-4	200	200	6-7	5	-	-	-	4.7	6-7	5-6	-		·	-	0.16	0.10	1.37	0.16	•	
Cromophtal® Orange K 2960 old: Cromophtal® Orange GP C.I. Pigment Orange 64 Benzimidazolone			-	-	-	l 🗵							⊠	5	300	300	8	7-8	3-4	-	L	5	7-8	7-8	4-5	3-4	-	-	0.21	0.21	1.59	0.39	(MP)	•
Irgazin® Orange K 2990 old: Irgazin® DPP Orange RA C.I. Pigment Orange 73 Diketo-pyrrolo-pyrrole			-			I 🖾		⊠	M I		×	1 🗵	×	4.9	300	280	8	7	4	-	Н	4.6	7-8	6-7	3-4	-	-	-	0.35	0.37	1.30	0.29		
Cromophtal® Brown K 3001 old: Cromophtal® Brown 5R C.I. Pigment Brown 23 Disazo condensation			-					⊠	.	• •		1 🗵		5	260	260	6-7	7	5	3-4	-	4.9	8	7-8	5	5	4	-	0.16	0.15	1.55	0.21		•

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*** At temperatures above 200 °C diarylide pigments may decompose. Users are advised to follow the recommendations of ETAD information No. 2.

Organic pigments						App	olica	atior	าร											Appli	icatic	ns pe	erform	ance							Phy				Availa	
					Ge	nera	ıl				F	iber	s					HDF	Έ							PVC-)				prop	erties	•	pr	epara	ations
Full shade	White reduction	PVC	ЬО	PS	ABS	PET	2	PMMA	Rubber	PUR	&	PET	PA	Migration FS 0.1%	Heat FS 0.1%	Heat WR 1:10	% + ES O 7	Light FS U.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1 % TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC	Micranyl® Q Microlith® KP
Cromophtal® Scarlet K 3540 old: Cromophtal® Scarlet RN C.I. Pigment Red 166 Disazo condensation		•	•	-	o 8		×			-	-			5	300	300) 7-	-8	7-8	3-4		Н	5	8	7	5	4-5	3-4	-	0.20	0.18	1.47	0.19			• •
Paliogen® Red K 3580 C.l. Pigment Red 149 Perylene		•	•	-	0 0			-	•	•	-		•	5	280	280) 8	3	7	4	3	Н	5	8	7-8	5	3-4	4	-	0.15	0.12	1.40	0.23			•
Irgalite® Red K 3690 old: Lithol® Red K 3690 C.I. Pigment Red 53:3* β-Naphthol (Sr)		•	-	_	×		⋈	⊠			×	⊠		5	240	240) 4	1	2	-	-	Н	5	4	2	-	-	-	-	0.31	0.18	1.70	0.33			
Irgazin® Flame Red K 3800 old: Cromophtal® DPP Flame Red FP C.I. Pigment Red 272 Diketo-pyrrolo-pyrrole		•	-		⊠ ⊠	⊠		×		-		×		4.9	300	300) 7-	-8	7-8	3-4	-	L	4.9	7-8	7	4	3-4	3-4	-	0.18	0.15	1.38	0.18		•	
Cromophtal® Red K 3830 old: Cromophtal® Red G C.I. Pigment Red 220 Disazo condensation			•	-	0 0		⊠	⊠				⊠		5	300	300) 7-	-8	7-8	3		N	4.8	7	7	-	-	-	-	0.20	0.17	1.40	0.25			
Irgazin® Red K 3840 old: Cromophtal® Red 2030 C.I. Pigment Red 254 Diketo-pyrrolo-pyrrole		•	•	-		I 🛛	⊠	×	•	-	•	⊠		5	300	300	3 (3	8	4	-	Н	5	8	8	5	5	5	3	0.16	0.15	1.63	0.18		•	• •
Irgazin® Red K 3840 LW old: Cromophtal® Red 2028 C.I. Pigment Red 254 Diketo-pyrrolo-pyrrole			•		□ ⊠	I 🛛	⊠				•	⊠		5	300	300) 8	3	8	4		N	5	8	7-8	4-5	4-5	4-5	3-4	0.16	0.15	1.63	0.18		•	
Irgazin® Red K 3845 old: Irgazin® DPP Red BO C.I. Pigment Red 254 Diketo-pyrrolo-pyrrole		•	•	-	0 0		⊠		-		⊠	⊠		5	300	300	3 (3	8	5	3	Н	5	8	8	5	5	5	3-4	0.23	0.23	1.62	0.33			•
Irgazin® Red K 3845 LW old: Cromophtal® DPP Red BOC C.I. Pigment Red 254 Diketo-pyrrolo-pyrrole		⊠	•	-	o c		⊠				×	⊠		5	300	300) 8	3	8	5	3	L			Not s	uitable	n PVC			0.23	-	1.62	0.33		•	

 $^{{}^\}star \text{Products}$ with this C.I. number may vary in color and resistance properties in different polymer systems.

