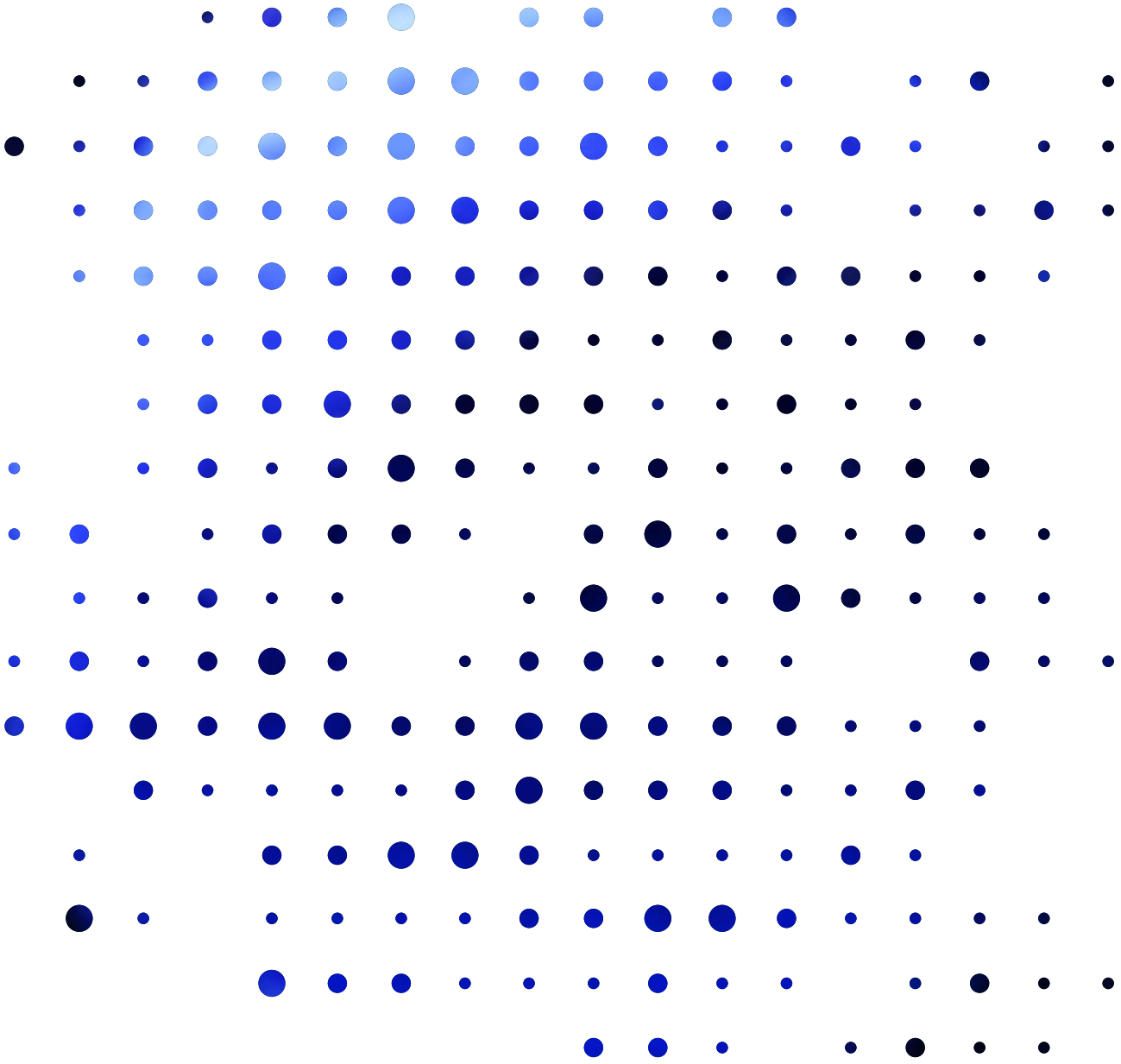
FUJIFILM
Value from Innovation

RxD® aqueous inkjet pigment dispersions



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Contents

RxD®

REACTIVE DISPERSANT CROSS-LINKING TECHNOLOGY

RxD

High-quality inkjet dispersions

Fujifilm's high-quality RxD aqueous pigment dispersions enable the design of high-performance inkjet inks for the widest range of applications.

They are engineered with Fujifilm's proprietary dispersant technology for exceptional stability, giving chemists flexibility in the range of components that can be used in the ink formulation, and providing excellent shelf-life. The ultra-high purity of RxD dispersions enables the development of inks that meet the most demanding specifications in terms of jetting, image quality, and application performance.

By using such a highly stable dispersion, ink manufacturers can streamline the development process and quickly achieve optimal formulations.

