

QUALITY SHINES.



Colorants for
inkjet and stationery inks



QUALITY WORKS.

LANXESS
Energizing Chemistry

YOUR BENEFIT: CUSTOMER ORIENTED SOLUTIONS FOR THE INK INDUSTRY

The LANXESS supplies a broad range of colorants for a wide range of different applications. The manufacturing site is located in the historical chemical park Leverkusen, Germany. Also due to the fact that our technical competence center, consisting of R&D, QC and application technology, is situated next to our plant, we are able to provide these defining features of our product portfolio:

Outstanding product quality, long-established technical expertise and the satisfaction of a wide range of essential regulatory requirements.

Inkjet Printing

Inkjet applications include small office and home printers (SOHO), large format printers for advertising and graphic arts prints, and high-volume industrial printers for marking, coding and labeling. Colorants for inkjet inks have to meet stringent quality criteria. Inks may be stored in cartridges for several months before being passed through tiny, sensitive nozzles under thermal or mechanical stress in order to form droplets of defined size and shape. Key requirements are:

- high surface tension to provide reliable droplet formation and ink flow
- low viscosity for consistent ink flow
- excellent filterability down to 0.2 µm filter pores
- extremely low salt content to protect print heads and nozzles from corrosion
- absence of bivalent cations and heavy metals for long-term storage stability
- low foaming reduces process interruptions during printing
- compatible with various printhead technologies

Besides the printing process, the colorants are an essential factor for print and image durability, and have to provide:

- fastness to visible light and UV radiation
- fastness to ozone and other oxidative air pollutants
- fastness to humidity and mechanical abrasion

Stationery

Stationery in general includes all items needed for writing. Typical applications are writing utensils for everyday use like fountain pens, ballpoint pens, pencils, felt-tip pens and fineliner pens. Other items are more likely to be found in offices, such as highlighters, whiteboard markers, permanent and non-permanent markers, and stamp-pads. Many quality requirements for stationery colorants are very similar to the ones for inkjet applications and demand similar properties and quality standards. In addition, writing instruments and stamp-pads need to display special features for special ink systems such as document proof inks, invisible inks and erasable inks. Specific requirements are:

- high color strength, especially for black and blue inks
- worldwide compliance with regulations for environmentally safe products, and absence of sensitive by-products
- high surface tension and low viscosity for consistent ink flow



THE BAYSCRIPT® PRODUCT RANGE

Bayscript® dyes

LANXESS offers a complete range of water-based Bayscript® dyes for inkjet printing. The products are suitable for use in office printers (desktop) as well as in large format printers and in industrial inkjet printing. Moreover, all Bayscript® colorants can be employed advantageously for high-quality inks in the office supplies industry. Our Bayscript® products meet all requirements on colorants for the manufacturing of high-quality inks. All LANXESS colorants for inkjet printing are registered according to chemical legislation in the United States, Western Europe and Japan. All Bayscript® dyes meet general safety and environmental requirements.

To ensure consistently high ink quality, all Bayscript® dyes are offered as highly purified liquid formulations with high surface tension, low viscosity and excellent low-residue filtration properties. The concentration of chloride ions and other salts, particularly bivalent metal ions, is minimized to reduce printhead corrosion with printing and to allow a long shelf life of the inks. This also enables an extended shelf life of the dye itself. Bayscript® dyes offer high intensity of color and brilliance and good solubility in the solvents commonly used for the production of inkjet inks. Bayscript® dyes offer the user a coloristically comprehensive range of products to create an optimized color space for various applications.

SPECIALTY DYES FOR SPECIAL REQUIREMENTS









Under the Special dyes product family LANXESS offers a wide range of water-soluble specialty dyes with high purity, specified surface tension and high color strength for the stationery products industry. **Pyranine 120%**, a brilliant, strongly fluorescent yellow dye, is commonly used in inks for highlighters. The range also contains water and solvent-soluble **Nigrosine** dyes. Furthermore, all Bayscript® colorants can be employed advantageously for high-quality inks in the office supplies industry.

Particularly important in the office supplies industry is compliance with the statutory ecological standards that lay down the limits for heavy metals or free aromatic amines, for example. For most LANXESS colorants of the inkjet and office-supply ink ranges, compliance with corresponding limits is specified and documented in the certificate of analysis for every batch.

Further detailed information can be found in our technical data sheets and product specifications.