Organic pigments							App	olica	ition	ıs										Арр	licati	ons p	erforn	nance							Phys				vailab	
						Ge	nera	ıl				Fil	bers					Н	PE							PVC-	р				prope	erties	i	pre	parati	ions
	Full shade	White reduction	PVC	РО	PS :	ABS PA6	PET	2	PMMA	Rubber	PUR	ЬР	PET		Migration FS U.1%	Heat FS 0.1%	Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1% TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC Micranyl® Q	Microlith® KP
Cromophtal® Red K 3890 FP old: Cromophtal® Red BRNP C.I. Pigment Red 144 Disazo condensation			•	•	•		1 0			•		•		1 !	5	300	300	7-8	7	3	-	Н	4.9	8	7-8	5	5	3-4	-	0.14	0.12	1.52	0.14		• •	•
Cromophtal® Red K 3900 FP old: Cromophtal® Red BNFP PPC.I. Pigment Red 214 Disazo condensation			•	-			-			•				1 !	5	300	300	7-8	7	4-5	-	Н	5	8	7-8	5	5	3	-	0.14	0.13	1.55	0.10			
Paliogen® Red K 3911 old: Paliogen® Red K 3911 HD C.I. Pigment Red 178 Perylene			•	•	-	0 0		_		•		•	0 0	1 !	5	300	300	8	7	3-4	-	Н	5	8	7	5	4	-	-	0.26	0.18	1.60	0.22	•		
Cromophtal® Red K 4035 old: Cromophtal® Red 2B C.I. Pigment Red 221 Disazo condensation			•			⊠ ⊠	I 🗵		⊠	•	•	⊠		1 !	5	260	260	7-8	6-7	3	-	-	5	7-8	6-7	5	3	-	-	0.12	0.11	1.33	0.30		•	
Irgalite® Red K 4060 FP old: Irgalite® Red 2BSP C.I. Pigment Red 48:3* BONA (Sr)			•	•			I 🗵		⊠	•	•	•		1 !	5	240	260	6	4	-	-	L	5	6	5-6	-	-	-	-	0.17	0.14	1.82	0.22		•	
Irgazin® Rubine K 4080 / K 4085 old: Cromophtal® Rubine TR / Irgazin® DPP Rubine TR C.I/ Pigment Red 264 Diketo-pyrrolo-pyrrole			•	-		- c	1 0	⊠	⊠	•		-		1 :	5	300	300	7-8	7-8	4-5	3	N	5	8	7-8	5	3-4	4-5	-	0.11	0.09	1.40	0.26		•	
Paliogen® Red K 4090 old: Cromophtal® Red A3B C.I. Pigment Red 177 Anthraquinone			•	-		0 0	ı 🗆		⊠	-		•		1 !	5	260	260	7-8	7-8	3	-	N	5	8	7-8	5	4	-	-	0.19	0.15	1.43	0.34		•	
Paliogen® Red K 4180 C.I. Pigment Red 179 Perylene			•	•	•	o c	1 0			•	•	•	_ -		5	300	300	8	8	5	4	Н	5	8	8	5	5	5	4-5	0.17	0.13	1.50	0.36			

^{*}Products with this C.I. number may vary in color and resistance properties in different polymer systems.