Simplify the challenges of ink formulation

Raw materials
High purity inkjet-grade pigments and raw materials are used in the production of RxD.

RxD technology
Exceptionally stable dispersions for compatibility with a wide range of ink components.

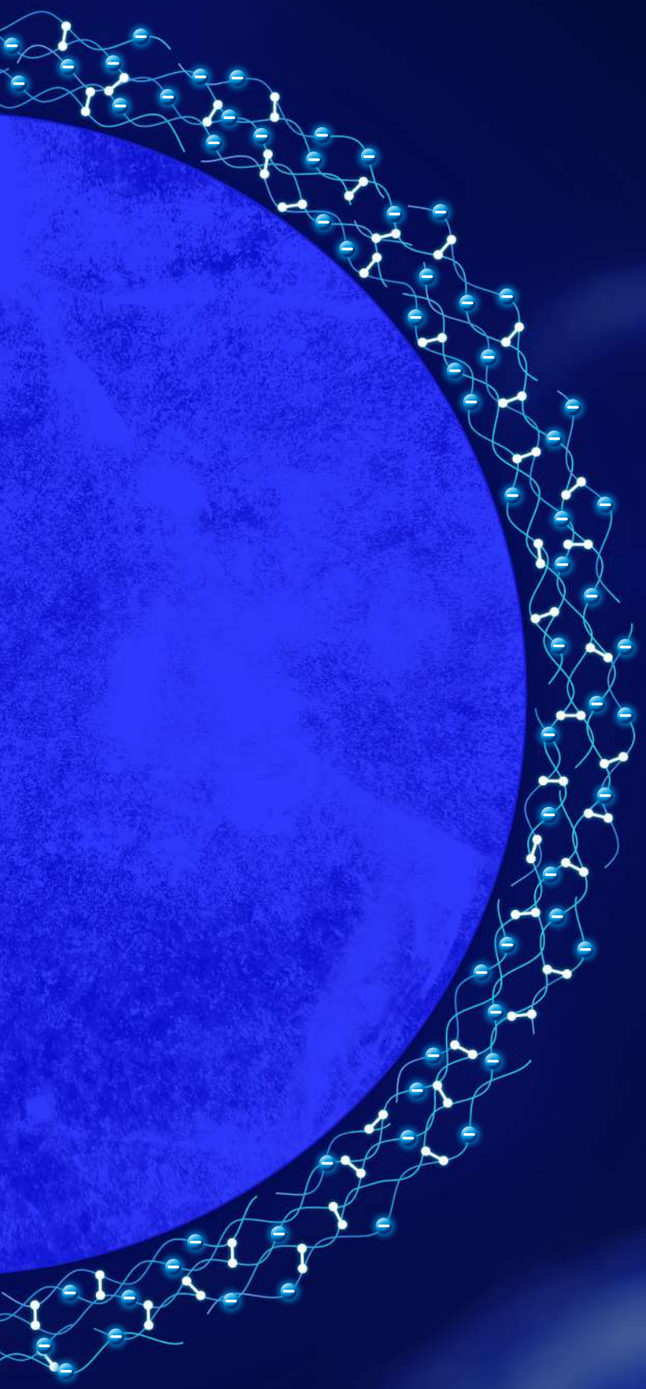
Jetting
High specification, ultra-high purity dispersions to create reliable inks for the most demanding inkjet systems.

Print process
Create high-quality inks for robust performance through the print process.

Application
Produce high-performance water-based inks for the widest range of substrates and applications.

TECHNOLOGY

Engineered for exceptional stability



RxD: Reactive dispersant cross-linking technology
RxD dispersions use a precision stabilization process that locks the pigment particles in a robust cage of cross-linked polymer. The cross-linking reaction is independent of the pigment and prevents polymer disengagement in the presence of solvents. It also enables high pigment strength dispersions to be created without compromising stability.

RxD technology creates three modes of stabilization – electrostatic, steric and cross-linking. This produces dispersions that are compatible with a wide range of ink formulation components.

Three modes of stabilization

1/ Electrostatic stabilization
The dispersant is a polymer with multiple ionisable hydrophilic groups generating electrostatic stabilization.

2/ Steric hindrance
Protruding polymer chain segments provide steric stabilization.

3/ Cross-linking
Cross-linking locks the polymer chains together via covalent bonds to form a secure network, preventing desorption.