BAYSCRIPT® – WATER-BASED DYES

	Product name	C.I.	Chemistry	Light fastness DIN 54004	Dye content [%]
	Bayscript® Yellow GGN liq.	D. Y. 132	Azo	3 – 4	11
	Bayscript® Yellow BR liq.	D. Y. 86	Azo	4	9
	Bayscript® Yellow YW liq.	A. Y. 23	Azo	2	≥ 10
	Bayscript® Magenta BB liq.	R. R. 141	Azo	3	13
	Bayscript® Cyan BA liq.	D. Bl. 199	Phthalocyanine	6	13
	Bayscript® Black SP liq.	D. Bk. Mixture	Azo	3	27
	Bayscript® Black SP liq. (CN)	D. Bk. Mixture	Azo	3	27
	Bayscript® Black N liq.	D. Bk. Mixture	Azo	3	27

Salt content [mg/kg]			Attributes	Standard packaging
Cl ⁻	SO ₄ ²⁻	Ca ²⁺		
≤ 100	≤ 200	≤ 20	High-purity green-shade standard inkjet yellow dye with excellent filtration properties (0.2 µm filter).	60 kg plastic drum / 204 kg plastic drum
≤ 100	≤ 200	≤ 20	High-purity, bright, red-shade yellow dye with excellent filtration properties (0.2 µm filter). Especially suitable for shading of yellow inkjet inks.	30 kg plastic drum / 204 kg plastic drum
< 100	< 200	< 20	High-purity, brilliant standard inkjet yellow dye with excellent filtration properties (0.2 µm filter).	60 kg plastic drum / 1000 kg IBC
≤ 500	≤ 100	≤ 50	Highly-purified, bright blue-shade magenta dye with very good ozone fastness.	30 kg plastic drum / 1000 kg IBC
≤ 100	≤ 200	≤ 20	Highly-purified red-shade cyan dye with very good light fastness and good ozone fastness. Excellent filtration properties (0.2 µm filter).	30 kg plastic drum / 204 kg plastic drum / 1000 kg IBC
≤ 1000	≤ 3000	≤ 40	High-quality neutral black dye for desktop and industrial inkjet and stationery inks with high tinctorial strength.	60 kg plastic drum / 1000 kg IBC
≤ 1000	≤ 3000	≤ 40	Similar characteristics as Bayscript® Black SP liq. despite more reddish color shade.	60 kg plastic drum / 1000 kg IBC
≤ 500	≤ 3000	≤ 40	High-quality green-shade black dye for use in inkjet and stationery inks with high tinctorial strength.	60 kg plastic drum / 1000 kg IBC

Printed colors serve as a guideline only. The actual product color will depend on application and concentration.





WATER-BASED – SPECIAL AND NIGROSINE DYES

	Product name	C.I.	Chemistry	Light fastness DIN 54004	Dye content [%]
	Pyranine 120%	S. G. 7	Pyrene	1	> 65
	Special Violet S4B-F-02	A. V. 17	Triarylmethane	2	> 80
	Special Black SP liq.	D. Bk. Mixture	Azo	3	27
	Special Black HF liq.	D. Bk. Mixture	Azo	3	27

Salt content [%]	Attributes	Standard packaging
< 15	Highly-purified, brilliant, green-shade powder, strongly fluorescent yellow. Especially suitable for highlighter inks.	20 kg cardboard box
< 20	Brilliant, red-shade violet powder with high surface tension (> 40 mN/m) and specially low chromium content (< 25 mg/kg, EN 71-3 compliant).	20 kg cardboard box
< 1	Neutral black dye with low salt content, high surface tension and excellent filtration properties.	60 kg plastic drum / 204 kg plastic drum / 1000 kg IBC
< 1	Green-shade black dye with low salt content, high surface tension and excellent filtration properties.	200 kg plastic drum 1000 kg IBC

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NIGROSINE – SOLVENT DYES

	Product name	C.I.	Chemistry	Light fastness DIN 54004	Dye content [%]
	Nigrosine Base BA 01	S. Bk. 7	Phenazine	5	100
	Nigrosine Base BA liq.	S. Bk. 7	Phenazine	2 – 3	30
	Nigrosine Black A liq.	S. Bk. 7	Phenazine	5	40
	Nigrosine WLF 01 crystal	A. Bk. 2	Phenazine	3	> 95

Salt content [%]	Attributes	Standard packaging
	Special low residue powder grade black dye for solvent inkjet, stationery inks and plastics applications with specified aniline content below 0.2%	15 kg cardboard box
	Dispersion of Nigrosine Base BA in olein. Especially suitable for alcohol-based industrial inkjet and stamp-pad inks.	55 kg plastic drum
	Dispersion of Nigrosine Base BA in ethanol/1-methoxy-2-propanol. Especially suitable for alcohol-based industrial inkjet and stamp-pad inks.	50 kg steel drum
< 5	Low dusting crystal dye with low salt content.	25 kg bag

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