Organic pigments						Å	Аррі	licat	ions	5										Appl	icatio	ns pe	rform	ance							Phy				vailab parati	
						Gen	eral					Fik	oers					HD	PE							PVC-	р				prop	erues		pre	parau	JIIS
	Full shade	White reduction	PVC	0 %	ABS	PA6	PET	PC	PMMA	Rubber	PUR	<u>a</u>	PET PA	Migration FS 0.1%	Heat FS 0.1%		Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1% TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC Micranyl® Q	Microlith® KP
Cinquasia® Red K 4104 old: Cromophtal® Red 2020 C.I. Pigment Violet 19 Quinacridone			-						⊠		•	•		5	300	0 3	300	8	8	4-5	3-4	L	5	8	8	5	5	4-5	3-4	0.37	0.33	1.51	0.21		•	
Cinquasia® Red K 4111 old: Cromophtal® Red TBR C.I. Pigment Violet 19 Quinacridone			•		• 0	×	⊠	⋈	⊠	- 1	-	_	×	4.8	260	0 2	260	8	8	4-5	3	L	5	8	7-8	4-5	4-5	4	-	0.29	0.29	1.50	0.24		•	
Irgalite® Red K 4170 FP old: Irgalite® Red 2BP C.I. Pigment Red 48:2* BONA (Ca)			•	= C		×		⊠		- 1	•	-	⊠ ⊠	5	220	0 2	240	7	6		-	L	5	7	6	-	-	-	-	0.13	0.12	1.57	0.18		• •	
Irgalite® Rubine K 4270 FP old: Irgalite® Rubine 4BP C.I. Pigment Red 57:1* BONA (Ca)			•	= 0		×				•		•	⊠ ⊠	5	240	0 2	260	6-7	4-5	-	-	L	5	6	4	-	-	-	-	0.15	0.10	1.50	0.17		• •	
Irgalite® Rubine K 4275 FP old: Irgalite® Rubine 4BFP C.I. Pigment Red 57:1* BONA (Ca)			•	= 0		×		⊠		•		•	×	5	220	0 2	240	6-7	4		-	L	5	6-7	6				-	0.15	0.10	1.57	0.22			
Cinquasia® Red K 4330 old: Cinquasia® Red B RT-195-D - Quinacridone			-		• 0	⊠		⊠	⊠			-		5	290	0 3	300	8	8	4	-	L	5	8	8	5	4-5	4-5	4	0.30	0.29	1.59	0.20		•	

^{*}Products with this C.I. number may vary in color and resistance properties in different polymer systems.

Organic pigments							Арр	licat	ions	5										Арр	licatio	ons pe	erform	ance							Phys				vailal	
						Ger	nera	1				Fil	oers					Н	DPE							PVC-p)				prope	erties	i	pre	parat	ions
	Full shade	White reduction	PVC	P0	PS ABS	PA6	PET	PC	PMMA	Rubber	PUR	G	PET PA	<u> </u>	Migration FS 0.1%	Heat FS 0.1%	Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1 % TiO ₂)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	Eupolen® PE	Microlen® MC	
Cinquasia® Pink K 4410 old: Cromophtal® Pink 2000 C.I. Pigment Red 122 Quinacridone				- 1	-	I 🗵		⊠		-	-		o c	1	5	300	300	8	8	4-5	3-4	L	5	8	8	5	5	4-5	4-5	0.20	0.20	1.50	0.10	•		
Cinquasia® Pink K 4430 FP old: Cromophtal® Pink PT C.I. Pigment Red 122 Quinacridone				•		I 🛛		⊠		•	•	•	-		5	300	300	8	8	4-5	3-4	L	5	8	7-8	5	5	4-5	4-5	0.20	0.19	1.49	0.15		•	
Cinquasia® Magenta K 4535 FP old: Cromophtal® Magenta P C.I. Pigment Red 202 Quinacridone				•	-	-		⊠		•		-	-		5	300	300	8	8	4	3	L	5	8	7-8	5	4-5	4-5	4	0.23	0.20	1.67	0.14		•	•
Cinquasia® Violet K 5350 FP old: Cromophtal® Violet RP C.I. Pigment Violet 19 Quinacridone					• •	⊠			⊠	- 1	•	-		1	5	300	300	8	7-8	4	-	L	5	7-8	7	4-5	4	4	3	0.23	0.15	1.49	0.17		•)
Paliogen® Red Violet K 5411 old: Paliogen® Red Violet K 5011 C.I. Pigment Violet 29 Perylene			•	-	• -	ı 🗆			•		-	•	•		5	300	300	8	8	4	3	Н	5	8	8	5	5	5	3-4	0.18	0.06	1.60	0.23			
Cromophtal® Violet K 5700 old: Cromophtal® Violet B C.I. Pigment Violet 37 Dioxazine						⊠		⊠	⊠	- 1	•		X X	1	4.9	280	260	8	7-8	4-5	3	L	5	7-8	6-7	4-5	-	3-4	-	0.09	0.07	1.32	0.38		• (•
Cromophtal® Violet K 5800 old: Cromophtal® Violet GT C.I. Pigment Violet 23 Dioxazine			•	_ (⊠		•	-	⊠ ■		3-4	240	260	7-8	3-4	4	3-4	L	4.3	8	6-7	4-5	3	4-5	-	0.07	0.06	1.42	0.35		•	