RxD®
REACTIVE DISPERSANT CROSS-LINKING TECHNOLOGY

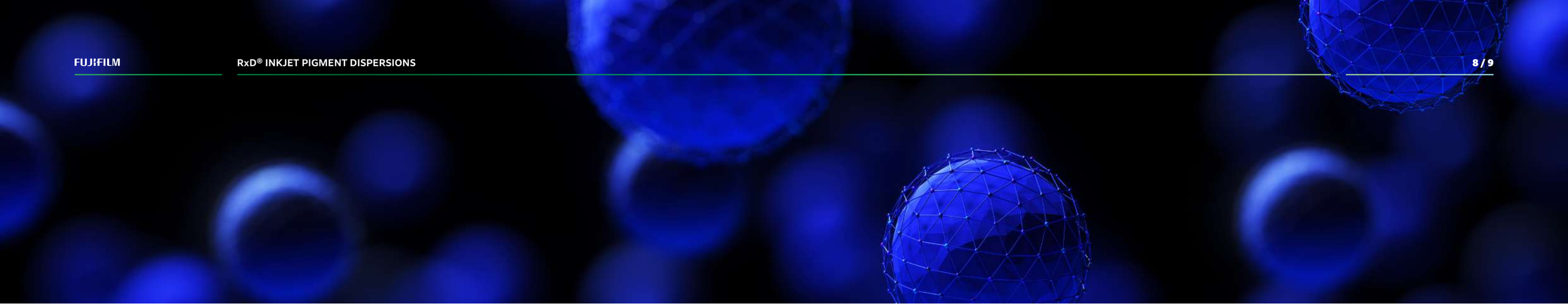
Proven stability

The exceptional stability of RxD provides compatibility with many co-solvents. In a challenging test with dispersion added to a solution of 75% 2-Butoxyethanol and 25% water, RxD remains stable, while two competing dispersions show clear desorption and pigment aggregation.

Experts in polymer chemistry

Fujifilm's expertise in polymer chemistry enables a deep understanding of the relationships between structure and property, which drive the design and optimization of dispersant polymers for Fujifilm's aqueous inkjet dispersions. This results in industry-leading stability performance in RxD dispersion technology.

Careful selection of high-quality pigments and optimized manufacturing processes ensure the highest standards for product purity and consistency.



FEATURES

RxD dispersions

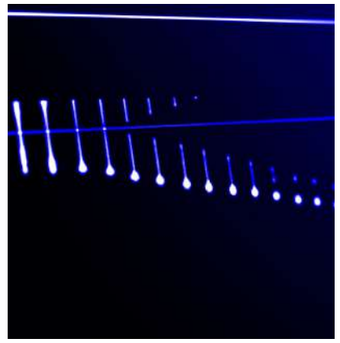
- → Exceptional stability
- → Proprietary RxD dispersant technology
- → High pigment concentration
- → High fluid stability
- → Long shelf-life
- → High purity
- → Narrow particle size distribution
- → Low oversize particle count
- → Strict bio-control
- → Suitable for a wide range of printheads
- → Swiss Ordinance SR817.023.21 pigments
- → Suitable for inks to meet GOTS and OEKO-TEX® standards

Designed for development of high-performance inks

Formulation flexibility

Exceptional stability enables the use of strong co-solvents and aggressive surfactants to achieve high image quality and ink functionality.

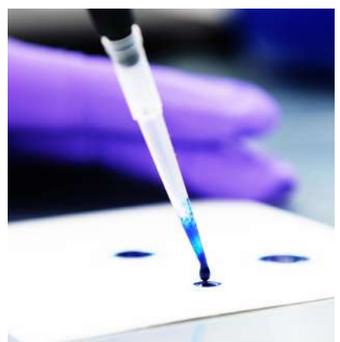
High pigment concentration gives latitude to achieve the optimum formulation. Compatibility with soluble and emulsive binders and latexes creates endurance.



Optimal jetting

Ultra-high purity dispersions enable creation of inks for the most demanding inkjet systems, minimizing risk of printer downtime due to nozzle blockages or printhead damage.

Narrow particle size distribution and low oversized particle count makes them particularly suitable for use in inks for thin film printheads. Elimination of microbial activity reduces risk of nozzle deviation or blockage.



Consistent specifications

Manufactured inkjet inks must be consistent to exact specifications for reliable performance in the field. The quality of raw materials is critical.

Precision manufacturing processes and quality control systems ensure RxD dispersions consistently meet their specification. Polymer compatibility between colors ensures consistent formulations, simplifying ink design.

APPLICATIONS

Create robust inks for demanding applications

RxD: Versatile pigment dispersions for the widest range of inkjet applications

RxD dispersions are well-proven, with all the properties required to create robust inks for mainstream aqueous inkjet and the most demanding applications of the future.

- Tight particle size control enables formulation for small printhead architectures, higher resolutions, and smaller drop sizes.
- Wide formulation window enables optimization of ink performance and adhesion on difficult target substrates such as plastic films.
- Wide formulation window enables formulation of low-viscosity, fast drying inks for high-speed single-pass applications.
- High pigment concentration and extended color sets enable a wide color gamut for brand colors.
- Controlled dispersions for formulations that meet regulatory requirements such as IDFC compliance.

Magazine


Desktop Printing

Direct Mail


Books


Fashion

Home Textile

Direct-To-Garment


Corrugated Printing

Flexible Packaging

Folding Carton


Sign and Display


Décor

The only dispersions you need

RxD dispersions are engineered to excel across multiple applications, providing exceptional versatility. Harness the power of a single dispersion to confidently develop high-performance inkjet inks for packaging, textiles, commercial printing, and industrial sectors. Streamline and enhance the efficiency of your ink development process.

QUALITY

Precision manufactured for purity and consistency

Fujifilm's dedication to producing high-quality products across multiple high-tech fields fuels continuous investment in research, development, and manufacturing. This commitment drives the maintenance and expansion of our exceptional development and production capabilities, specifically for dispersion technologies.

Drawing on our extensive experience, technology, and advanced manufacturing capabilities in clean solution thermal inkjet inks, we developed innovative processes for producing high-purity pigment dispersions. This results in precisely controlled particle size, minimal levels of polyvalent ions and trace organics, and consistent adherence to specifications.

Multi-hurdle bio-control is built into the manufacturing process, with the addition of a preventative biocide to the final dispersion for ongoing protection.

Global manufacturing

Fujifilm recently invested US$47 million in the global expansion of its RxD dispersion manufacturing capacity. It is part of our commitment to meeting the growing demand for new applications with aqueous inkjet inks and supporting our global customer base.

RxD DISPERSIONS

Product range

RxD dispersions are based on high-quality inkjet-grade pigments with excellent light-fastness and image robustness. In addition to CMYK pigments, the RxD range includes colors for extended gamut ink sets.

Please contact Fujifilm for full technical data sheets and to request laboratory samples.

Certified compliance

RxD pigments comply with Swiss Ordinance SR817.023.21, making indirect food contact compliant applications accessible. RxD dispersions comply with EuPIA guidelines, and are suitable for the formulation of inks for GOTS and OEKO-TEX® compliance. RxD dispersions are registered in primary markets.

RxD aqueous pigment dispersions

RxD dispersions are available in pack sizes of 20kg, 200kg and 1200kg.

Product	Pigment Color Index	Pigment Content (%)	Particle Size Z-Average (nm)	Swiss Ordinance SR 817.023.21 annex 10	EuPIA Guidelines
Black APD 1000	CB7	13.5 - 14.5	100 - 130	-	✓
Black APD 1500	CB7	13.5 - 14.5	115 - 145	A	✓
Black APD 4000	CB7	14.7 - 15.3	100 - 130	A	✓
Cyan APD 1000	PB15:3	13.5 - 14.5	100 - 130	A	✓
Cyan APD 1500	PB15:3	13.5 - 14.5	100 - 130	A	✓
Cyan APD 4000	PB15:3	19.5 - 20.5	67 - 97	A	✓
Magenta APD 1000	PR122	13.5 - 14.5	100 - 130	A	✓
Magenta APD 1500	PR122	13.5 - 14.5	100 - 130	A	✓
Magenta APD 4000	PR122	18.0 - 19.0	100 - 130	A	✓
Yellow APD 1000-TP	PY74	14.9 - 15.9	115 - 145	*	✓
Yellow APD 1500-TP	PY74	14.9 - 15.9	115 - 145	*	✓
Yellow APD 1000-LF	PY155	14.4 - 15.1	130 - 150	A	✓
Red APD 1000	PR254	15.5 - 16.5	111 - 140	*	✓
Red APD 1500	PR254	15.5 - 16.5	111 - 140	*	✓
Orange APD 1500	PO71	14.5 - 15.5	100 - 145	A	✓
Orange APD 4000	PO71	14.5 - 15.5	100 - 145	A	✓
Green APD 1000	PG7	14.5 - 15.5	105 - 140	A	✓
Green APD 1500	PG7	14.5 - 15.5	105 - 140	A	✓
Violet APD 1000	PV23	14.5 - 15.5	95 - 125	A	✓
Violet APD 1500	PV23	14.5 - 15.5	95 - 125	A	✓

* Formerly designated List B until the February 2024 amendment.

APD 1000
For use across a broad range of applications.

APD 1500
For a wide range of applications in systems using MEMS printheads.

APD 4000
For a wide range of applications, particularly suitable for MEMS printheads.

Learn more
RxD pigment dispersions

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