Organic pigments						Δ	ppl	icat	ion	s											Арр	icatio	ons p	erforn	nance								sical				ailable
					(Gen	eral					F	ibei	rs					HD	PE							PVC-	р				prop	erties	\$	ķ	orepa	arations
Full shade	White reduction	PVC	Ю	PS	ABS	PA6	PET	PC	PMMA	Rubber	PUR	ф	PET	РА	Migration FS 0.1%	Heat FS 0.1%		Heat WR 1:10	Light FS 0.1%	Light WR 1:10	Weather 3000 h FS 0.1%	Weather 3000 h WR 1:10	Warping	Migration FS 0.1%	Light FS 0.1%	Light WR 1:10	Hot light 600 kJ FS 0.1%	Hot light 600 kJ WR 1:10	Weather 5000 h FS 0.1%	Weather 5000 h WR 1:10	1/3 ISD in HDPE (1% TiO.)	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density		Eupoien∜ PE Microlen® MC	Micranyl® Q Microlith® KP
Heliogen® Blue K 6850 / K 6860 C.I. Pigment Blue 15 Cu-phthalocyanine		•		⊠	⊠	×			⊠			⊠	⊠		5	220	0 2	220	8	8	5	5	Н	5	8	8	5	3-4	3-4	3-4	0.09	0.08	1.62	0.21			
Heliogen® Blue K 6902 C.I. Pigment Blue 15:1 Cu-phthalocyanine		•	-	-	-	-	-	-			-	⊠	×		5	30	0 3	300	8	8	5	5	Н	5	8	8	5	4-5	4-5	4	0.11	0.09	1.60	0.32		•	
Heliogen® Blue K 6907 C.I. Pigment Blue 15:1 Cu-phthalocyanine		•	•	-	-	-	-	•			-	-	•	-	5	30	0 3	300	8	8	5	5	Н	5	8	8	4-5	4-5	5	4	0.10	0.08	1.60	0.32		•	
Heliogen® Blue K 6911 / K 6912 FP old: Heliogen® Blue K 6911 D / FP C.I. Pigment Blue 15:1 Cu-phthalocyanine		•	•		•	•	•	•	•	-	•		•	•	5	30	0 3	300	8	8	5	5	Н	5	8	8	4-5	4-5	5	4	0.09	0.07	1.60	0.33		•	•
Heliogen® Blue K 6916 C.I. Pigment Blue 15:1 Cu-phthalocyanine			•			•	-	_					•	•	5	26	0 2	280	7-8	7-8	4-5	4-5	Н	4.5	8	6-7	5	3-4	5	4	0.09	0.08	1.60	0.20		•	
Heliogen® Blue K 7090 / FP C.I. Pigment Blue 15:3 Cu-phthalocyanine		•	•	-	-	-	-	•	-	-	•	-	-	-	5	28	0 2	280	8	8	5	5	Н	5	8	8	4-5	5	4-5	4-5	0.12	0.09	1.60	0.20	•	•	• •
Heliogen® Blue K 7096 old: Irgalite® Blue GBP C.I. Pigment Blue 15:3 Cu-phthalocyanine		•	-	-	-	•	-	-	-		-	-	-	-	5	30	0 3	300	8	8	5	5	Н	5	7-8	7-8	4-5	4-5	4-5	3-4	0.11	0.09	1.60	0.32			
Heliogen® Blue K 7104 LW C.I. Pigment Blue 15:4 Cu-phthalocyanine		•	-	-	-	-	-	-	-	-	•	⊠	⊠		5	30	0 3	300	8	8	5	5	L	5	8	8	4-5	4	4	3-4	0.11	0.09	1.60	0.20		•	
Heliogen® Green K 8730 / FP C.I. Pigment Green 7 Cu-phthalocyanine		•	•		•		_	•					•	•	5	30	0 3	300	8	8	5	5	Н	5	8	8	5	5	5	4-5	0.24	0.19	2.10	0.30		•	• •
Heliogen® Green K 9360 C.I. Pigment Green 36 Cu-phthalocyanine		•	-				-						0		5	30	0 3	300	8	8	5	5	Н	5	8	8	5	5	5	4-5	0.30	0.26	2.10	0.40		•	

Inorganic pigments Sicotan®						Αŗ	plio	cati	ons	3										Ар	plica	ations	s per	forma	ance							Phys		
Sicolari					Ge	ene	ral	ı				Fi	ber	s				Н	PE							F	PVC-p)				orope	erties	
Full shade r	White reduction	PVC	O :	PS	ABS	949	Ē 8	2 :	PMMA	Rubber	PUR	₽	PET	РА	Migration FS 1%	Heat FS 1%	Heat WR 1:4	Light FS 1%	Light WR 1:4	Weather 3000 h FS 1%		Weather 3000 h WR 1:4	Warping	Migration FS 1%	Light FS 1%	Light WR 1:4	Hot light 600 kJ FS 1%	Hot light 600 kJ WR 1:4	Weather 5000 h FS 1%	Weather 5000 h WR 1:4	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	FG form available
Sicotan® Yellow K 1010 C.I. Pigment Yellow 53 Ni/Sb/Ti oxide		•	-	- 1		• •	• •			- 1					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.3 (1/9 ISD)	4.50	0.90	
Sicotan® Yellow K 1011 C.I. Pigment Yellow 53 Ni/Sb/Ti oxide		-	-	- 1	-			•		-					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.1 (1/9 ISD)	4.40	0.80	•
Sicotan® Yellow K 2001 C.I. Pigment Brown 24 Cr/Sb/Ti oxide		•	- 1	- 1		•	•	•		- 1		_			5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	2.7	4.50	0.60	•
Sicotan® Yellow K 2011 C.I. Pigment Brown 24 Cr/Sb/Ti oxide		•	•	•	-			.		•					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.8	4.50	0.70	•
Sicotan® Yellow K 2111 C.I. Pigment Brown 24 Cr/Sb/Ti oxide		•	- 1	- 1	-	•	•	.	-	- 1					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.0	4.40	0.80	•
Sicotan® Yellow K 2112 C.I. Pigment Brown 24 Cr/Sb/Ti oxide		•	•	•	-			• 1		- 1					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.4	4.40	0.90	•
Sicotan® Brown K 2611 C.I. Pigment Yellow 164 Mn/Sb/Ti oxide			.			•	•			⊠ I					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	3.2	4.30	0.90	
Sicotan® Brown K 2711 C.I. Pigment Yellow 164 Mn/Sb/Ti oxide		•	•	- 1	-		•	•		⊠ I					5	300	300	8	8	5		5	N	5	8	8	5	5	5	5	2.5	4.80	0.90	,

Inorganic pigments Sicopal®	3					6	A _l	ppli eral	icat	tion	s		F	ibe	rs				НГ)PE	Арр	licatio	ons pe	erform	ance		PVC- _I					Phys prope		i
	Full shade	White reduction	PVC	РО	PS	ABS	PA6	PET	PC	PMMA	Rubber	PUR	Ь	PET	РА	Migration FS 1%	Heat FS 1%	Heat WR 1:4	Light FS 1%	Light WR 1:4	Weather 3000 h FS 1%	Weather 3000 h WR 1:4	Warping	Migration FS 1%	Light FS 1%	Light WR 1:4	Hot light 600 kJ FS 1%	Hot light 600 kJ WR 1:4	Weather 5000 h FS 1%	Weather 5000 h WR 1:4	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	FG form available
Sicopal® Yellow K 1120 FG C.I. Pigment Yellow 184 Bismuth vanadate							⊠	⊠	_				⊠	×		5	250	260	8	8	5	5	N	5	8	8	-	-	-	-	1.0	4.10	0.80	•
Sicopal® Yellow K 1160 FG C.I. Pigment Yellow 184 Bismuth vanadate				-	•		-		_	-	-	_	•	-	•	5	280	260	8	8	5	5	N	5	8	8	-	v	·	-	1.6	4.10	0.80	•
Sicopal® Orange K 2430 C.I. Pigment Orange 82 Sn/Zn/Ti oxide			•	•	•	•	•	-	-	-	•	•	•	-		5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	2.2	4.80	0.75	
Sicopal® Brown K 2595 C.I. Pigment Yellow 119 Zn/Fe oxide			_	-		-	-	-		-	-	-		0		5	300	300	8	8	5	5	N	5	8	8	-	÷	÷	-	1.6	5.30	0.70	
Sicopal® Brown K 2795 FG C.I. Pigment Brown 29 Fe/Cr oxide			•	-		•		-		-	-	-		_		5	300	300	8	8	5	5	N	5	8	8	-	-	-	-	0.5	5.20	0.50	•
Sicopal® Blue K 6210 C.I. Pigment Blue 28 Co/Al oxide			•	-	•	-	-	-	-	-	-	-		_		5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	3.4	4.00	0.50	
Sicopal® Blue K 6310 C.I. Pigment Blue 28 Co/Al oxide			•	•	•	-	•	-	-	-	-	-		_		5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	3.1	4.50	0.40	
Sicopal® Blue K 7210 C.I. Pigment Blue 36 Co/Al/Cr oxide			•	-	•	•	-	-		-	•	-				5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	2.6	4.50	0.50	

Inorganic pigments Sicopal®							•		atio	ns			.,							Appl	icatio	ns pe	rform	ance		21/0					Phys		
·						G	ener	al	ī			F	iber	S				HD	PE							PVC-p							
	Full shade	White reduction	PVC	ЬО	PS	ABS	PA6 PFT	- L	PMMA	Rubber	PUR	ЬР	PET	PA	Migration FS 1%	Heat FS 1%	Heat WR 1:4	Light FS 1%	Light WR 1:4	Weather 3000 h FS 1%	Weather 3000 h WR 1:4	Warping	Migration FS 1%	Light FS 1%	Light WR 1:4	Hot light 600 kJ FS 1%	Hot light 600 kJ WR 1:4	Weather 5000 h FS 1%	Weather 5000 h WR 1:4	1/3 ISD in PVC (1 % TiO ₂)	Density	Bulk density	FG form available
Sicopal® Green K 9610 C.I. Pigment Green 50 Co/Ti/Ni/Zn oxide					•			-	-	-	•				5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	2.9	4.90	0.90	
Sicopal® Green K 9710 C.I. Pigment Green 50 Co/Ti/Ni/Zn oxide			•	-	-	- 1	-	-	-	-	-				5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	2.9	4.80	0.70	
Sicopal® Black K 0090 C.I. Pigment Black 27 Co/Cr/Fe/Mn oxide			•		•	•		-	•	-					5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	1.5	4.90	1.00	
Sicopal® Black K 0095 C.I. Pigment Brown 29 Fe/Cr oxide				-	•	- 1	-	-	-	•					5	300	300	8	8	5	5	N	5	8	8	5	5	5	5	1.4	5.20	0.70	

Inorganic pigments Sicotrans®			Applications General Fibers								Applications p								erformance PVC-p							Physical properties					
	Full hade	White reduction	PVC	Po Po	ABS	PA6	PC	PMMA	Rubber		. H	. A	Migration FS 1%	Heat FS 1%	Heat WR 1:4	Light FS 1%	Light WR 1:4	Weather 3000 h FS 1%	Weather 3000 h WR 1:4	Warping	Migration FS 1%	Light FS 1%	Light WR 1:4	Hot light 600 kJ FS 1%	Hot light 600 kJ WR 1:4	Weather 5000 h FS 1%	Weather 5000 h WR 1:4	1/3 ISD in PVC (1% TiO ₂)	Density	Bulk density	FG form available
Sicotrans® Red K 2819 C.I. Pigment Red 101 Iron oxide					•	-		•	- -		-	•	5	300	300	8	8	5	5	N	5	8	8	-	-		-	0.58	4.40	0.30	
Sicotrans® Red K 2915 C.I. Pigment Red 101 Iron oxide					-	- 1		•		-			5	300	300	8	8	5	5	N	5	8	8	-	-		-	0.27	5.10	0.50	

Organic and inorganic pigments

for plastics

···► Asia

BASF East Asia Regional Headquarters Limited Performance Chemicals 45th Floor, Jardine House No. 1 Connaught Place Hong Kong

Phone: +852 2731-0111 Fax: +852 2731-5633

···► Europe

BASF Schweiz AG Plastic Additives Klybeckstr. 141 4057 Basel Switzerland

Phone: +41 61 636-1111 Fax: +41 61 636-1212

···► North America

BASF Corporation Plastic Additives 100 Campus Drive Florham Park, NJ 07932 USA

Phone: +1 973 245-6000 Fax: +1 973 895-8002

···► South America

BASF S. A. Sede Administrativa Av. das Nações Unidas,14.171, Morumbi 04794-000 São Paulo, SP Brasil

Phone: +55 11 2039-2273

Note

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